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A **MONTHLY PERIODICAL** FOR ASPIRANTS OF UPSC EXAMINATION

CONTENTS

GENERAL STUDIES - I

| BUMCHU FESTIVAL | *GS-I CULTURE & HERITAGE* |

Context
- Bumchu, the Tashiding holy water vase ritual, is a unique and important occasion that draws travellers from all over the world.

Details
- Annual performances of this ancient ceremony are held at the Tashiding Monastery, located in the western part of Sikkim.
- The Tashiding Monastery is one of the most sacred Buddhist pilgrimage sites, located on a hilltop overlooking the Rangeet River in Sikkim.

Historical Background
- Legend has it that during his journey to Sikkim in the eighth century, **Guru Padmasambhava, better known as Guru Rinpoche, the great Buddhist guru who brought Buddhism to Tibet, blessed the location of the monastery.**
- A Nyingma teacher named Ngadak Sempa Chempo Phunshok Rigzing later founded the monastery in the 17th century.
- The **Bumchu festival commemorates a supernatural occurrence that took place in the 18th century under Chogyal Chakdor Namgyal**.
  - A legend says that a Lama was told by a deity to visit a nearby spring and gather water in a vase.
  - The Lama followed the instructions and found that no matter how much water was used, the water level in the vase never dropped.
  - The Lama understood that the vase was scary and that its water had healing properties.
  - The vase was delivered to the Tashiding Monastery, where it was revered as a holy object and served as the centrepiece of the Bumchu festival.

What is Bumchu
- **Bumchu means "pot of sacred water" in Tibetan.**
- The vase is opened during the event, and the water inside is shared among the worshippers.
- The water is thought to have healing qualities and to grant luck and riches to those who drink it.

The festival
- **The celebration takes place on the 14th and 15th of the first lunar month, which often falls in February or March.**
- In Sikkim, the Bumchu festival is a time of intense delight and celebration.
- At the event, pilgrims travel to Tashiding from all around India as well as from close by nations like Bhutan, Nepal, and Sri Lanka.
- The celebrations feature complex rituals, colourful processions, and traditional music and dance displays
- Sacred rituals are carried out by monks and nuns, who also recite prayers and offer gifts to the gods.

| MISSING ANTIQUITIES IN INDIA | *GS-I CULTURE & HERITAGE* |

Context
- As per the Parliamentary Standing Committee of Transport, Tourism and Culture "number of antiquities retrieved" by the ASI from abroad "are not even the tip of the iceberg in comparison to the huge number of antiques smuggled out from country".

Details
The Numbers:
- Since Independence, **only 486 antiquities have been reported as missing** from the 3,696 monuments protected and maintained by the Archaeological Survey of India (ASI), according to records under the Right To Information (RTI) Act.
- The RTI records also show that **305 antiquities have been brought back to India** from abroad since 1976, including 292 since 2014.
- Nearly four years ago, the US Department of Homeland Security's investigative wing informed a that it had seized 2,622 antiquities valued at over $143 million mainly from Asia, with links to just one man alone — Subhash Kapoor, the Indian antiquities smuggler.
- **The menace of missing antiquities is illustrated by an UNESCO estimate that "more than 50,000 art objects have been smuggled out of India till 1989".**

- The National Mission on Monuments and Antiquities has so far registered 3.52 lakh antiquities from the 16.70 lakh it has documented for an "effective check" on illegal activities. This is just a small portion of the nearly 58 lakh antiquities in the country in an estimate submitted by the Union Ministry of Culture in Parliament last year.

What is an antiquity?

- The Antiquities and Art Treasures Act, 1972, implemented on April 1, 1976, defined "antiquity" as **"any coin, sculpture, painting, epigraph or other work of art or craftsmanship; any article, object or thing detached from a building or cave; any article, object or thing illustrative of science, art, crafts, literature, religion, customs, morals or politics in bygone ages; any article, object or thing of historical interest"** that **"has been in existence for not less than one hundred years."**
- For "manuscript, record or other document which is of scientific, historical, literary or aesthetic value", this duration is **"not less than seventy-five years."**

UNESCO 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

- It defined "cultural property" as the **property designated by countries having "importance for archaeology, prehistory, history, literature, art or science."**
- The Declaration further said that "the **illicit import, export and transfer of ownership of cultural property is one of the main causes of the impoverishment of the cultural heritage of the countries of origin** of such property and that international co-operation constitutes one of the most efficient means of protecting each country's cultural property."

What do Indian laws say?

- In India, **Item-67 of the Union List, Item-12 of the State List, and Item-40 of the Concurrent List** of the Constitution deal with the country's heritage.
- Before Independence, an **Antiquities (Export Control) Act had been passed in April 1947** to ensure that "no antiquity could be exported without license."
- In **1958, The Ancient Monuments and Archaeological Sites and Remains Act was enacted**.
- Then in 1971, Parliament saw an uproar over the theft of a bronze idol from Chamba and some important sandstone idols from other places. This, along with the UNESCO convention, prompted the government to enact **The Antiquities and Art Treasures Act, 1972 (AATA), implemented from April 1, 1976.**
  - The AATA states, "it shall not be lawful for any person, other than the Central Government or any authority or agency authorised by the Central Government in this behalf, to export any antiquity or art treasure… No person shall, himself or by any other person on his behalf, carry on the business of selling or offering to sell any antiquity except under and in accordance with the terms and conditions of a licence."
  - This licence is granted by the Archaeological Survey of India (ASI).
  - After the AATA was implemented, the Centre asked traders in antiquities and art objects to declare their possessions of antiquities by June 5, 1976, and individual owners by July 5, 1976.

How to check for fake antiquities?

- Under section 14(3) of the AATA, "Every person who owns, controls or is in possession of any antiquity" shall register such antiquity before the registering officer "and obtain a certificate in token of such registration."
- **National Mission on Monuments and Antiquities, launched in March 2007**, has registered 3.52 lakh antiquities among the 16.70 lakh it has documented, to help in "effective check" of illegal activities.
  - This is a very small portion of the total number of antiquities in the country, which the government estimates to be around 58 lakh, according to a statement by the Ministry of Culture in Parliament in July 2022.

Can India bring back antiquities?

- There are three categories to take note of:
  - antiquities taken out of India pre-independence;
  - those which were taken out since independence until March 1976, i.e. before the implementation of AATA; and
  - antiquities taken out of the country since April 1976.
- For items in the first two categories, requests have to be raised bilaterally or on international fora.
- Antiquities in the second and third categories can be retrieved easily by raising an issue bilaterally with proof of ownership and with the help of the UNESCO convention.

SALT FLATS

Context

- In salt flats across the world, the salt on the surface forms ridges that join together in a patchwork of pentagons and hexagons. These shapes are also invariably **a meter or two across**. That the salt always crenelates in these shapes and at these sizes, irrespective of the local environmental conditions, the mineral chemistry, the soil type, and other factors has puzzled researchers.
- In a new study, researchers from Austria, Germany, and the U.K. may finally have an explanation.

What are salt flats?

- A salt flat is a <u>natural landscape in which a large area of flat land is covered by salt.</u> Perhaps the world's most well-known salt flat is the **Salar de Uyuni in Bolivia**. It is the **largest in the world of its kind,** and also <u>**contains more than half of the planet's lithium reserves.**</u>
- A salt flat **forms from a natural water body whose recharge rate is lower than the evaporation rate**.
- Over time, all the water evaporates, leaving behind the dissolved minerals, usually salts. They **reflect sunlight strongly and thus appear bright**.
- The underlying soil is highly saline: **even if the water table is shallow, the groundwater is too salty for humans to drink.**

How do the shapes form?

- The researchers began with the hypothesis that the salt on the surface is **influenced by the salt flowing through the soil below.**
- Let's Imagine the soil in a salt flat: there are some ridges on the top, followed by a layer of salt, then the topmost layer of the soil, and finally the rest of the soil. The groundwater in the soil is saline but the distribution of salt is not uniform. The **salinity is highest near the top of the soil and decreases towards the bottom.**
- The **researchers found that the salt penetrated deeper into the soil exactly below the ridges, and remained shallow under the flat areas.** That is, if we remove the topmost layer and look directly down at the soil, we would see that the salty groundwater is flowing deeper into the soil <u>along vertical sheets, not throughout.</u>

What explains this finding?

- The **surface of a salt flat has a layer of salt that has been deposited over time**.
- So just under the surface, the **groundwater is highly saline and denser than the groundwater further below.**
- If any water reaches and rises above the surface, it **evaporates to leave more salt behind**. The researchers found that if the rate of evaporation is sufficiently high, i.e. if the rate of salt deposition on the surface is sufficiently high, the **denser groundwater will sink down and the less-saline, less-dense groundwater will rise to the top**. This body of descending and ascending water is called **a convection cell.**

RIFT VALLEY

Context

- Scientists, in 2020, predicted a new ocean would be created as Africa gradually splits into two separate parts.
- The division of the continent is connected to the East African Rift, a crack that stretches 56 kilometers and appeared in the desert of Ethiopia in 2005, triggering the formation of a new sea, according to a study published in Geophysical Research Letters.

What is rifting?

- The Earth's lithosphere, comprised of the crust and upper part of the mantle, is divided into several tectonic plates that are not stationary but rather move in relation to each other at varying speeds.
- Tectonic forces not only move the plates but also have the potential to cause them to rupture, resulting in the formation of a rift and potentially leading to the creation of new plate boundaries.
- Rifting refers to the geological process in which a single tectonic plate is split into two or more plates separated by divergent plate boundaries.
- This process leads to the emergence of a lowland region known as a rift valley, which can occur either on land or at the bottom of the ocean. These rift valleys occur due to the movement of Earth's tectonic plates.

About East African Rift

- The **East African Rift** (**EAR**) or **East African Rift System** (**EARS**) is an active continental <u>rift</u> zone in <u>East Africa</u>.
- The EAR began developing around the onset of the <u>Miocene</u>, 22–25 million years ago.
- It was formerly considered to be part of a larger <u>Great Rift Valley</u> that extended north to <u>Asia Minor</u>.
- A narrow zone, the rift is a developing <u>divergent</u> <u>tectonic plate</u> <u>boundary</u> where the <u>African Plate</u> is in the process of splitting into two tectonic plates, called the <u>Somali Plate</u> and the <u>Nubian Plate</u>, at a rate of 6-7 mm per year.
- The rift system consists of three microplates, the <u>Victoria Microplate</u> to the north, and the Rovuma and Lwandle microplates to the south. The Victoria Microplate is rotating anti-clockwise with respect to the African plate. Its rotation is caused by the configuration of mechanically weaker and stronger lithospheric regions in the EARS.

Implications

- This geological process **will inevitably divide the continent**, resulting in currently landlocked countries, such as Uganda and Zambia, obtaining their own coastlines in due time, which would take five to 10 million years.
- The necessary evacuation of people and the potential loss of lives will be an unfortunate cost of this natural phenomenon. However, on the upside, the **emergence of new coastlines will unlock a myriad of opportunities for economic growth.**
- These <u>countries will have access to new ports for trade, as well as fishing grounds and sub-sea internet infrastructure</u>, which will undoubtedly transform their economic potential.
- As the Somali and Nubian tectonic plates continue to pull apart from each other, <u>**a smaller continent will be created from the rift, which will include present-day Somalia and parts of Kenya, Ethiopia, and Tanzania.**</u>
- The Gulf of Aden and the Red Sea will eventually flood into the Afar region in Ethiopia and the East African Rift Valley, leading to the formation of a new ocean.
- This new ocean will result in East Africa becoming a separate small continent with its own unique geographic and ecological characteristics.
- The three plates — the Nubian African Plate, Somalian African Plate and Arabian Plate — are separating at different speeds. The Arabian Plate is moving away from Africa at a rate of about an inch per year, while the two African plates are separating even slower, between half an inch to 0.2 inches per year.

🔴 **VOLCANOE IN VENUS AND MISSIONS TO VENUS**   *GS-I GEOGRAPHY*

Context

- The United States National Aeronautics and Space Administration announced DAVINCI+ and VERITAS missions to the planet in 2028-30 under its Discovery Program.
- Also, a new analysis of archival radar images taken around three decades ago has found direct geological evidence of recent volcanic activity on the surface of Venus, also known as Earth's twin, for the first time.

Volcano

- Scientists made the new discovery by pouring over images of Venus taken by NASA's Magellan spacecraft between 1990 and 1992.
- During their examination, they looked at the planet's **Atla Regio area**, where two of the **biggest volcanoes of Venus, Ozza Mons and Maat Mons, are located**. Studies indicated an **eruption or flow of magma beneath the vent.**

Discovery Program

- The **Discovery Program** is a **series of <u>Solar System exploration</u> missions.**
- It is **funded by** the US <u>National Aeronautics and Space Administration</u> (NASA).
- The Discovery Program was **founded in 1990.**
- **VERITAS and DAVINCI** are the most recently selected Discovery Missions.

DAVINCI

About

- **DAVINCI (Deep Atmosphere Venus Investigation of Noble gases, Chemistry, and Imaging)** is a planned mission for planet <u>Venus</u>.

Mandate

- DAVINCI will send **an orbiter and a descent probe to the planet Venus.**
  - The orbiter will take images of the planet Venus in multiple wavelengths up from the above.
  - The descent probe will study the chemical composition of Venus's atmosphere and take photographs during descent.
- DAVINCI spacecraft will travel through the **<u>Venusian atmosphere</u>**. It will sample the atmosphere, and the return with data and measurements down to the surface.

- The DAVINCI probe will capture high-resolution images of the planet's ridged terrain **("tesserae")**.
- It will also collect data for studying the
  - Origin of the planet Venus.
  - It's tectonic and
  - Weathering History.

Significance
- The measurements taken by DAVINCI will help in **investigating the possible history of water on Venus**.
- It will also help in detecting the chemical processes that are at work in the unexplored lower atmosphere.
- The above-mentioned measurements are **important to understanding the origin of the atmosphere of the planet Venus.**
- It will study how the atmosphere of Venus has evolved, and **how and why it is different from the atmosphere of Earth and Mars.**

VERITAS Mission
About
- **VERITAS** (**Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy**) is an upcoming mission to map the surface of planet Venus in high resolution.

Mandate
- VERITAS will gather data to help scientists to answer three primary questions about Venus:[8]
  - How has its geology evolved over time?
  - What geologic processes are currently operating on it?
  - Has water been present on or near its surface?

VERITAS will collect data to help answer these questions in several ways.

- **Using an X-band radar,** high-resolution imagery of the planet Venus will be obtained. The Radar will be configured as a **single pass interferometric synthetic aperture radar (InSAR).**

> ### InSAR
> **Interferometric synthetic aperture radar**, abbreviated **InSAR** (or deprecated **IfSAR**), is a radar technique used in geodesy and remote sensing. This geodetic method uses two or more synthetic aperture radar (SAR) images to generate maps of surface deformation or digital elevation, using differences in the phase of the waves returning to the satellite or aircraft. The technique can potentially measure millimeter-scale changes in deformation over spans of days to years. It has applications for geophysical monitoring of natural hazards, for example earthquakes, volcanoes and landslides, and in structural engineering, in particular monitoring of subsidence and structural stability.

- This X-Band radar data will be further **coupled with a multispectral near-infrared (NIR) emissivity mapping capability**.

> ### MULTISPECTRAL IMAGING
> **Multispectral imaging** captures image data within specific wavelength ranges across the electromagnetic spectrum. The wavelengths may be separated by filters or detected with the use of instruments that are sensitive to particular wavelengths, including light from frequencies beyond the visible light range, i.e. infrared and ultra-violet. It can allow extraction of additional information the human eye fails to capture with its visible receptors for red, green and blue. It was originally developed for military target identification and reconnaissance. Early space-based imaging platforms incorporated multispectral imaging technology to map details of the Earth related to coastal boundaries, vegetation, and landforms.[2] Multispectral imaging has also found use in document and painting analysis.
> Multispectral imaging measures light in a small number (typically 3 to 15) of spectral bands.

- VERITAS **will map surface topography with a spatial resolution of 250m and 5m vertical accuracy**, and **generate radar imagery with 30m spatial resolution.**
- With this high-resolution imaging data scientists will be able to
  - Locate Active Volcanic Eruptions.
  - Understand the age and composition of features on the planet's surface, and
  - Better understanding of the overall geology of Venus.
- To investigate **variations in Venus' gravitational field** the spacecraft's communication system will be used to perform a gravity science experiment.
- **The gravity strength at Venus' surface** will be measured by the spacecraft's telecom system.
- Estimate of Venus' core size and information about topographic features that lie underneath the planet's surface will be generated from this data.

Significance

- Size, age, and composition of Venus are more or less similar to the Earth.
- But the environment of Venus is significantly different and less hospitable to life.
- Therefore, understanding Venus's geologic evolution **will help in answering questions like formation of Venus and whether it is hospitable to life or not.**
- An investigation of Venus's current geology would be a key step in developing an understanding of this evolution.
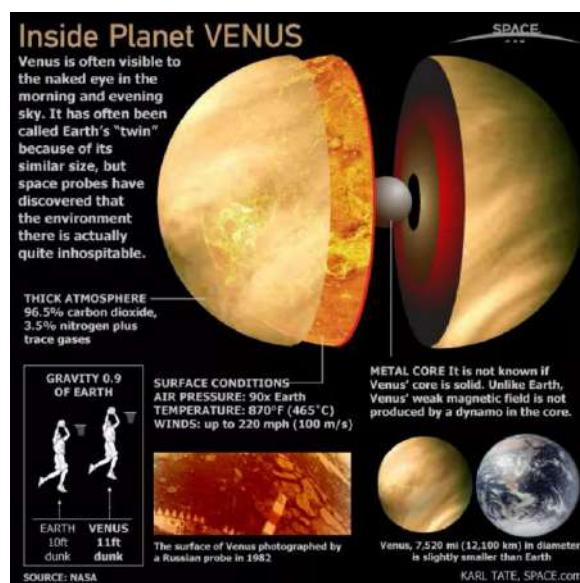
DAYLIGHT SAVING TIME

GS-I GEOGRAPHY

Context

- Lebanon was in mass confusion after its government at the last minute delayed the start of daylight-saving time by a month.

What is Daylight Saving Time?

- Daylight saving time (DST) is the practice of setting the clocks forward one hour from the standard time during the summer and back again in the autumn.
- As a result, there is one 23-hour day in early spring and one 25-hour day in the middle of autumn.
- This is done to make better use of natural daylight.
- The idea of aligning waking hours to daylight hours to conserve candles was first proposed in 1784 by U.S. polymath **Benjamin Franklin.**
- Franklin suggested that waking up earlier in the summer would economize on candle usage; and calculated considerable savings.
- The goal of Daylight Saving Time is **to make better use of daylight by prolonging the amount of time we can spend outside during daylight hours.**

Do we gain or lose an hour during Daylight Saving Time?

- When Daylight Saving Time begins, we "spring forward" and set our clocks ahead by one hour, which results in a loss of an hour of sleep as the day becomes 23 hours long.
- The extra hour of daylight is essentially moved from the morning to the evening. Standard time will not be reinstated until Sunday, November 5, 2023.

How many nations follow Daylight Saving Time?

- Over 70 nations globally follow Daylight Saving Time, known as Summer Time in some countries such as the United Kingdom and Europe. However, the exact amount of energy saved globally each year due to Daylight Saving Time is uncertain.
- **India does not follow daylight saving time** as countries near the Equator do not experience high variations in daytime hours between seasons.

What was the purpose behind the creation of Daylight Saving Time?

- The main reason behind Daylight Saving Time is to conserve energy. The idea behind it is that with the later sunset, people are more likely to spend more time outdoors and less time indoors, leading to reduced electricity usage for lighting and household appliances.

Lebanon

- **Lebanon** is a country in Western Asia.

- It is located between Syria to the north and east and Israel to the south, while Cyprus lies to its west across the Mediterranean Sea; its location at the crossroads of the Mediterranean Basin and the Arabian hinterland has contributed to its rich history and shaped a cultural identity of religious diversity.
- It is part of the Levant region of the Middle East.
- Its land straddles the "northwest of the Arabian plate".
- The border with the Israeli-occupied Golan Heights is disputed by Lebanon in a small area called Shebaa Farms.
- Its highest peak is in Mount Hermon at 2,814 metres.
- Lebanon is divided into four distinct physiographic regions: the coastal plain, the Lebanon mountain range, the Beqaa valley and the Anti-Lebanon Mountains.

GENERAL STUDIES-II

| NET NEUTRALITY | *GS-II POLITY* |

Context

- Several stakeholders have been debating for the past few months whether to pay a fee for the network infrastructure that cellular operators built. The argument over net neutrality has now been reopened as a result.

About Net Neutrality

- **According to the concept of "net neutrality," all internet traffic should be treated equally**, without any websites, services, or applications receiving special treatment.
- **Internet service providers (ISP) must treat all web traffic equally under the concept of "net neutrality."** ISP in this case offers access to all websites, content, and apps at the same speed and under the same circumstances, without censoring or favouring any content.
- **It guarantees that everyone has equal access to online resources**, independent of their financial ability or the size and functionality of the websites they use. It is a crucial concept that supports the protection of the free exchange of ideas and information online as well as the maintenance of a level playing field.

A QUICK REMINDER
What is net neutrality?
All traffic on the internet should be treated equally.

NO BLOCKING — Your internet access provider (IAP) cannot block you from accessing legal content of your choice.

NO THROTTLING — Your IAP cannot intentionally throttle legal internet traffic to slower speeds than other traffic.

NO PAID PRIORITIZATION — Your IAP cannot sell 'fast lane' service to content providers who can pay more than others.

- Without net neutrality, Internet service providers might deny access to some websites and services or use their market power to influence customers towards others.
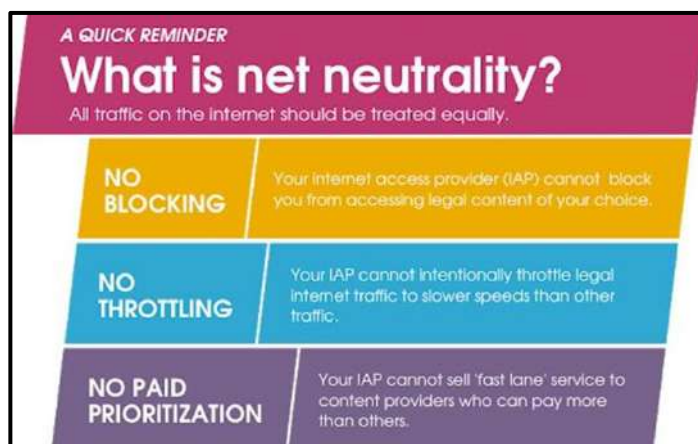
Internet industry participants include

- The users of any internet service.
- Internet service providers (ISPs) or telecom service providers (TSPs).
- Over-the-top (OTT) service providers (those who provide internet access services such as websites and applications).
- The government has the power to control and specify the interactions between these parties.
- The telecom industry's independent regulator "The Telecom Regulatory Authority of India (TRAI)", is also in charge of overseeing TSPs and the terms of their licences, among other things.

Net Neutrality Regulations

- Net neutrality has not **yet been specifically governed by a law or regulatory framework in India**. There have been various advancements in the creation of a net neutrality policy throughout the past year.
- The Regulatory Framework for Over-The-Top Services (OTT) and Differential Pricing for Data Services are both projects being worked on by TRAI.
- The Department of Telecommunications (DoT) established a committee that looked into the net neutrality issue.
- Globally, nations including the USA, Japan, Brazil, Chile, Norway, and others have laws, rules, or other regulatory frameworks in place that have an impact on net neutrality.

What if Net Neutrality Does Not Exist?

- **Monopolizing the Internet:** In the absence of net neutrality, ISPs would be able to modify internet traffic to gain additional profits from it. This would give them the authority to impose fees on businesses like Netflix and YouTube for services that use more bandwidth than a normal website would.
- **Discourage Innovation:** The absence of net neutrality may be the end of web innovation. Startups would not have the same financial resources as established players, who can afford to pay for faster access. Instead of an open and diversified ecology, this can result in a web where a small number of powerful companies dominate.
- **Package Plans for Consumers:** In the absence of net neutrality, consumers could have to pay for access rather than receive it for free. For instance, customers may pay more to visit websites from other countries than from websites headquartered on their own. As a result, the internet would operate on a tiered structure, with users who pay more having better access to content.

Arguments in favour of Net neutrality laws and regulations

- **Level playing field:** No one who has more money receives preferential treatment as a result of net neutrality rules. ISPs might sluggish the websites or services of small firms that cannot afford to pay for the so-called fast lanes if there were no net neutrality regulations in place.
- **Freedom of speech and expression:** ISPs shouldn't be permitted to censor websites or restrict their speed simply because they disagree with them. Nothing prohibits them from banning internet content in the absence of net neutrality laws.
- **No exclusions:** Net neutrality ensures that everyone has access to everything on the internet. Online access to high-quality information could become a luxury available exclusively to the wealthy, which would lead to more social inequality and less equal access.
- **No additional fees for content:** If there were no such thing as net neutrality, ISPs would be able to charge businesses for bettering services like faster video streaming, online gaming, etc. If this occurs, these businesses will pass along to the customers their new financial burden.
- **More innovation:** Removing net neutrality will discourage it and raise obstacles to entry for smaller businesses. If ISPs favour their favourites, emerging businesses and innovations might never advance.

Arguments against Net neutrality laws and regulations

- **The data are not being paid for:** Users only pay for the service while net neutrality is in place, not for the data they utilise. In 2018, 57% of the bandwidth consumed globally came from video streaming services. The infrastructure required to support high-bandwidth activities may not be something customers who consume less bandwidth want to pay for it.
- **The widespread availability of unlawful content:** Offensive, risky, and illegal content are all easily accessible and challenging to eliminate. While still far from censorship, the removal of net neutrality makes it simpler for ISPs to filter harmful information.
- **No new infrastructure:** ISPs cannot invest in their infrastructure if they cannot increase the price at which they offer their services. Large amounts of data are utilised under net neutrality without being charged for it; this money might be used to extend the high-speed network to more remote regions.
- **The Internet can innovate without it:** Some inventions occurred in the absence of net neutrality rules. Some opponents of net neutrality claim that without it, the internet expanded significantly and there were comparatively few wrongdoings.

Way Forward

- India claims that any form of data discrimination is prohibited and that the "net neutrality concept" is the foundation of a free and open internet that offers everyone access to the same information.
- To prevent the major Internet players from exploiting the exceptions as a backdoor, a suitable mechanism must be put in place. Telecommunications companies must make sufficient efforts to handle the surge in data traffic for the digital economy to become a reality.

INTER-SERVICES ORGANIZATIONS BILL — *GS-II POLITY*

Context

- The Inter-services Organizations (Command, Control, and Discipline) Bill, 2023, was presented in the Lok Sabha. It aims to give the Commander-in-Chief or Officer-in-Command of Inter-services Organizations the authority to exercise administrative or disciplinary control over the service members who are under their direction, regardless of their branch of service.

Key features of the Bill

- **Inter-services Organisation:** An inter-services organisation with members from at least two of the three services—army, navy, and air force—may be established by the government. An officer-in-command may be given control over these.
  - A Joint Services Command, which may be placed under the direction of a Commander-in-Chief, may also be a part of these organisations.
- **Control of Inter-services Organisations:** It will give an Inter-services Organization's Commander-in-Chief or Officer-in-Command the authority to exercise command over the people working for or affiliated with the organisation. He would be in charge of upholding order and making sure that service members were performing their tasks properly.
  - Currently, the commander-in-chief or officer-in-command of an inter-service organisation is not permitted to exert administrative or disciplinary authority over members of other service personnel.
- **The central government will have oversight of an inter-services organisation**. In the interests of public interest, general administration, or national security, the government may also give directives to such organisations.
- The central government may notify any force raised and maintained in India to which the Bill will apply. This would be in addition to the army, navy, and air force personnel.
- The officers **eligible to be appointed as the Commander-in-Chief or Officer-in-Command are;**

- A General Officer of the regular Army (above the rank of Brigadier).
- A Flag Officer of the Navy (rank of Admiral of the Fleet, Admiral, Vice-Admiral, or Rear-Admiral)
- An Air Officer of the Air Force (above the rank of group captain).

Existing Indian Armed Forces Organization
- **Currently, several Acts of Parliament govern soldiers from their distinct services**. The Army Act of 1950, the Air Force Act of 1950, and the Navy Act of 1957 are the three.
- For any disciplinary actions, an army soldier under the command of a naval officer would be returned to his original unit under the current joint services arrangement.
- **There are 17 commands in the Indian military**. The Army and Air Force each have 7 commands, and 3 commands in the Navy. A military officer with the rank of 4-star is in charge of each command.
    - There is one joint command in Andaman and Nicobar Islands which is the first Tri-Service theatre command of the Indian Armed Forces, based at Port Blair in Andaman and Nicobar Islands of India.
- The delivery and operational management of the nation's nuclear assets are under the responsibility of the Strategic Forces Command (SFC). A few more tri-service organisations exist as well, such as the Defense Intelligence Agency, the Defense Cyber Agency, the Defense Space Agency, etc.

Way Forward
- The bill will open the door for many real advantages, including quick case resolution, time and money savings from avoiding repeated proceedings, and more integration and teamwork among members of the armed forces.

SECTION 144 of CrPC
GS-II POLITY

Context
- The former Chief Justice of India (CJI) stated that awarding extreme powers to the executive or the police through Section 144 of the Code of Criminal Procedure (CrPC) is not acceptable in a nation governed by the rule of law.

Details
- The CJI remarked during the introduction of a study titled "**The Use and Abuse of Section 144 CrPC.**"
- According to the study, which was developed by four attorneys based on Right to Information replies, prohibitory orders were issued more than 6,100 times in the national capital in 2021.
- The former CJI described the research as "eye-opening," adding that the pattern that emerges from it is "very alarming."

Section 144 CrPC
- The **magistrate of any Indian state or union territory may issue an order forbidding the gathering of four or more individuals in a specific place under this law.**
- It is enforced in circumstances of immediate disruption or suspected threat from an occurrence that has the potential to create problems or harm to human life or property.
- This order **might be issued against a specific person or the broader public.**

Features of Section 144
- The order under this section states that there shall be **no public movement and that all educational institutions will stay closed.**
- It restricts the handling or transportation of any type of weapon inside the jurisdiction. **The maximum penalty for such an act is 3 years in prison.**
- Any type of public meeting or rally will be prohibited for the duration of this order's enforcement.
- Obstructing law enforcement officers from disbanding an unlawful assembly is a serious offence.
- It also gives the government the authority to prohibit internet access in the zone.
- The ultimate goal of Section 144 is **to preserve peace and order in regions** where disturbance might erupt and disrupt daily life.

Duration of Section 144 Order
- **No order issued under this provision may be in effect for more than two months.**
- The state government has the option of extending the validity for two additional months, with a maximum validity of 6 months.
- When the situation returns to normal, Section 144 can be lifted.

Difference between Section 144 and curfew

- Section 144 **restricts gatherings of four or more individuals in the affected area**, whereas curfew requires people to stay indoors for a set amount of time. The government also imposes tight traffic restrictions.
- Under the curfew, markets, schools, universities, and workplaces stay closed, and only vital services are permitted to operate with prior notice.

Concern

- **Gives Absolute Power:** It is too broad, and the section's terms are broad enough to provide a magistrate total power that may be abused. A revision application to the magistrate himself is the first remedy for such an order.
- **Rights violation:** Whenever a person's fundamental rights are violated, he or she can file a writ petition with the Supreme Court. Nonetheless, there are concerns that the rights may have already been violated before the Supreme Court intervenes.
- **Imposing Prohibition on Large Area not Justifiable:** Placing prohibitory orders across a vast region is not justifiable since the security situation varies from place to place and cannot be addressed in the same way.

Important Supreme court Judgement

- **Dr Ram Manohar Lohiya case 1967:** The Supreme Court ruled that "no democracy can exist if 'public order' is openly disrupted by a segment of the citizenry."
- **Madhu Limaye vs. Sub-Divisional Magistrate, 1970:** The Court stated that the authority of a magistrate under Section 144 "is not an ordinary power emanating from administration, but a power employed judicially and which may withstand further judicial examination."
  - The court, on the other hand, maintained the law's validity, stating that the limits imposed by Section 144 are covered by the "reasonable constraints" to basic rights outlined in Article 19(2) of the Constitution.
- The Supreme Court criticized the government in 2012 for invoking Section 144 on a sleeping crowd at Ramlila Maidan.
  - The court ruled that such a clause may only be applied in extreme cases to maintain public order.
  - The provision's effectiveness is to instantly avoid any negative occurrence. As a result, the emergency must be quick and the repercussions severe enough.
- The Supreme Court ruled that such a clause cannot be used to restrict individuals' fundamental right to assemble peacefully and that it cannot be used as a "tool" to "block the lawful expression of opinion or grievance or the exercise of any democratic rights."

Way Forward

- Section 144 is an **effective instrument for dealing with crises**. Yet, the lack of any particular customization of broad executive powers with specified purposes, along with extremely minimal judicial control of the executive branch, leaves it vulnerable to abuse and exploitation.
  - Before acting under this provision, the Magistrate shall conduct an investigation and note the importance of the situation.
- There is a need **to balance the legislature's grant of plenary powers to deal with emergent crises with the need to defend people's liberty and other freedoms under the Constitution's fundamental rights.**

Section 144: What it Says and What it Means

1 Usually seen as a law to ban protests in a certain area, the ambit of section 144 of the Criminal Procedure Code is actually much wider

2 First introduced in 1861, the law gives powers to a magistrate to order a person to abstain from an act, which could obstruct or cause annoyance or injury to any person "lawfully employed", or pose a "danger to human life, health or safety, or a disturbance of the public tranquillity"

3 Such orders are issued for two months at a time and powers are supposed to be used in cases of urgency and when a quick response is needed

4 The Supreme Court has ruled that section 144, if used appropriately, is not unconstitutional. Powers are supposed to be used in an emergency

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GST APPELLATE TRIBUNAL   GS-II POLITY

Context

- The Lok Sabha approved amendments to the Finance Bill that would pave the way for the establishment of an appeal tribunal to resolve GST issues. In the lack of an appellate tribunal, taxpayers are currently bringing writ petitions before high courts.

Goods and Service Tax Appellate Tribunal (GSTAT)

- The **Central Goods and Services Tax Act of 2017 (CGST Act) requires the establishment of a Goods and Services Tax Appellate Tribunal (GSTAT) and its Benches**. GSTAT would be a specialist dispute resolution authority.
- The GSTAT is intended as a body that would assist in adjudicating and resolving problems relating to the indirect tax scheme, as well as protecting taxpayer rights and the revenue interests of the union and state governments.
- The GSTAT's main bench will be in New Delhi, and each state can select how many benches or boards they need, subject to

GST council permission.

Need for the Tribunal

- **In the absence of GST Appellate Tribunals, taxpayers are filing writ petitions to directly petition the High Court**, putting additional strain on already overloaded High Courts that may not have specialist benches for GST disputes.
- The lack of the GST Appellate Tribunal (GSTAT) has resulted in a massive backlog of cases.
- Taxpayers who feel wronged have no alternative but to wait for justice while revenue officials vigorously pursue their directives in the absence of a tribunal.
- The establishment of state and national-level benches would allow for speedier dispute settlement.

Why Delay in setting up GSTAT

- Even after 5 years of GST implementation, GSTAT has yet to be implemented. There are several reasons for the GSTAT's late formation, including the qualification and experience standards of technical members, the number and composition of Benches, and the size of the search and selection committee.

The proposed composition of GSTAT

- **Four-member Tribunal:** Each state is expected to establish a four-member appeal panel.
- **Balance of Technical and Judicial Members**
  - Each state appellate tribunal would have two technical members (one from the centre and one from each of the states) and two judicial members.
  - A panel of active or retired High Court and District Court judges will pick the judicial members.
- **Division Bench**
  - The appeals will be decided by a division bench made up of two members, one technical and one judicial.
  - According to the idea, each state appellate tribunal will have two division benches, allowing it to hear more cases.
- **National Appellate Tribunal**
  - A National Appellate Tribunal will be established in Delhi. It will have one judicial member and one technical member.
  - The national appellate panel will primarily consider appeal cases involving disagreements between the department and the assessed over the 'place of supply' under the GST regime. It will, however, not hear any appeals involving different findings by state appellate tribunals.
- **Tribunal Chairman**
  - A former Supreme Court judge or a former Chief Judge of a High Court is likely to preside over the Goods and Services Tax (GST) Appellate Tribunal.
- **Single Bench Dispute Resolution**
  - The GST Tribunal's framework is anticipated to allow a single-member panel to resolve disputes involving dues or penalties of less than Rs. 50 lakh.

Powers of the Appellate Tribunal

- According to the Code of Civil Procedure, 1908, the GST Appellate Tribunal has the same powers as the court and is considered a Civil Court to consider a matter.
- It has been given the authority to hear appeals and issue orders and directions, including those for the collection of unpaid sums, the execution of its rulings, and the correction of errors.
- It also has the authority to levy fines, revoke or cancel registrations, and take any other actions necessary to guarantee compliance with GST legislation.
- Its structure may allow a single-member court to resolve disputes involving dues or fines of less than Rs. 50 lakh.

GST COUNCIL
- **The 101st Amendment Act** laid the groundwork for the goods and services tax.
- The amendment added a new Article 279-A to the Indian Constitution. This provision gave the President the authority to form a GST Council via executive order.
- The Council is a combined forum of the centre and the states, and its **members are as follows**:
  o The Union Finance Minister as the Chairperson.
  o The Union State Minister is in charge of Revenue or Finance.
  o The Finance or Taxation Minister, or any other Minister selected by each state government.
  o The members of the Council from the states must elect one of their numbers to serve as Vice-Chairperson of the Council. They can also choose his tenure.
- The Chairman of the Central Board of Excise and Customs (CBEC) is a non-voting permanent invitee to all Council proceedings.
- Under GST, if a person is not satisfied with the decision passed by any lower court, an appeal can be raised to a higher court, the hierarchy for the same is as follows (from low to high):
  1. Adjudicating Authority
  2. Appellate Authority
  3. Appellate Tribunal
  4. High Court
  5. Supreme Court
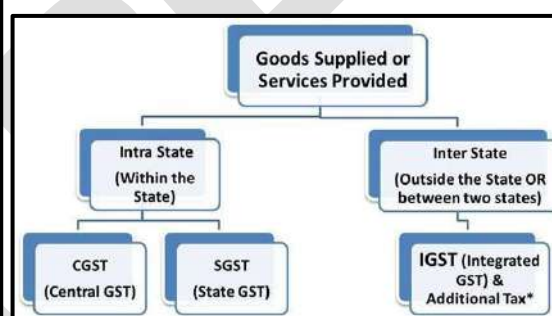
DISQUALIFICATION OF MPs and MLAs

Context
- A Member of Parliament (MP) was found guilty in a defamation case and given a two-year prison sentence by a Surat district court. The lawsuit was filed under sections 499 and 500 of the Indian Criminal Code (IPC), which deals with defamation.

IPC sections 499 and 500
- Section 499 of the IPC explains how defamation can occur through words, whether uttered or meant to be read signs, or visible representations.
  o These can be written or said about a person to hurt that person's reputation, or with the knowledge or cause to think that the imputation will harm his reputation.
- Section 500 provides for up to two years in jail, with or without a fine, for anybody found guilty of criminal defamation.

Details
- **A Member of Parliament who is found guilty of any crime and receives a term of at least two years is automatically disqualified from holding public office, according to Section 8(3) of the Representation of the People (RP) Act 1951,** which governs a legislator's removal from office.

Lily Thomas case
- In the Lily Thomas case (2013), the Supreme Court dismissed Section 8(4) of the RP Act, which allowed a legislator who had

been convicted of an offence to continue serving on the basis that an appeal had been submitted within three months of the conviction.

What next in the Present case?

- The disqualification would not become official until the Lok Sabha Secretariat published a notification announcing the vacant seat, and the Election Commission (EC) then ordered new elections to fill the seat.
- According to sources within the Lok Sabha secretariat, there are currently no plans to declare the MP seat vacant and they are awaiting a formal complaint.
- The secretariat is proceeding cautiously in light of the recent case involving a Lakshwadeep MP.
    - In January 2023, an MP was charged and convicted by a Lakshadweep court, but a week later, the Kerala High Court suspended the verdict and declared the MP's suspension from the Lok Parliament no longer applicable.
    - The Election Commission's decision to declare byelections in his constituency was immediately challenged in the Supreme Court, and the court requested that the EC decision be withdrawn.

Options available with the MP

- To suspend the disqualification order, the **MP needs to get his conviction stayed by a higher court**.
- The MP can also approach the President as a different alternative. According to Mr Achary, the President would decide whether to disqualify an MP based on the provisions of Article 103 of the Constitution after consulting with the Election Commission.

Defamation

- A person's reputation is damaged when false comments about them are spread about them, according to the dictionary definition of defamation.
- Defamation is the purposeful, intentional, and knowing publication or utterance of a false and untrue statement with the intent to harm another person's reputation.
- A man's reputation is considered his property, and any damage is illegal. It could be spoken or written. Libel refers to defamatory written, printed, or typed content or images, whereas slander refers to defamatory spoken language.

Defamation Law in India

- The Constitution's Article 19 grants its citizens several liberties. Yet, the reasonable exemption to the freedom of speech and expression guaranteed by Article 19(1) has been imposed by Article 19(2). The exceptions include contempt of court, defamation, and incitement to commit a crime.
- **Defamation is an offence under both civil and criminal law.**
    - In civil law, defamation is penalised under the Law of Torts by imposing a penalty in the form of damages to be granted to the claimant.
    - Defamation is a compoundable, non-cognizable, and bailable offence under the criminal code. So, a police officer may only arrest with a warrant that has been issued by a magistrate. According to the Indian Penal code, the offence is punishable by a simple jail term of up to two years, a fine, or both.

About Disqualification
Disqualification under the Indian Constitution

- **Article 102 of the Constitution contains a provision for disqualification**. It states that under certain conditions, a person is unable to run for office or be a Member of Parliament.
    - If he holds any office of profit under the Union or state government.
    - If he is of unsound mind and stands so declared by a court.
    - If he is an undercharged insolvent.
    - If he is not a citizen of India or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state.
    - If he is so disqualified under any law made by Parliament.
- Article 102 also empowers Parliament to enact legislation governing the criteria of disqualification.
- State legislators have similar provisions.

Disqualification under the 10th Schedule (anti-defection law)

- Indian Constitution also lays down that a person shall be disqualified from being a member of either House of state legislature if he is so disqualified on the ground of defection under the provisions of the 10th Schedule.
- **Under the defection law, a member is disqualified:**
    - If he willingly withdraws from the political party on whose ticket he was elected to the House.
    - If he votes or abstains from voting in the House against the wishes of his political party.

- o If a member who was elected independently joins a political party.
- o If any nominated person joins a political party after the six months has expired.
- The question of disqualification under the 10th Schedule is decided by the Chairman, in the case of the legislative council and, the Speaker, in the case of the legislative assembly.
  - o The decision of the Chairman/Speaker is subject to judicial review.

Disqualifications under the Representation of People Act (1951)

- He must not have been found guilty of certain election offences or corrupt practices in the elections.
- He must not have been convicted for any offence resulting in imprisonment for two or more years. But, the detention of a person under a preventive detention law is not a disqualification.
- He must not have failed to lodge an account of his election expenses within the time.
- He must not have any interest in government contracts, works or services.
- He must not be a director or managing agent nor hold an office of profit in a corporation in which the government has at least a 25% share.
- He must not have been dismissed from government service for corruption or disloyalty to the state.
- He must not have been convicted for promoting enmity between different groups or for the offence of bribery.
- He must not have been punished for preaching and practising social crimes such as untouchability, dowry and sati.

Deciding Authority:

- To decide whether a member has become subject to any of the above disqualifications, the governor's decision is final. However, Governor should obtain the opinion of the Election Commission and act accordingly.

UNLAWFUL ACTIVITIES PREVENTION ACT (UAPA)   *GS-II POLITY*

Context

- A three-judge Supreme Court bench stated that a person who "is or continues to be" even a "mere member" of a banned organisation can be found criminally responsible under the Unlawful Activities (Prevention) Act (UAPA) for working against India's sovereignty and integrity.

Details

- By this decision, the Supreme Court overturned a series of its own decisions that had decided that "mere participation" — as opposed to "active membership" — in an illegal club or organisation did not render a person a criminal or a terrorist.

Unlawful Activities (Prevention) Act (UAPA)

- In 1967, the Illegal Activities Prevention Act (UAPA) was passed.
- The Act establishes unique procedures to deal with terrorist acts.
- Unlawful action includes any conduct that is criminal or violates a law, whether it occurred before or after the passage of this Act, and whether it occurred in the Country or elsewhere.
- The word "terrorist act" is defined in Section 15 of the UAPA and is punishable by imprisonment for at least five years up to life. If the terrorist act results in death, the punishment is either death or life imprisonment.
- The Act allows the central government unlimited jurisdiction, and if the Centre considers an action to be criminal, it may proclaim it such in an Official Gazette.
- **This Act's provisions also apply to:**
  - o Indian citizens living outside India.
  - o Government employees, wherever they may be.
  - o Individuals on Indian-registered ships and aircraft, wherever they may be.

Provisions

- Section 3 of the UAPA requires the Centre to publicly notify an organisation or association that it has been declared unlawful.
  - o The court reasoned that this generally leads to the conclusion that every member of the organisation would be aware of the restriction.
  - o However, continuing to be a member despite knowing about the prohibition is an act against the nation's sovereignty.
- Section 15 of the Act states that the centre can identify anybody as a "terrorist."
- Any inspector rank officer of the National Investigation Agency may investigate any form of illicit action.
- The Investigative Officer is also authorised to conduct raids, and if a seizure is made, he must notify the state's designated official within 48 hours after the search.
- If any property or currency is suspected of being utilised for terrorist acts or by a terrorist group, the investigating agency has the authority to seize it.
- If a terrorist suspect feels that the legislation may be utilised against him, he or she may submit an appeal to the Home

Ministry, which must answer within 45 days.

- The individual may also appeal to the review committee, which will be made up of retired/current judges and Central Government officials.
- Those who think they have been wronged may file a complaint with the high court or the Supreme Court.
- A terrorist act is defined under the Act as one that happens within the scope of any of the treaties listed in the Act's Schedule.

Challenges

- **Criminalizing Thoughts:** It criminalises "disaffection" with the state through simple ideas and political protests. It is a violation of citizens' freedom to express themselves, as well as groups' and unions' collective right to broadcast their opinions.
- **Ignoring Fundamental Rights:** It may easily be used to undermine fundamental rights and processes. Anyone arrested under UAPA, for example, can be detained for up to 180 days without being charged. As a result, it is a direct violation of Article 21 of the constitution.
- **Highly Discretionary:** It gives the government vast discretionary powers and allows for the establishment of special courts with the authority to utilise secret witnesses and perform closed-door sessions.
- **Hindering dissent:** It is being used to repress dissent through intimidation and harassment, endangering public discussion and press freedom and criminalising the exercise of civil freedoms.
- **Restriction of Freedoms:** UAPA authorises the parliament to limit individuals' rights and freedoms to maintain "India's sovereignty and integrity."
- **Bail:** The criteria for bail under the UAPA are that it cannot be granted unless the court believes the accused is innocent of the alleged offence. It is the accused's responsibility to prove his innocence to obtain bail.

Way Forward

- A comprehensive anti-terrorism law is required in India, but its implementation would always end in severe aberrations, such as the detention of activists.
- The present UAPA has effective measures to combat terrorism (cognizable crime), but it also contains flaws and shortcomings that must be corrected for the law to be successful and efficient in preventing and combating terrorism.
- The UAPA is a rather tough statute designed to deal with some difficult conditions, and with some spending more than a decade in prison before being acquitted, its potential for abuse has been recognised.
- In comparison to the Indian Criminal Code, UAPA grants the state additional authority by loosening timeframes for the state to submit chargesheets and imposing rigorous bail conditions.
- The Act must be amended to guarantee that sanctions for prosecutions and investigations under this Act are handled by a constitutional functionary who is independent of the Government. Perhaps a Supreme Court Judge might be assigned to this task.
- Terrorists and illegal actions are always a source of political contention. If the Act is to be effective, its implementation must appear nonpartisan at all times.

SOCIAL MEDIA GUIDELINES   *GS-II POLITY*

Context

- For celebrities, influencers, and virtual influencers on social media platforms, the Directorate of Consumer Affairs has published a set of Guidelines titled "Endorsements Know-hows!".

Guidelines for Social media influencers

- The **Union Government has released guidelines for celebrities and social media influencers**.
  - Under the guidelines, it is **mandatory to disclose the material benefits of a product or a brand they are promoting through their social media platforms.**
  - They should not promote any product or service and service in which due diligence has been done by them or that they have not personally used or experienced.
- The **disclosures must be displayed** in the endorsement and terms such as 'advertisement', 'sponsored' or 'paid promotion' should be used for all sorts of endorsements.
  - **Endorsements must be made in simple, clear language** and terms such as 'advertisement,' 'sponsored,' or 'paid promotion' can be used.
  - In the case of the live stream, disclosures should be displayed continuously and prominently during the entire stream.
- **The guidelines aim to ensure that;**
  - Individuals do not mislead their audiences when promoting products or services.
  - They comply with the Consumer Protection Act and any associated rules or guidelines.
- **Penalty for misleading advertisements;**

- o **Under the Consumer Protection Act 2019, the Central Consumer Protection Authority (CCPA) can impose a penalty** of up to Rs 10 lakh on manufacturers, advertisers and endorsers and for repeated offences, a penalty of up to ₹ 50 lahks can be imposed.
  - o The CCPA can also prohibit the endorser of a misleading advertisement from making any endorsement for up to one year and subsequent contravention, prohibition can extend up to three years.
- **Significance**
  - o The increasing reach of digital platforms and social media resulted in a rise in the number of celebrities and social media influencers. This increased the risk of consumers being misled by advertisements and unfair trade practices by these individuals on social media platforms. The guidelines will ensure transparency and promote responsibility among social media influencers and save consumers from misleading or unfair practices.

Consumer Protection Act, 2019

- The Act defined **a consumer as a person who buys any goods or avails of service for final use.**
  - o It does not include a person who buys a good for resale or a good or service for commercial purposes.
- It covers transactions through all modes including offline, and online.
- The Act **clearly defined 6 Rights of consumers:**
  - o Right to be protected against the marketing of goods and services which are hazardous to life and property.
  - o Right to be informed about the quality, quantity, potency, purity, standard and price of goods or services.
  - o Right to Choice among a variety of goods or services at competitive prices.
  - o Right to be heard
  - o Right to seek Redressal against unfair or restrictive trade practices.
  - o Right to Consumer Awareness

THE BASIC RIGHTS OF CONSUMERS

1. Rights to comfortability, security, and safety
2. Right to choose product/service
3. Right to receive true information of the product/service condition
4. Rights to complain and be heard
5. Rights to advocacy, protection, and dispute settlement
6. Right to be informed about your rights
7. Rights to be served and treated without discrimination
8. Rights to seek compensation and redress

- Central Consumer Protection Authority (CCPA) promotes**, protects and enforces the rights of consumers**.
  - o It functions under the guidelines of The Minister of Consumer Affairs, Food and Public Distribution
  - o It regulates matters linked to the violation of consumer rights, unfair trade practices, and misleading advertisements.
  - o The CCPA has an investigation wing; they may conduct an inquiry or investigation into the case of violations of rules.
- **Central Consumer Protection Authority (CCPA) functions**;
  - o Inquiring into violations of consumer rights, investigating and taking appropriate action.
  - o It could pass orders to recall goods or withdraw hazardous services, and refund the price paid.
  - o It Issues directions to the concerned trader/ manufacturer/ endorser/ advertiser/ publisher to either discontinue a false or misleading advertisement.
  - o It imposes penalties on a manufacturer or an endorser of up to Rs 10 lakh and imprisonment for up to two years for a false or misleading advertisement. In case of a subsequent offence, the fine may extend to Rs 50 lakh and imprisonment of up to five years.
  - o It Issues safety notices to consumers against unsafe goods and services.
- **Consumer Disputes Redressal Commissions (CDRCs) at the District, State, and national levels.**
  - o Appeals from the State CDRC will be heard by the National CDRC.
  - o The final appeal to the Supreme Court.
  - o The District CDRC will entertain complaints where the value of goods and services does not exceed Rs 1 crore.
  - o The State CDRC will entertain complaints when the value is more than Rs 1 crore but does not exceed Rs 10 crore.
  - o Complaints with a value of goods and services over Rs 10 crore will be entertained by the National CDRC.

CRYPTO TRADING UNDER THE MONEY LAUNDERING ACT

Context

- The Finance Ministry announced in a Gazette notification that the anti-money laundering laws have been applied to cryptocurrency trading, storage, and related financial activities.

Background

- Over the past few years, cryptocurrencies and other digital assets like NFTs (non-fungible tokens) have been increasingly popular across the globe. With the advent of cryptocurrency exchanges, trading in these assets has multiplied greatly. However, India lacked a defined regulatory or taxation strategy for these types of investments until last year.

More about the Gazette notification

- To tighten control over digital assets, the **government has enacted money laundering regulations on cryptocurrencies and other virtual assets.**
- Now Indian cryptocurrency exchanges must **notify the Financial Intelligence Unit India (FIU-IND) about any suspicious activity.**
- The notification stated that the Prevention of Money-laundering Act will now apply to transactions involving "exchange between virtual digital assets and fiat currencies, exchange between one or more forms of virtual digital assets, transfer of virtual digital assets, safekeeping or administration of virtual digital assets or instruments enabling control over virtual digital assets, participation in and provision of financial services related to an issuer's offer and sale of a virtual digital asset."
- The step is in line with a global trend that calls for digital asset platforms to comply with anti-money laundering requirements that are equivalent to those observed by other regulated businesses like banks or stock brokers.
- Virtual digital assets are defined as any code, number, or token produced using cryptographic techniques with the promise or representation of having inherent value.

Prevention of Money Laundering Act

- **Money laundering is defined as the illegal process of converting money generated through criminal activities**, such as drug trafficking or terrorist funding, t**o appear to have come from a legitimate source. The money from criminal activity is considered 'dirty', and the laundering process makes it look clean.**

- Prevention of Money Laundering Act was **enacted as a response to India's global commitment (including the Vienna Convention) to curb the menace of money laundering.**

- **Objectives of the Act -** PMLA was e**nacted in 2002 and came into force in 2005**, to curb money laundering (the process of converting black money into white) and to provide for the seizure of property derived from money laundering. There are mainly **3 objectives of PMLA:**
  - To **prevent and control money laundering.**
  - To **confiscate and seize the property** obtained from the laundered money.
  - To deal with any other issue connected with money laundering in India.
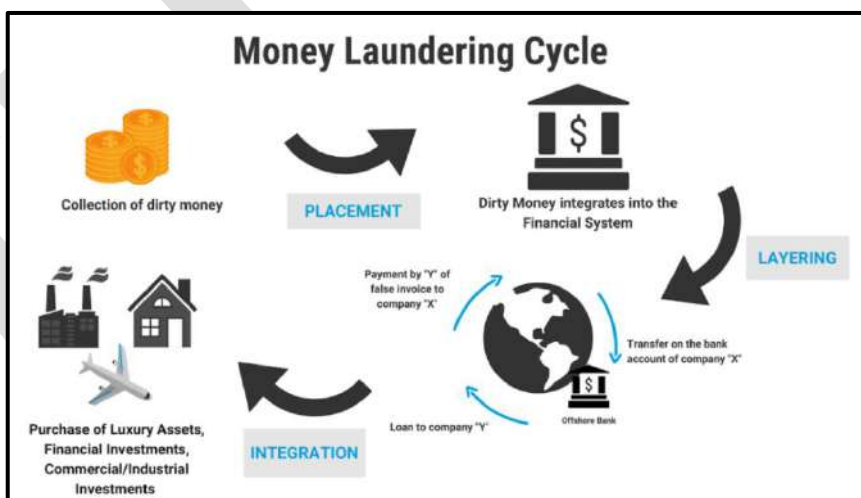
- **Adjudication Authority -** The **Director or officer above the rank of Deputy Director can attach property believed to be "proceeds of crime" for 180 days. Such an order is required to be confirmed by an independent Adjudicating Authority.**
  - The Adjudicating Authority is **appointed by the central government**. It decides whether the property attached or seized is involved in money laundering.
  - The Adjudicating Authority shall **not be bound by the procedure laid down by the Code of Civil Procedure,1908, but shall be guided by the principles of natural justice and subject to the other provisions of PMLA.**

- **Punishment** - The Act prescribes that **any person found guilty of money laundering shall be imprisoned for a minimum of 3 years and a maximum of 7 years**, and **If the crime of money laundering is involved Narcotic Drugs, the punishment can go up to 10 years**, along with a fine.

- **Proof** - The **burden of proof lies with the accused,** who has to prove that the suspected property/assets have not been

obtained through money laundering.

- **Appellate Tribunal -** An **Appellate Tribunal appointed by the Government is given the power to hear appeals against the orders of the Adjudicating Authority**. **Orders of the tribunal can be appealed in the appropriate High Court**.
- **Special Court** - Provision for establishing a **special court** by the Union government under the Prevention of Money Laundering Act, 2002 (PMLA).
- **Financial Intelligence Unit – India (FIU-IND) -** It was set by the Government as the central national agency responsible for receiving, processing, analyzing and disseminating information relating to suspect financial transactions.
  - o **FIU-IND is also responsible for coordinating and strengthening efforts of national and international intelligence,** investigation and enforcement agencies.
  - o FIU-IND is an independent body **reporting directly to the Economic Intelligence Council (EIC) under the Finance Minister.**

Way Forward

- According to the finance minister, Web3 and crypto assets are still relatively new and developing industries that need major international cooperation to be effectively regulated.
- The finance minister included a 30% tax on revenue from transactions in virtual assets in the Budget for 2022–2023. The minister also introduced a 1% TDS (tax deducted at source) on transactions in these asset types beyond a certain level to bring such assets under the tax net. Crypto and digital asset gifts were taxed as well.
- Since cryptocurrencies are by nature borderless, international cooperation is necessary to prevent market manipulation. Hence, any legislation for regulation or for banning can only be effective with major international collaboration on the assessment of the risks and advantages and the development of common taxonomies and standards.

FOREIGN CONTRIBUTION REGULATION ACT (FCRA)   *GS-II GOVERNANCE*

Context
- The Center for Policy Research's Foreign Contribution Regulation Act (FCRA) licence has been suspended by the Union Government (CPR).

Foreign Contribution Regulation Act
- The **FCRA was enacted in 1976 to regulate foreign money into the country through independent organizations.**
- The Foreign Contribution Regulation Act was amended by the Indian Parliament in 2010.
  - o To effectively regulate **the foreign contribution by individuals or associations or companies.**
- The Union Minister of Home Affairs introduced the Foreign Contribution (Regulation) Amendment Bill in 2020, which made several changes.

Foreign Contribution (Regulation) Amendment Act, 2020
- The Act regulates the acceptance and utilization of foreign contributions by individuals, associations and companies.
  - o **Foreign contribution is the donation or transfer of any currency, security or article (of beyond a specified value) by a foreign source**.
- **Prohibition to accept foreign Contributions**: Certain persons are prohibited to accept any foreign contribution. These include;
  - o **Election candidates, editors or publishers of a newspaper, judges, government servants, members of any legislature, and political parties, among others.**
  - o The Bill adds public servants (as defined under the Indian Penal Code) to this list. A public servant includes any person who is in service or paid by the government or remunerated by the government for the performance of any public duty.
- **Transfer of foreign Contributions**
  - o Foreign contributions **cannot be transferred to any other person unless such person is also registered to accept foreign contributions (or has obtained prior permission under the Act to obtain foreign contributions).**
  - o The Act prohibited the transfer of foreign contributions to any other person. The term 'person' under the Act includes an individual, an association, or a registered company.
- **Aadhar for registration**
  - o Any person seeking registration (or renewal of such registration) or prior permission for receiving a foreign contribution must make an application to the central government in the prescribed manner.
  - o The Act adds that **any person seeking prior permission, registration or renewal of registration must provide the Aadhar number of all its office bearers,** directors or key functionaries, as an identification document.
  - o **In the case of a foreigner, they must provide a copy of their passport** or the Overseas Citizen of India card for identification.
- **FCRA Account**

- o **Foreign contributions must be received only in an account designated by the bank as an "FCRA account"** in such a branch of the State Bank of India, New Delhi, as notified by the central government.
- o No funds other than the foreign contribution should be received or deposited in this account.
- o The person may open another FCRA account in any scheduled bank of their choice for keeping or utilizing the received contribution.
- **Restriction in the utilization of foreign contributions**
  - o The Government may restrict the usage of unutilized foreign contributions for persons who have been granted prior permission to receive such contributions.
- **Renewal of licence**
  - o **Every person who has been given a certificate of registration must renew the certificate within 6 months of expiration**.
  - o The Act provides that the government may conduct an inquiry before renewing the certificate.
- **Reduction in the use of foreign contributions for administrative purposes**
  - o A person who receives a foreign contribution must use it only for the purpose for which the contribution is received.
  - o **They must not use more than 20% of the contribution for meeting administrative expenses (earlier it was 50%).**
- **Suspension of Registration**
  - o Earlier governments may suspend the registration of a person for a period not exceeding 180 days.
  - o **The Act adds that such suspension may be extended up to an additional 180 days.**
- The Union government reserves the right to cancel the FCRA registration of any NGO if it finds it to violate the Act.
  - o Registration of the NGO can be cancelled for a range of reasons. Once the registration is cancelled, it is not eligible for re-registration for three years.
  - o All orders of the government can be challenged in the High Court.

The FCRA Timeline

1976
Originally introduced during the Emergency to keep track of foreign influence in social, political, economic and religious decisions

♦ Nonprofits were allowed to freely receive foreign donations while reporting the amount spent and received every year

1984
Mandatory for non-profits to register before receiving foreign donations; they cannot pass the funds on to other non-registered NGOs

2010
The 1976 Act was repealed and replaced by a stricter Foreign Contribution (Regulation) Act, 2010 along with the Foreign Contribution (Regulation) Rules, 2011

♦ Key changes introduced: FCRA registration validity, permanent earlier, reduced to five years and subjected to renewal

♦ Only 50% foreign contributions could be used for administrative expenses - no such provision existed under the 1976 Act

2020
The FCRA Amendment Bill, 2020, broadly redefined terms related to acceptance, transfer and utilisation of foreign contributions under the 2010 Act

SOURCE Sattva Consulting

INTERNET SHUTDOWNS

GS-II GOVERNANCE

Context
- According to a survey, India has had the most internet shutdowns for five years in a row, accounting for nearly half of all shutdowns globally in 2022.

Highlights of the Report
- **Global Scenario**
  - o In 2022, there were at least 187 internet outages reported in 35 different nations. Of these 35 nations, 33 have a history of offences.
  - o With 22 shutdowns in 2022, Ukraine comes in second place by a wide margin, followed by Iran with 18, and Myanmar comes in fourth place with 7 internet shutdowns. By March 2022, significant areas of Myanmar's population had been without electricity for more than 500 days.
  - o People in Tigray, Ethiopia, had been without complete communication for more than two years by the end of 2022.
- **Indian Scenario**
  - o Jammu and Kashmir experienced the greatest number of Internet outages (49) in 2022, the highest of any state in the country.
  - o Rajasthan authorities had ordered them 12 times.
  - o West Bengal order shutdown 7 times.
- According to the report, authorities used shutdowns to try to cover major human rights abuses and break up connections between people and communities. This had an impact on human rights monitoring, including shutdown tracking and the delivery of humanitarian relief.
- The shutdowns were enforced for several reasons, including demonstrations, conflicts, academic exams, and elections.
- Government order **Internet shutdowns to intentionally disrupt or block;**
  - o Access to and the use of information and online communications systems.
  - o To make it difficult to share and watch videos, live broadcasts and other journalistic work, etc.

- **Internet shutdowns are generally ordered during;**
  - o Civil society movements.
  - o To ensure security as well as during electoral proceedings.
  - o To restrict human rights monitoring and reporting.
- Internet restrictions also have huge economic impacts.

Internet Shutdown

- Internet shutdowns are a **way to stop online communication,** which has a **direct impact on day-to-day life** in a world that is becoming more and more digital. However, they also have significant and serious blow effects on democratic movements, and they occasionally serve as a justification for violence because it is difficult to report crimes and find support.
- **Impact**
  - o **Economic losses** can result from internet outages, especially for companies that depend on the internet to run their operations.
  - o The internet has emerged as a vital resource for getting **access to telemedicine, online support groups, and health information** during the Covid-19 pandemic.
  - o People increasingly communicate with one another, share information, and take part in social movements through the internet, which is a **vital communication tool**.
  - o Internet shutdowns can also cause **disruptions in educational activity**, especially for students who depend on online learning tools.
  - o Governments frequently utilise internet shutdowns to suppress protests, regulate information, and restrict political opposition.

Internet Shutdowns rules in India

- The 1885 Act provides the government with the authority to licence and regulates a variety of telecom services, including internet services.
- The **Temporary Suspension of** **Telecom** **Services (Public Emergency or** **Public** **Safety) Rules, 2017, which are** **governed by the Indian** **Telegraph Act, of 1885**, apply to **internet** shutdown orders.
- The 2017 Guidelines empower **top** bureaucrats from the Home **Ministry** at the central and state levels **with the** authority to order shutdowns. **They** also allow for the temporary shutdown of telecom services in **a region** on grounds of a public emergency.

India is the worst perpetrator of internet shutdowns

Documented internet shutdowns by year

These numbers reflect the latest data available as of publication of this report and include updates to previously published totals for post years.

Number of global shutdowns Number of shutdowns in India

Source: #KeepItOn Report 2022

2016	2017	2018	2019	2020	2021	2022
75 / 30	106 / 69	196 / 134	213 / 121	159 / 109	184 / 107	187 / 84

- **In Anuradha Bhasin v. Union of** **India** **(2020**), the Supreme Court made the decision that orders to take down the internet must pass the necessary and proportionality standards to be acceptable under Indian law.
  - o The Union government subsequently modified the 2017 Regulations in November 2020 (to limit Internet suspension orders to a maximum of 15 days).
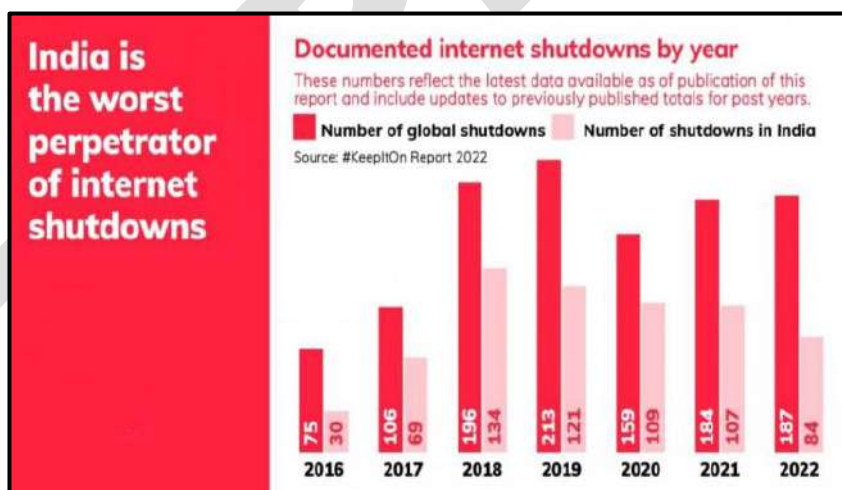
FOREIGN HIGHER EDUCATIONAL INSTITUTIONS IN INDIA   *GS-II GOVERNANCE*

Context
- The first foreign university to establish a campus in India will be Australia's Deakin University.

Details
- The Deakin University of Australia will open its independent campus in Gujarat's GIFT City, making it the first foreign institution to enter India.
- The official announcement is expected to be made on 8th March during the visit of the Australian Prime Minister to Ahmedabad.
- In the QS World University Rankings, Deakin is ranked 266th and is one of the top 50 young universities in the world.
- According to the Times Higher Education World Rankings, the university is ranked between 250 and 300.

Background

- The **National Education Policy (NEP) 2020 stated that "chosen universities, e.g., those from among the top 100 universities in the world will be permitted to operate in India."**
- The Finance Minister had first stated in her Budget Speech in February 2022 **that top international colleges and institutions will be permitted in GIFT City** to offer courses in financial management, FinTech, science, technology, engineering, and mathematics.
- In January 2023, the **University Grants Commission (UGC) released draft guidelines for encouraging foreign universities and educational institutions to set up campuses in India.**
    - The draft was open for public comments, and after getting and analyzing feedback from all stakeholders, the final guidelines were notified at the end of January 2023.

Key Points of the UGC guidelines

- A foreign university with a rank among the top 500 global rankings or a foreign educational institution of repute in the home country can apply to the UGC to set up a campus in India.
    - The National Education Policy (NEP), 2020 also allowed top universities in the world to operate in India.
- A legislative framework promoting such entry will be put in place.
- **They will have special power regarding regulatory, governance, and content norms on par with other autonomous institutions of India.**
- UGC will appoint a standing committee to decide on the application within 45 days after examining the institution's credibility, programmes offered, potential to strengthen educational opportunities in India, and proposed academic infrastructure.
    - Within 45 days, the UGC may grant inprinciple approval to the foreign institution to set up campuses in India within two years.
    - The initial approval will be for 10 years, which can be extended.
- They can evolve their admission process and criteria to admit domestic and foreign students.
- **They will have the autonomy to decide their fee structure and will face no caps that are imposed on Indian institutions**.
    - The only condition will be that the fee should be "reasonable and transparent".
- They will have the autonomy to recruit faculty and staff from India and abroad.
- The courses to be offered cannot be online and open and in distance learning mode.
- The qualifications awarded to the students on the Indian campus should have equivalence with those awarded by the institutions in their country of origin.

WHAT DRAFT REGULATIONS SAY

- These varsities will have the **freedom to decide on admission criteria** and fee structure
- The commission has advised keeping the fees **"reasonable and transparent"**
- The foreign institution **shall have the autonomy to recruit faculty/staff from India/abroad**
- The varsity to ensure that the **foreign faculty stay at the campus for a reasonable period**

WHAT IT ENVISAGES

The regulatory framework allowing the entry of higher-ranked foreign varsities will provide an international dimension to higher education, enable Indian students to obtain foreign qualifications at affordable cost, and make India an attractive global study destination

WHO ARE ELIGIBLE

Two categories can apply. Universities that have secured a position within the top 500 of overall or subject-wise global ranking or a reputed institution in its home jurisdiction

FUNDS AND FUNDING

- Cross-border movement of funds and maintenance of foreign currency accounts, **mode of remittance, repatriation, and sale of proceeds shall be as per the Foreign Exchange Management Act (FEMA)**
- The operation of foreign HEIs shall not be contrary to the sovereignty and integrity of India, **the security of the state, friendly relations with foreign states, public order, decency, or morality**
- **An audit report shall be submitted annually to the commission** certifying that the operations of the FHEIs in India are in compliance with the Act and related rules, the draft said

The new National Education Policy (NEP) has envisioned that top universities in the world will be facilitated to operate in India. For this, a legislative framework facilitating such entry will be put in place, and such universities will be given special dispensation regarding regulatory, governance, and content norms on par with other autonomous institutions of India — **M Jagadesh Kumar, UGC chairperson**

> **University Grants Commission (UGC)**
> - University Grants Commission is a **statutory body under the University Grants Commission Act, of 1956.**
> - UGC is charged with **the task of coordinating and maintaining standards of higher education in India.**
> - It provides recognition to universities and also allocates funds to universities and colleges.
> - UGC headquarters are in New Delhi, and it also has 6 regional centres.
> - All grants to universities and higher learning institutions are handled by the UGC.
> - In 2015-16, the Union government initiated a National Institutional Ranking Framework under UGC to rank all educational institutes.
> - UGC also **conducts the National Eligibility Test (NET) for the appointments of teachers in colleges and universities.**

Significance of this Step

- **It will reduce the Outflow of Indian Money and Brain Drain**: Many Indian students choose to pursue degrees from other countries, which results in an outflow of Indian money.
  - A recent analysis predicts that by 2024, the amount spent by Indian students studying abroad will rise from its current level of USD28 billion to USD80 billion yearly.
- India has one of the biggest higher education systems in the world, yet its gross enrolment ratio (GER) is among the lowest in the world at just 27.1%.
  - The advent of foreign universities in India may **increase the enrolment ratio** by providing more options for higher education and potentially attracting more students to pursue degrees.
- The presence of international universities in India can **promote cross-cultural dialogue and mutual understanding.**
- India can improve its standing in the world of education and research by inviting foreign universities here.

Challenges with Foreign Universities Opening in India

- Their educational standards are unlikely to be as high as those of Indian colleges, which **could hurt Indian students' employment chances and future opportunities.**
- They generally charge fees that are considerably more than those of Indian institutions, which may make higher education less affordable for students from lower-income households.
- The lack of proper regulatory control may result in situations where students are exploited or have limited remedies in the case of issues.
- **Concerns for national security** as foreign institutions might be utilized for spying and other unlawful actions.

Way Forward

- For the formation, operation, and recognition of foreign universities in India, the government should set specific rules and regulations. This can ensure that these institutions run under Indian rules and regulations.
- The government must reform universities in India, which would require several initiatives, including enhancing educational standards, expanding funding for higher education, and promoting research and innovation.

● ESG REGULATIONS   *GS-II GOVERNANCE*

Context

- The Securities and Exchange Board of India (SEBI), responding to the increase in ESG (Environment, Social and Governance) investing and the demand by investors for information on ESG risks, substantially revised the annual Business Responsibility and Sustainability Report (BRSR) required by the 1,000 largest listed companies in India.

What is ESG and why is it important?

- **Environmental, Social and Governance (ESG) refer to a set of criteria** to determine how a company performs in preserving the natural environment, managing relationships with its

ESG

ENVIRONMENTAL
Climate change strategy, Biodiversity, Water efficiency, Energy efficiency, Carbon intensity, Enviromental management system

SOCIAL
Equal opportunities, Freedom of association, Health and safety, Human rights, Customer & products resposibility, Child labour

GOVERNANCE
Business ethics, Compliance, Board independence, Executive compensation, Shareholder democracy

stakeholders, and also how it deals with matters including the company's leadership, internal controls, and shareholder's rights. These standards are used by socially and environmentally conscious investors to screen their potential investments.

- Environmental, social, and corporate governance (ESG) is a **strategic framework for activities** ranging from the company's carbon footprint and commitment to sustainability to its workplace culture and commitment to diversity and inclusion to its overall ethos regarding corporate risks and practices.
- It's an organizational construct that's become increasingly important, especially to socially responsible investors who want to invest in companies that have a high ESG rating or score.

Pillars of ESG

The three main pillars of ESG include:

- <u>**Environmental commitment:**</u> This includes everything around a company's commitment to sustainability and the impact it has on the environment, including its carbon emissions and footprint, energy usage, waste, and environmental responsibility.
- <u>**Social commitment:**</u> This covers a company's internal workplace culture, employee satisfaction, retention, diversity, workplace conditions, and employee health and safety. Companies with happy and healthy employees perform better and are viewed as a stronger investment.
- <u>**Corporate governance:**</u> A company's commitment to governance includes compliance, the internal corporate culture, pay ratios, the company ethos, and transparency and accountability in leadership. Investors are interested in companies that can keep up with changing laws and regulations, and that commit to equity and equality in the workplace.

ESG Legal Regime in India

- While various laws have been introduced in India for the protection of the environment, equitable treatment and overall well-being of employees and for corporate governance, there has not been any single piece of legislation covering all elements of ESG or standards for ESG-related criteria on a uniform basis.
- Even though in the last 10-12 years, **various initiatives have been introduced to focus on ESG-related compliances**, this has been done in a fragmented manner and often voluntarily.
  - But in India, if we talk about sustainability, there have been two watershed moments—Corporate Social Responsibility (CSR) reporting and spending, the first such initiative globally, being made mandatory under the Companies Act, 2013; and the Securities and Exchange Board of India (SEBI) making the Business Responsibility and Sustainability Report (BRSR) mandatory for the top 1,000 listed companies by market capitalization.
- **The setting up of the Select Focus Group (SFG) by the RBI, recognition by RBI of the importance of green finance in India**, and release of a consultation paper by SEBI on 'Environmental, Social and Governance Rating Providers for Securities Markets' that proposes a framework to regulate ESG rating providers in India make it amply clear that the Indian regulatory authorities are now catching up on the ESG trends that have been ongoing at a global level.

Need for legislation on ESG

- As the hope of restricting global warming to 1.5 degrees Celsius recedes rapidly, there is a dire need for companies to reorganize their business processes to contain the worst excesses of climate change.
- The value that ESG creates for businesses as consumers become more aware of their carbon footprint and its potential positive impact on business performance.
- Studies prove that a focus on **ESG helps organizations increasingly access new pools of capital**, build a strong reputation among consumers and ensure a sustainable growth path — from policymakers, and consumers to investors, ESG matters to all.
- Although the attention paid to ESG by Indian companies is on the rise, it is still not sufficient. A possible solution would be to include ESG-related regulations in the Indian Companies Act, to give ESG the importance and enforcement mechanisms that require to reduce the environmental and social risks that India is currently facing.

Why is ESG relevant in India?

- India has long had several laws and bodies regarding environmental, social and governance issues, including the Environment Protection Act of 1986, quasi-judicial organisations such as the National Green Tribunal, and a range of labour codes and laws governing employee engagement and corporate governance practices.
- The penalty for violations can be substantial. In June 2022, for example, the National Green Tribunal imposed an ₹520 million ($63.7 million) penalty on Udupi Power Corporation Ltd., a subsidiary of a major Indian conglomerate, for violating environmental laws and polluting its surroundings.
- While these laws and bodies provide important environmental and social safeguards, new initiatives in India go further, establishing guidelines that emphasise monitoring, quantification and disclosure, akin to ESG requirements found in other parts of the world.
- **The Securities and Exchange Board of India (SEBI),** responding to the increase in ESG investing and the demand by investors for information on ESG risks, substantially revised the annual Business Responsibility and Sustainability Report (BRSR) required by the 1,000 largest listed companies in India.

o SEBI describes the current report format as a "notable departure" from previous disclosure requirements, which are aligned with evolving global standards and place "considerable emphasis on quantifiable metrics" to allow companies to engage meaningfully with stakeholders and to enhance investor decision-making. Disclosures range from greenhouse gas emissions to the company's gender and social diversity.

- **Further legislation regarding ESG is likely,** given the increased emphasis by the Indian government on ESG issues, which can be seen in India's more active role in global climate forums.

What are the implications for Indian companies?

- <u>**Compliance with ESG regulations**</u> — both originating in India and elsewhere around the world — thus, pose a significantly different challenge than India's CSR regulations. In particular, compliance by Indian companies with the ESG regulations of the U.S., the U.K., the European Union and elsewhere will be critical if India is to take full advantage of the growing decoupling from China and play a more prominent role in global supply chains and the global marketplace overall.
- As Indian companies look to expand their ESG risk management, thorough due diligence will play a key role. However, this requires more than having sub-suppliers fill out a questionnaire. Due diligence that can stand up to scrutiny means going deeper.
- Depending on the situation, this can include looking at company records, interviewing former employees and making discreet visits to observe operations to ensure that the measures to comply with international ESG standards are in effect.
- This is particularly true when the supplier's own supply chains have several layers. Ownership that is obscured through shell companies can present additional challenges. Further, ESG due diligence needs to be supported within the company with detailed procedures for assessing risks and controls to assuring that no corners are cut.
- Companies that wish to maximise their opportunities in the global economy need to embrace these new requirements and adjust their organisations accordingly.

NET ZERO WASTE MUST FOR BUILDINGS   GS-II GOVERNANCE

Context
- To end manual scavenging, the Center will issue directives to State governments requiring them to include some requirements in building rules.

Background
- According to data provided by the ministry, **India presently produces 72,368 million litres per day of urban wastewater, of which only 28% is treated**. This suggests that up to 72% of wastewater may be making its way into groundwater, lakes, or rivers.
- A 2021 Ministry of Housing and Urban Affairs paper titled "Circular Economics in Municipal Solid and Liquid Waste" claims that **institutionalising the selling of treated sewage might help enhance the nation's economy**. It could potentially contribute close to $3,285 billion a year.
- To include net zero in the building by-laws and ensure implementation, the Ministry of Housing and Urban Affairs will send a directive to all State governments, most likely by the end of March.

Mandating Net-Zero Waste for Buildings
- To support the government's efforts to modernise and reform the sewage disposal system, all new housing societies and commercial complexes in the country will soon be required to **assure net zero waste** and have their liquid discharge treated.
  o To achieve net zero waste, **waste sludge must be reduced, reused, and recovered to be turned into useful resources** and prevent any solid trash from being dumped in landfills.
- Under the guidelines, municipalities and other urban local bodies will be assigned to;
  o Look into the possibility of using processed sludge as fertiliser on a commercial scale
  o Covering all organisations that provide sanitation services in both the organised and unorganised sectors.
- According to the source, to ensure proper implementation, the Centre will request that the States levy a fine on buildings that fail to follow the rules and best practices.
- **The Ministry is also considering;**
  o Adding septic tank design into building bylaws and compliance with standard specifications.
  o Geo-tagging of all septic tanks and manholes for proper tracking.
  o Lowering GST on mechanized cleaning equipment.
- **Steps suggested**
  o The creation of a Made in India start-up to promote low-cost technical solutions like mechanical spades and sensor sticks for gas detection is also being discussed.
  o Evaluate Indian regulations for automated cleaning equipment and take into account varying de-sludging tariff rates for

residential and commercial properties.
- o Adopt the Manhole to Machine-hole strategy to eliminate manual scavenging.
- o Convergence of programmes like Swachch Bharat, NAMASTE (National Action Plan for Mechanised Sanitation Ecosystem), and AMRUT (Atal Mission for Rejuvenation and Urban Transformation).

How can net zero be achieved?

- Net zero, which means **balancing out man-made national greenhouse gas (GHG) emissions by removing an equal amount from the atmosphere**. It can be achieved only through a structured programme that relies on sharp emissions reduction, wide support for clean energy innovation and adoption of green technologies.
- India needs to create a legal mandate for climate impact assessment of all activities. This can facilitate investment by dedicated green funds.
- Net zero will involve industrial renewal using green innovation, green economy support and supply chains yielding new jobs.
- **India's argument against committing itself to strict emissions goals is that it has historically been one of the lowest emitters of GHGs**, and the impetus has to come from the developed economies that had the benefit of carbon-intensive development since the Industrial Revolution.
- According to the World Bank, in 2018, India had per capita emissions of 1.8 tonnes, which is markedly lower than 15.2 for the U.S., 5.4 for the U.K. and even the middle-income countries' average of 3.7 tonnes.
- A projected per capita emissions figure in 2030 for India is 2.4 tonnes under the Paris Agreement. India's absolute emissions volume stands third, after China and the U.S.
- **India's net zero plan is described as "panchamrit";**
  - o Raising renewables capacity to 500 gigawatts (GW) by 2030.
  - o 50% share of power from renewable sources.
  - o Reducing the carbon intensity of the economy by 45%.
  - o To achieve net zero emissions by 2070.
- India needs to create a legal mandate for climate impact assessment of all activities. This can facilitate investment by dedicated green funds. Public sector institutions promoted by the government, co-operatives and even market mechanisms will participate.
- The 500 GW renewables target needs a major boost, such as channelling more national and international climate funding into decentralized solar power.
- Another emerging sector is green hydrogen production because of its potential as a clean fuel. **India has a National Hydrogen Mission now in place.**
- India's urban solid waste management needs to modernize to curb methane emissions from unscientific landfills.

Way Forward

- These plans need a political consensus and support from State governments.
- Net zero will involve industrial renewal using green innovation, green economy support and supply chains yielding new jobs. It also needs low-carbon technologies, zero-emission vehicles, and renewed cities promoting walking and cycling.
- The industry will need to make highly energy-efficient goods that last longer, and consumers should be given a legal right to repair the goods they buy. Preventing the release of stored carbon in the environment, such as trees and soil, has to be a net zero priority.
- **India has taken a big stride towards sustainable waste management with the decision to require net-zero waste for buildings**. The amount of untreated wastewater entering rivers, lakes, and groundwater will be decreased, which is in line with the nation's Sustainable Development Goals. This action is intended to encourage the real estate industry to spend money on sewage treatment facilities and units for managing solid and liquid waste.

DATA GOVERNANCE   *GS-II GOVERNANCE*

Context

- India has advanced significantly in recent years in terms of its data governance and digital policies. India has embraced digitalization and technology to stimulate economic progress and enhance the quality of life for its people.

Details

- **India's digital initiatives and data governance have advanced significantly in recent years**. To promote economic progress and enhance the lives of its people, **India has adopted digital and digitalization**. However, as the nation develops, **it must also make sure that its data governance and digital initiatives are open, transparent, safe, and supportive of sustainable growth.**
- **India's G-20 leadership has given it a chance to highlight its technological advances**, notably in the areas of data

infrastructure and data governance. The G-20 has acknowledged the necessity for international cooperation and collaboration in tackling the challenges, possibilities, and hazards offered by the rapid expansion of data and digital technologies as the world becomes more digital.

Data Empowerment and Protection Architecture (DEPA)

- **DEPA is a collaborative public-private initiative for better data governance**. Through the use of a third-party organisation known as a Consent Manager, DEPA develops a digital framework that enables users to disclose their data on their terms.
- Under the **joint direction of the Ministry of Finance, the Reserve Bank of India (RBI), the Pension Fund Regulatory and Development Authority (PFRDA),** the Insurance Regulatory and Development Authority (IRDAI), and the Securities and Exchange Board of India (SEBI), DEPA went live in the financial sector in 2020.
- **NITI Aayog introduced it in 2020** with the rationale that people are the greatest arbiters of the "proper" applications of their data. It is created as a flexible framework for excellent data governance that enables individuals to easily and securely access their data and share it with other institutions.
- **3 key building blocks of DEPA:** Enabling regulations, Cutting-edge technology standards, and New types of public and private organisations with incentives closely aligned to those of individuals.
- **Advantages of DEPA**
  o Potential to enhance citizen privacy and data protection.
  o Providing people with simple access to maintain and govern their data consent,
  o Develop confidence in data governance and digital technologies.

DEPA and related concerns

- Among stakeholders, the introduction of India's Data Empowerment and Protection Architecture (DEPA), a consent management mechanism, has sparked interest and worry.
  o On the one hand, **by granting citizens more control over the use and sharing of their personal information, DEPA has the potential to enhance data protection and privacy for citizens**. DEPA may contribute to increased trust in digital technologies and data governance by letting people easily manage and control their data consent.
  o However, there are dangers connected to DEPA as well, especially in terms of privacy and security. The **danger of misuse or appropriation of personal information** increases if the consent management tool is not deployed or managed correctly.
- Concerns have been raised about the **possibility of uneven DEPA implementation across various industries and jurisdictions**, which might reduce its efficacy and cause citizens to become confused.
- While the improvements in financial inclusion and the effective deployment of the UPI in India are impressive, it is yet unknown whether these improvements can be successfully reproduced in other fields like health and agriculture.
- There are **concerns related to infrastructure, connectivity, security and privacy, and the availability of skilled human labour.** The possible misuse of data and information in these industries is also a concern. For example, there is a chance that private medical data could be misused or abused in the healthcare industry, while in the agricultural industry; there is a chance that market data could be manipulated to favour particular parties.

Way Forward

- DEPA must be implemented in a transparent, reliable, and secure way if its potential benefits are to be realised and its hazards are to be reduced.
- **Close coordination between the public and commercial sectors**, as well as **between civil society and other interested parties**, will be necessary to achieve this, along with the creation of rules and guidelines that are both clear and practical.
- Digital technologies have the potential to improve access to healthcare, particularly in rural and isolated locations, while they also have the potential to empower farmers and increase their wages.
- **Data governance must be an active, accountable, and adaptable process in development**. It must be based on fundamental rights, values, and conventions as well as on laws that balance the interests of all relevant parties.
- The creation of ethical and responsible data governance processes, strong and comprehensive data protection rules, and efficient and accountable oversight mechanisms are all necessary to ensure effective and secure Data Governance.

LEARNING SCIENCE VIA STANDARD'S INITIATIVE   *GS-II GOVERNANCE*

Context

- The Bureau of Indian Standards (BIS) has launched the 'Learning Science via Standards' initiative for students for learning science via standards.

About the 'Learning Science via Standards' initiative

- An innovative programme for students 'Learning Science via Standards' has been introduced by the Bureau of Indian

Standards (BIS).

- **Objectives:** It is expected that students in schools, colleges, and technical institutions will all benefit from the "Learning Science by Standards" initiative. Also, it will help them to develop the skills necessary for productive participation in a number of the country's economic sectors.

Lesson Plan

- The initiative is **centred on several lesson plans designed to use scientific concepts, principles, and laws** to help students understand their practical applications in the manufacturing, operation, and testing of quality characteristics of various products as stated in the applicable Indian Standards
- The topics for the lesson plans are primarily **connected to everyday items** and have been selected based on their applicability to both industrial applications and education as part of the course curriculum.
- The **lesson plans will be distributed to the students by BIS representatives** and resource staff for an engaging learning experience.
- The lesson plans will also help students in schools and universities to understand the value of standards and quality, and it will give them the confidence to take on challenges in the real world in all of their future efforts.

Standards Clubs

- Around 4200 standards Clubs with over a million student members have already been established. More than 3400 science instructors have received training to serve as Mentors to launch the activities under these Clubs.
- **"Standards Clubs" hold student-focused events including discussions, tests, and competitions, including standards-writing contests.** Students are also taken on exposure trips to factories and labs to see the various testing and manufacturing procedures.
- These Clubs receive financial assistance from BIS for up to three activities per year.

Significance

- The proposed initiative is **expected to help students develop the skills they need to participate successfully** in a range of economic sectors across the nation. To assure the desired outcome, it is necessary to use a comprehensive approach that includes raising awareness, developing capacity, creating infrastructure, streamlining processes, and working more closely with stakeholders.
- The initiative is an effort to **close the gap between science education theory and practical application**. It will help students connect scientific ideas to their practical applications and advance the nation's culture of quality and standardisation.

Bureau of Indian Standards (BIS)

- It was formed in 1947 as India's national standards authority under the Indian Standards Institution (ISI) Act of 1946. It is in charge of standardisation, product certification, testing, and quality assurance in India.
- In to ensure the security, quality, and dependability of goods and services, it creates and publishes standards for goods, systems, services, and procedures.
- BIS runs a product certification programme that offers the third-party assurance of a product's compliance with Indian Standards.

INSTITUTE OF EMINENCE (IoE)   *GS-II GOVERNANCE*

Context

- The Government has not yet signed formal Memorandums of Understanding (MoU) with universities chosen for Institutions of Eminence, despite high promises and positive indications.

Institutions of Eminence (IoE)

- In to provide Higher Educational Institutions with the regulatory framework they need to develop into world-class teaching and research institutions, the University Grant Commission announced;
  - The "Institutions of Eminence Deemed to be Universities Regulations, 2017" for private institutions.
  - The "Declaration of Government Educational Institutions as Institutions of Eminence Guidelines, 2017" for public institutions.
- An expert committee was established by the University Grants Commission (UGC) with the responsibility of examining proposals to choose 20 Institutions of Eminence (10 public and 10 private institutions).
  - Based on the recommendations of the **Gopalaswami Expert Committee (EEC),** nominations have been made.
- Both types of institutions will have better prospects for international collaboration and will be given more administrative autonomy (such as the ability to set fees) and academic autonomy.

- o They can admit foreign students up to 30% of total seats.
- o They can recruit foreign faculty up to 25% of faculty Strength.
- o They can offer online Courses for up to 20% of their Programmes.

Benefits

- **Autonomy:** Institutes with the IOE title will have more autonomy and freedom to choose their fees, course lengths, and governance structures.
- **Grant:** Under the proposal, public institutions would get a government grant of Rs 1,000 crore, but private institutions will not receive any funds.

Objectives of the initiatives

- **Promote Creativity:** To offer higher education that fosters creativity and achievement in any field of study considered appropriate at the post-graduate, graduate, and research degree levels, and to confer degrees, certificates, and other academic honours.
- **Specialised Education:** To work in specialised fields to contribute significantly to the goals of the university education system, where the academic work is distinguishable from regular programmes and is geared towards enhancing students' and researchers' ability to compete in the world's tertiary education market through the acquisition and creation of advanced knowledge in those fields.
- **Encourage Research:** to offer high-quality instruction and research, as well as to improve knowledge and its transmission through a variety of internal research projects carried out by a sizable number of full-time academics and research scholars in a wide range of fields.
- **Nation's strategic needs:** To give particular attention to teaching and research in novel and developing fields of knowledge, including multiple disciplines, which are deemed important for the nation's strategic needs but are not being pursued by conventional or existing institutions so far, and to grant degrees, diplomas, and other academic distinctions.
- **Global Ranking:** To aspire to eventually rank among the top 100 institutions in the world for both teaching and research on a global scale.

Criteria

- **Global/National Ranking:** Only those institutions that have appeared in any of the global/national rankings (e.g., QS, NIRF) will be recommended for IoE status. The institutions should include:
  - o Top 50 in their category in the National Institutional Ranking Framework (NIRF).
  - o Top 500 in internationally recognised rankings such as the Times Higher Education World University Rankings and the QS World University Rankings.
- **Greenfield Projects:** If any seat remains open after completing the required criteria, attention will be granted to yet-to-be-constructed (Greenfield) applications.
  - o The concept "greenfield project" often refers to the start of a project without regard for any earlier effort.
  - o Greenfield institutions would be given three years to develop and operationalize their institutions before they will be considered for awarding IoE status.

Challenges with the Scheme

- **No funding:** The IOE plan does not fund private campuses.
- **Presence of many regulators:** Although IOE laws guarantee independence from the University Grants Commission, there are over 15 entities that regulate higher education, resulting in red tape, delays, and compliance requirements.
- **The illusion of Autonomy:** The report concludes that the UGC continues to meddle in matters ranging from department naming to fee setting.
- **Difficult Visa norms:** The IOE institutes consider the two-year visa granted to foreign professors to be too short and a barrier to hiring top faculty from across the world.

Way Forward

- The establishment of an umbrella entity for higher education, as well as simplified visa requirements for foreign professors in these colleges, will aid in the speedier implementation of the IOE.

MIGRANT WORKERS

Context
- Concern has been expressed by many manufacturers in Tamil Nadu regarding the viral videos alleging abuse of Hindi-speaking men, which has led to worries that migrant North Indian employees may leave the state.

Details
- Manufacturers in Tamil Nadu are worried by reports of assaults on migrant workers in the state. Political leaders and the administration urged employees to ignore the rumours after officials dismissed the reports as inaccurate stories. To assess the situation, representatives from Bihar and Jharkhand have visited Tamil Nadu.
- Industry organizations are concerned that an outflow would negatively affect Tamil Nadu's industrial and manufacturing sector, where it is estimated that almost a million migrants labour in the state.
  - o During the Covid-19 lockout three years ago, a substantial reverse movement of workers to their home states severely interrupted economic activity.
- **Migrant labourers face several serious problems all around the nation**. When it comes to a formal exchange of data on migrant workers, **there is insufficient cooperation among the states**. With the absence of information, it is challenging to monitor workers during emergencies.

Migration
- Migration is a **social phenomenon caused by a broad variety of reasons** including the search for better economic or educational opportunities, the desire for family reunification, climate change or disasters.
- **According to the International Organization for Migration**, a migrant is an individual who is moving across an international boundary or inside a state away from where they usually reside. Effective policies, programmes, and operational responses can be made on the ground by examining the migration shifts in size, direction, demography, and frequency.
- **Migration can be either voluntary or forced movements** as a consequence of the increased magnitude or frequency of disasters, economic challenges and extreme poverty or conflict situations. In recent years, the Covid-19 pandemic is also one of the major causes of Migration.
- **Factors affecting Migration**
  - o **Push factors** are those that force a person to migrate out from their place of origin (out-migration) to another location, such as social or economic pressures or a location's lack of growth.
  - o **Pull factors** are the elements that draw people to a place (destination), such as employment opportunities, better living circumstances, the availability of low- or high-level amenities, etc.

**Status of Migrant workers in India**
- The government's statistics on domestic migration are often outdated and not entirely comprehensive. **According to the 2011 census, there were around 45.36 crore internal migrants in India or 37% of the total population**. Both intrastate and interstate migrants were included in this figure. The net yearly migrant flows were equivalent to 1% of the working-age population.
  - o **Interstate migration** is the movement of people from one state to another, such as when individuals move from Delhi to Kolkata.
  - o Migration within a state is referred to as "**intrastate migration**," for instance, people move from Kolkata to Darjeeling.
- **According to the 2011 census**, 48.2 crore people were working in India. **The Economic Survey 2011 stated that more than 10 crore people made up the migratory labour**, which is believed to have crossed 50 crores in 2016.
- **According to district-level migration data from the Economic Survey for 2016–17**, Gurugram, Delhi, Mumbai, Gautam Budh Nagar (Uttar Pradesh), Indore and Bhopal (Madhya Pradesh), Bengaluru (Karnataka), and Thiruvallur, Chennai, Kancheepuram, Erode, and Coimbatore (Tamil Nadu), saw the highest inflow of migrants within the nation.
  - o The highest outward movement of migrant workers was from Uttar Pradesh, Uttarakhand, Rajasthan, Bihar, and Jharkhand.
- **According to the 2017 Report of the Working Group on Migration** under the Ministry of Housing and Urban Poor Alleviation, the top 25% of all male out-migration was concentrated in 17 districts. Ten of these districts are in Uttar Pradesh, six are in Bihar, and one is in Odisha.
- **According to the Economic Survey, states that are relatively less developed—like Bihar and Uttar Pradesh—have high net emigration rates.** Goa, Delhi, Maharashtra, Gujarat, Tamil Nadu, Kerala, and Karnataka are among the states which represent net immigration.
  - o Emigration is **the process** of leaving a place of residence with the intent to settle elsewhere.
  - o Immigration is **the process of moving to a new region to stay and live there**. People may choose to immigrate for a variety of reasons, such as employment opportunities, to escape a violent conflict, environmental factors, educational

purposes, or to reunite with family.

- **The Ministry of Statistics and Programme Implementation published a paper titled "Migration in India 2020-21" in June 2022 that compiled some data on temporary migrants and visitors**. In the period from July 2020 to June 2021, following the start of the Covid-19 pandemic in March 2020, 0.7% of the nation's population was reported as a "temporary visitor" among households, according to the report.
  - o Temporary visitors were defined as individuals who arrived in households after March 2020 and remained there continuously for 15 days or more but less than six months, whereas migrants were defined as individuals whose most recent usual residence was different from the current place.
- The all-India migration rate was 28.9% for July 2020-June 2021, with a 26.5% migration rate in rural areas and 34.9% in urban areas.
  - o **The migration rate for females was higher**, at 47.9%; it was 48 % in rural areas and 47.8% in urban areas. Males had a migration rate of 10.7%, with rural areas accounting for 5.9% and urban areas for 22.5%.
  - o **Among females, the highest level of migration rate was seen at 86.8% for marriage**, while 49.6% of the males

PATTERNS OF MALE OUT- MIGRATION

17 districts account for 25% of male out-migration in the country. The map shows 16; Ganjam in Odisha is not mapped.

Source: Customised from the Registrar General of India, based on Census 2001 in the Report of Working Group on Migration, 2017

SHARE OF MIGRANT WORKERS AMONG TOTAL WORKERS BY MAJOR SECTORS

Sector	RURAL		URBAN	
	Male	Female	Male	Female
Primary	4%	75%	20%	65%
Manufacturing	13%	59%	38%	51%
Public Services	16%	69%	40%	56%
Construction	8%	73%	32%	67%
Traditional Services	10%	65%	29%	55%
Modern Services	16%	66%	40%	52%
Total	6%	73%	33%	56%

Source: NSS 2007-08, Report of the Working Group in Migration, 2017

DISTRICTS, TOP ROUTES

TO	FROM
Krishna	Chittoor
Ratnagiri	Mumbai
Chennai	Kachchh
Mumbai Suburban	Gorakhpur
Ratnagiri	Thane
Central Delhi	Gorakhpur
Patna	East Delhi
Central Delhi	Gwalior
North Delhi	Shahjahanpur
Sindhudurg	Mumbai
Mumbai	Lucknow
Sindhudurg	Thane
Haora	Dhanbad
North Delhi	Azamgarh
Moradabad	Chandigarh
Central Delhi	Jhansi
Vadodara	Mumbai Suburban
North Delhi	Bareilly
Saharsa	East Delhi
Jhansi	South Delhi
Central Delhi	Nalanda
Central Delhi	Lucknow
Central Delhi	Begusarai
Central Delhi	Bhojpur
Ratnagiri	Raigad
North Delhi	Arana
Saharsa	Amritsar
Mahbubnagar	Guntur

*"The largest recipient was the Delhi region, which accounted for more than half of migration in 2015-16, while Uttar Pradesh and Bihar taken together account for half of total outmigrants."
Source: Economic Survey, 2016-17*

migrated in search of employment, to take up better employment/ business/ proximity to the place of work, or loss of job/ closure of unit/ lack of employment opportunities.
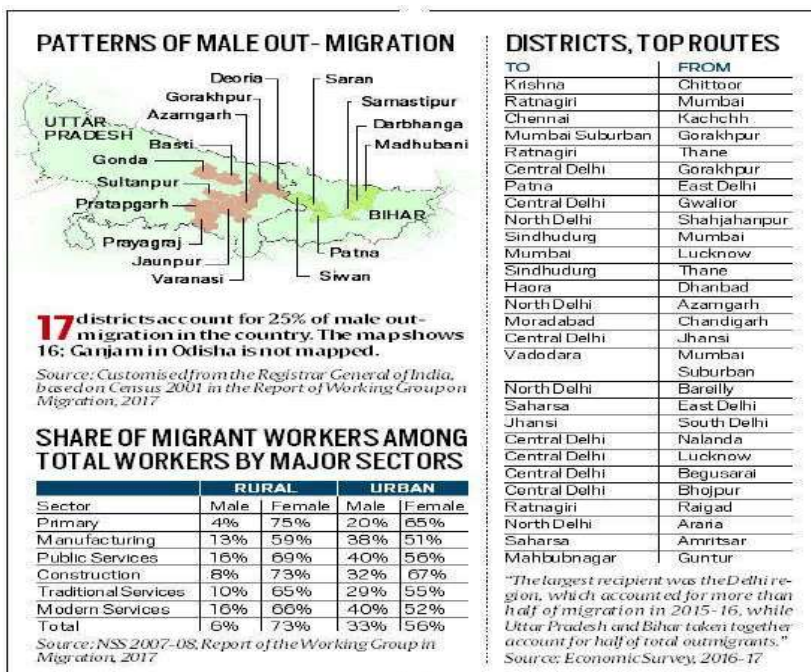
Significance of migration and migrants
- **Migration bridges gaps in the demand for and supply of labour**, efficiently allocating skilled labour, unskilled labour, and cheap labour.
- Migration boosts possibilities for employment and economic development, which in turn raises the quality of life.
- Through exposure to and engagement with the outside world, migration helps migrants increase their knowledge and abilities.
- The migrants contribute to their home state by **sending extra money and remittances** there.
- As migrants learn about new cultures, customs, and languages, their social lives improve, fostering greater equality and tolerance as well as a stronger sense of brotherhood among all people.

Challenges Faced by Migrants
- Exploitation by local contractors forces them to accept lower wages.
- The opportunity to exercise political rights like the right to vote is frequently denied to migrant workers.
- They are **prevented from accessing assistance programmes and policies** by the mandatory requirement to present evidence of address, voter identification, and Aadhaar cards, which is difficult considering the instability of their lives.
- No access to schools for their children and no health services for families.
- The **state does not always willingly accept migrants**, and they frequently remain second-class citizens.
- Trafficking and forced labour.
- Women and children are often easy targets for inhuman treatment.
- Harassment by Police and officials.
- Any person moving to a new area has to face a wide range of challenges such as adjusting to the local culture and language hurdles as well as homesickness and loneliness.

Legal framework for migrant welfare
- The **Inter-State Migrant Workmen Act, passed in 1979**, is concerned with the welfare of the workers. According to the Act, **companies that want to hire migrant labourers must register with the states where they will be employed**. Moreover, contractors will need to apply for a licence with the relevant host-state government as well as their home state's authorities. However, this Act hasn't been fully put into effect in practice.
- The **Inter-State Migrant Workmen Act has been included in the four major labour codes that the Center has publicly**

announced: the Code on Wages (2019), the Industrial Relations Code (2020), the Social Security Code (2020), and the Occupational Safety, Health and Working Conditions Code (2020). These have not been implemented yet.

State-level Initiatives

- An Agreement was signed between Odisha and Andhra Pradesh in 2012 with the assistance of the International Labour Organization to trace labourers who migrate from 11 districts in Odisha to work in brick kilns in the then-united Andhra Pradesh.
- Kerala has established facilitation centres for migrant workers, who are known as "guest workers" by the state. These facilitation centres keep track of information about migrant workers who arrive in Kerala and offer assistance with any issues they might encounter. But there is no data exchange between Kerala and the states where the migrant labourers are from.
- **The Safe and Responsible Migration Initiative (SRMI), launched by Jharkhand in 2021**, aims to enable comprehensive registration of migrant workers for monitoring and analysis in the source as well as the destination districts. The primary goal of SRMI is to gather data and then map the workers who relocate to different states in search of employment.

Recent step

- The Union Government has approved the **proposal for the continuation of the 7 existing sub-schemes under the "Relief and Rehabilitation of Migrants and Repatriates" scheme.**
- The government extended the scheme for the period 2021-22 to 2025-26 with a total outlay of Rs.1,452 crore.
- The approval will ensure that assistance continues to reach beneficiaries through the Ministry of Home Affairs.
- The scheme will enable migrants and repatriates to earn a reasonable income and promote their inclusion in mainstream society.
- The **7 sub-schemes under the "Relief and Rehabilitation of Migrants and Repatriates" scheme are:**
  o Relief and Rehabilitation of displaced families of Pakistan Occupied Areas of Jammu and Kashmir.
  o Relief assistance to Sri Lankan Tamil refugees.
  o Relief assistance to Brus lodged in relief camps in Tripura.
  o Relief to 1984 Anti-Sikh Riot Victims.
  o Financial Assistance and other facilities to the families of affected civilian victims of terrorist violence including militancy, insurgency, communal/ Left Wing Extremism violence and cross border firing and victims of mine/IED blasts on Indian Territory.
  o Grants-in-aid to the Central Tibetan Relief Committee.
  o Grants-in-Aid to the Government of West Bengal for infrastructure development in enclaves of returnees from erstwhile Indian enclaves in Bangladesh. (Under the 100th Constitutional Amendment Act).

Way forward

- To provide people, the option to stay or migrate, **states should encourage stability, education, and economic opportunities while reducing the factors that lead to forced migration**.
- To develop policies that consider the advantages and disadvantages of migration, it is essential to **collect, analyze, and use reliable data and information on a variety of topics**, including demographics, cross-border movements, internal displacement, diasporas, labour markets, seasonal trends, education, and health.
- **Cooperation between states can prevent the harmful effects of migration**. By improving human capital through sustainable development and assuring longer-term economic growth, it can also support regional and global development goals.
- Migration can benefit society and migrants equally in terms of socioeconomic outcomes. **States must abide by best practices that respect, protect, and uphold the human rights of people living on their territory without discrimination** based on nationality, race, gender, religion, or status as a migrant to reap these benefits. Policies and practices must also promote the socio-economic well-being of migrants and society.

WORLD BANK'S WOMEN, BUSINESS AND THE LAW 2023 REPORT   *GS-II SOCIAL JUSTICE*

Context

- In the World Bank's index of working women, India gets a score of 74.4.

Highlights of the Report

- **India's score on a World Bank index on the life cycle of a working woman dropped to 74.4** out of a possible 100 **due to rules influencing working women's income and pensions that do not guarantee equality with Indian males.**
- According to the Women, Business and the Law 2023 study from the World Bank, a score of 100 on the Index indicates that women and men are on equal footing across all variables.
- **India outperformed the South Asian region's average score of 63.7 but fell short of Nepal**, which achieved the best score in

the area (80.6).

- **Only 14 of the 190 countries have received a score of 100 out of 100**; Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Latvia, Luxemburg, The Netherlands, Portugal, Spain, and Sweden.
- The report stated that India received a perfect score for restrictions on freedom of movement, legislation impacting women's employment options, and restrictions relating to marriage.
- The report stated that **India received a perfect score for restrictions on freedom of movement, legislation impacting women's employment options, and restrictions relating to marriage.**
- India **remains behind other countries in terms of legislation governing women's wages, pensions, and ability to work after having children, barriers to women beginning and running their businesses, and differences in property and inheritance between men and women.**

Women in Workforce in India

- **The participation of women in the workforce in India has remained low.**
  - In 2019, 21% of women were either working or looking for work, compared to 32% in 2005.
- **India's female labour force participation (FLFP) rate is the lowest among the BRICS countries and is also lower than some of its neighbours in South Asia such as Sri Lanka and Bangladesh.**
  - Increasing FLFP in India is crucial not just to achieve economic growth but also to promote inclusive growth and achieve Sustainable Development Goals.
- India's population is among the youngest in the world. In 2020, the median age in India was about 29. Women and girls form a significant part of India's demographic dividend. However, their inability to stay employed or, at times, takes up employment due to economic and social factors at both the household and macro level has been a challenge for the labour market and economy.
- More women in rural areas in the labour force Compared to Urban areas.
- **Gender wage gaps remain in every employment.**
- The migration of women for employment has increased in recent years.
- According to United Nations Women estimates, women make up a significant proportion of all healthcare workers and more than 80% of nurses and midwives.
  - **Women also form a significant proportion of the workforce in the education sector in India, especially in primary education and early childhood care.**

SAME-SEX MARRIAGE   *GS-II SOCIAL JUSTICE*

Context

- The Centre has briefed the Supreme Court that it is opposing petitions asking for the legal recognition of same-sex unions, arguing that the "legislative understanding of marriage in the Indian statutory and personal law regime" only refers to unions between biological men and women and that any interference "would cause a complete chaos with the delicate balance of personal laws in the country and in accepted social norms".

Details

- The Centre argued that any "recognised deviation...can arise only before the authorized legislature," and urged the court to refer the matter to Parliament. Also, it stated that "the Petitioners cannot claim a basic right for same-sex marriage to be recognised under the laws of the country" despite the decriminalisation of Section 377 of the Indian Criminal Code (IPC).
- The affidavit was submitted by the Union Government before the Supreme Court in response to several petitions that asked for the legal recognition of same-sex unions. In November 2022 and in January 2023, the Supreme Court had given notifications regarding these petitions.

### Same-Sex marriage around the Globe

- **Same-sex marriage is the marriage of two people of the same sex or gender.**
- Same-sex unions were also known in Ancient Greece and Rome, ancient Mesopotamia, some regions of China, and at certain times in ancient European history.
- **As of 2022, marriage between same-sex couples is legally performed and recognized in 33 countries** including Argentina, Australia, Brazil, Canada, France, Germany, New Zealand, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States, etc.
- Adoption rights are generally not covered, though most countries with same-sex marriage allow those couples to jointly adopt as other married couples can.
- **34 countries have definitions of marriage that prevent marriage between couples of the same sex.**

- Some other countries have constitutionally mandated Islamic law, which is generally interpreted as prohibiting marriage between same-sex couples.
- In some countries, homosexuality itself is criminalized.
- The **first law providing for marriage equality between same-sex and opposite-sex couples was passed by The Netherlands in 2000.**
- Social science research indicates that the exclusion of same-sex couples from marriage stigmatizes and invites public discrimination against gay and lesbian people.
  o Opposition to same-sex marriage is based on claims such as that homosexuality is unnatural and abnormal.

Same-sex Marriage
Marriage and marriage recognition between two people of the same biological sex and/or gender identity.
- Legal
- Civil unions
- Other type of partnership
- Foreign same-sex marriages recognized only
- Unrecognized, same-sex marriage and civil unions banned
- Unrecognized, only same-sex marriage official
- Unrecognized
- Unregistered cohabitation
- Not legal
- Unknown, N/A, or ambiguous

Same-sex marriage: in the Indian context

- **The right to marry is a fundamental right under article 21.**
  o **However, same-sex marriage is also not legalized in India.**
- **Section 377 in The Indian Penal Code:** Unnatural offences; Whoever voluntarily has carnal intercourse against the order of nature with any man, woman or animal, shall be punished with life imprisonment for life, or with imprisonment of either description for a term which may extend to 10 years, and shall also be liable to pay a fine.
- **The adoption law prohibits the adoption of a child by same-sex couples**.
- Under present law, one partner cannot inherit properties left behind by their same-sex partner.
- At Present Marriages between same-sex partners are not recognized in India, **but this can be changed by inserting a provision in the Special Marriage Act.**

Special Marriage Act (SMA), 1954

- The original Special Marriage Act was enacted in 1872, following a campaign launched in 1860 by Brahmo Samaj for simpler marriage ceremonies.
  o Its requirement of renouncing one's religion was not consistent with modern ideas of liberalism, individualism and autonomy of the individual.
  o Therefore the 1954 law replaced the 1872 Act, and the requirement to renounce one's religion was removed.
- T**he law was the first step toward a Uniform Civil Code**. The objective was that if we want a liberal, modern, secular and progressive law, we first start the experiment voluntarily.
  o Therefore, those going for an inter-faith marriage could register under the SMA.
  o Once your marriage is registered under SMA, your religion's laws won't apply.
- **The provision under the law requires couples getting married to give notice to the Marriage Officer 30 days before the date of marriage.**
  o The notice can be inspected by "any person and anyone can object to the marriage.

Arguments in favour of same-sex marriage

- **Homosexuality exists in nature, and whatever exists in nature is natural.** We, humans, exist in nature, homosexuality is therefore not unnatural.
- Refusal to recognize same-sex marriage is a **violation of the constitutional right of same-sex couples**.
- Not allowing same-sex marriage penalizes children by depriving them of state benefits because the state disapproves of their parent's sexual orientation. Research shows that children adopted by gay parents thrive as well as other children.
- Indian Constitution's Articles 15 and 16 forbid discrimination on grounds only of religion, race, caste, sex, or place of birth.
- The right to express one's sexuality is guaranteed by Article 19 1 (a).
- The fact of the matter is that homosexuals want marriage in the purely legal form and religions do not have to approve of this.
- Courts have recognized that rights can be fundamental even if they were traditionally considered immoral or even criminal, as long as they have become "implicit in the concept of ordered liberty".

Arguments against Same-sex marriage

- "Homosexuality" is unnatural therefore homosexuals ought not to be permitted to enter the natural institution of marriage.
- Same-sex marriage ruins the sanctity of marriage.
- **The right to marry is fundamental but the right to marry someone of the same sex is not**. Before a fundamental right can be recognized, a "deeply rooted tradition" must be found. Homosexuality is not a deeply rooted tradition.
- The legislature, not the courts should decide how to make profound social changes.
- **Marriage is to encourage stable relationships because people in them are more likely to contribute to a stable society.**
- Legalizing same-sex marriage could lead to the acceptance of polygamy and incest.
- Indian law authorizes marriages only between men and women.

Supreme Court on IPC 377, Homosexuality

- **The constitutional bench of the Court unanimously held that the criminalization of private consensual sexual contact between adults of the same sex under Section 377 of IPC was unconstitutional**.
  - Article 14, Granting equality before the law.
  - Article 15, prohibits discrimination on Grounds of religion, race, Caste, Sex or place of birth.
  - Article 21 Guarantees the protection of life and personal liberty.
  - Equal Citizenship and equal protection of laws
- **Key Points of the Judgement**
  - Homosexuality is documented in 1500 species and is not unique to humans.
  - Majoritarian morality cannot dictate constitutionality morality and Human rights are more important than religious rights.
  - Social morality cannot be used to violate the fundamental rights of even a single individual.

Way Forward

- Society is continuously moving forward. Supreme Court has already struck down section 377 of the Indian Penal Code thus recognizing homosexuality. Now Courts and legislatures have to work together to provide Same-sex couples with a full range of marriage options.
- Every constitution allows for the realization of the full potential of an individual. Allowing same-sex marriage will provide dignity to the people.
- Educating the masses about the difference between Gender and sexuality would bring positive change in social attitudes towards same-sex individuals/couples.
- India has taken a giant leap towards modernity, acceptance and equality, and now the need of the hour is to maintain equality before the law of all sexual orientations and identities
- Supreme Court Judgment on Homosexuality has opened doors to endless possibilities, this will Increase Respect for India as a progressive Society and a polity with a modern outlook.

GENDER GAP

GS-II SOCIAL JUSTICE

Context

- International Women's Day 2023 was observed on March 8 under the theme "DigitALL: Innovation and technology for gender equality".

About International Women's day

- The idea for an International Women's day arose around the end of the 20th century out of a long-standing movement for women to participate equally in society.
- **The first International Women's Day was observed on March 19, 1911,** in Austria, Denmark, Germany and Switzerland. That day, more than one million women and men showed their support by participating in public events.
- Over time, International Women's Day has grown to become a global day of recognition and celebration.
- It was expanded by the United Nations in 1975 with the International Women's Year.
- **In 1977, the United Nations adopted a resolution designating March 8 as International Women's Day.**

Women in India

- **The participation of women in the workforce in India has remained low.**
  - In 2019, 21% of women were either working or looking for work, compared to 32% in 2005.
- **India's female labour force participation (FLFP) rate is the lowest among the BRICS countries and is also lower than some of its neighbours in South Asia such as Sri Lanka and Bangladesh**.
  - Increasing FLFP in India is crucial not just to achieve economic growth but also to promote inclusive growth and achieve

Sustainable Development Goals.
- India's population is among the youngest in the world. In 2020, the median age in India was about 29. Women and girls form a significant part of India's demographic dividend.
  - However, their inability to stay employed or, at times, takes up employment due to economic and social factors at both the household and macro level has been a challenge for the labour market and economy.
- More women in rural areas in the labour force Compared to Urban areas.
- **Gender wage gaps remain in every employment.**
- Migration of women for employment has increased in recent years.
- According to United Nations Women estimates, women make up a significant proportion of all healthcare workers and more than 80% of nurses and midwives.
  - **Women also form a significant proportion of the workforce in the education sector in India, especially in primary education and early childhood care.**
- The care service sector, which includes health, education, and other personal care services, is more labour-intensive than sectors such as manufacturing, construction or other service sectors where the employment potential gets affected due to factors such as the introduction of tools, technology and increased mechanisation.

The reason behind Gender gaps in STEM
- Women make up only 28% of the workforce in science, technology, engineering and math (STEM), and men broadly outnumber women in most of the STEM fields in college.
- STEM fields are usually viewed as masculine, and teachers and parents constantly underestimate girls' abilities.
- Limited examples of female scientists and engineers girls to inspire their interest in these fields.

Steps taken by the Government
- Women scientist-specific schemes provide opportunities to women scientists and technologists especially those who had a break in careers.
  - **Women Scientists Scheme-A** (WOS-A) for conducting research in Basic and Applied Sciences.
  - **Women Scientists Scheme-B** (WOS-B) for research that entails Science and Technology interventions for societal benefit.
  - **Women Scientists Scheme-C** (WOS-C) for internship in Intellectual Property Rights (IPRs).
- **Consolidation of University Research through Innovation and Excellence in Women Universities (CURIE)' Programme** provides support for the development of research infrastructure in women's universities.
- '**Vigyan Jyoti' programme** to encourage meritorious girl students of Class 9-12 to pursue education and a career in science and technology.
- **Gender Advancement for Transforming Institutions (GATI)** aims to gender-sensitive approaches and inclusiveness in institutions.
- **Biotechnology Career Advancement and Re-orientation Programme (BioCARe)'** to enhance the participation of Women Scientists in Biotechnology research.
- Indo-**US Fellowship for Women in STEMM (Science, Technology, Engineering, Mathematics & Medicine)** encourages women scientists and technologists to undertake international collaborative research in premier institutions in the USA for 3-6 months.
- **"SERB-POWER (Promoting Opportunities for Women in Exploratory Research)"** has been launched to mitigate gender disparity in science and engineering research funding in Indian academic institutions and research and development (R&D) laboratories.
- **Women in Science and Engineering-KIRAN (WISE-KIRAN) programme** to ensure participation of women in the field of Science and Technology (S&T).
- Nearly 40 **Women Technology Parks (WTPs)** have been supported under Science & Technology Scheme for Women.
- The recently released draft of the **National Science, Technology and Innovation Policy, 2022 (STIP 2022) has targeted to ensure 30% participation of women in science by 2030.**

Steps taken by the Indian Government to ensure gender equality
- The Union Government is implementing several schemes/programs to ensure welfare, rehabilitation, empowerment, education and generating employment opportunities for women.
- **SwadharGreh Scheme** aims to provide shelter, food, clothing, counselling, training, clinical and legal, and rehabilitation in difficult circumstances; homeless due to family discord, crime, violence, mental stress, social ostracism or being forced into prostitution, etc.
- A Home for widows has been set up in Vrindavan, Uttar Pradesh to provide a safe place to stay, health services, nutritious food, and legal and counselling services.
- **Beti Bachao Beti Padhao,** to address the declining Child Sex Ratio.

- **PM Matru Vandana Yojana (PMMVY)** Providing Cash incentives for improved health and nutrition to pregnant and nursing mothers**.**
- **Scheme for Adolescent Girls** aims at girls in the age group 11-18, to empower and improve their social status through nutrition, life skills, home skills and vocational training
- **Pradhan Mantri Mahila Shakti Kendra Scheme** to promote community participation through the involvement of Student Volunteers for the empowerment of rural women
- **National Creche Scheme** to provide daycare facilities to children of the age group of 6 months to 6 years of working women who are employed.
- **Rashtriya Mahila Kosh (RMK)** to provide micro-credit to poor women for various livelihood support and income-generating activities at concessional terms.
- **Ujjawala** is a Comprehensive Scheme for the prevention of trafficking and rescue, rehabilitation, reintegration and repatriation of victims of trafficking for commercial sexual exploitation.
- **Working Women Hostels** for ensuring safe accommodation for women working away from their place of residence.
- **One-Stop Centre (OSC) and Women Helpline (WH)** are being implemented to facilitate access to an integrated range of services including medical aid, police assistance, legal aid/ case management, psychosocial counselling and temporary support services to women affected by violence.
- **Gender Budgeting Scheme** is being implemented as a tool for mainstreaming gender perspective at various stages of planning, budgeting, implementation, impact assessment and revisiting of policy/programme objectives and allocations.
- **Panic Button** on Mobile Phones**.**
- **Emergency Response Support System** Set up under Nirbhaya Fund.
- **Mahila Police Volunteers,** to report the incidences of violence against women.
- Inclusion of Acid Attack as a disability**.**
- Training for Women Heads of Panchayats.
- **Extending Maternity Leave** duration From 12 weeks to 26 weeks.
- **Rashtriya Mahila Kosh,** Providing micro-credit to Poor women through NGOs, SHGs**.**
- **Mahila e-Haat,** online digital marketing Platform for women.
- **New Passport Rules,** Submission of the father's name is not mandatory and Does not need to submit her/his marriage/divorce Certificates**.**
- **Dowry Prohibition Act, of 1961,** Penalizes Giving and taking.
- SABLA Scheme, which Provides life Skills and Supplementary nutrition to out-of-school girls.
- Sexual Harassment electronic-Box (SHe-Box)**.**
- **The national database on Sexual offenders** includes the name, addresses, photographs and fingerprint details of those Convicted in Sexual assault Cases.

CAPTIVE EMPLOYMENT INITIATIVE   *GS-II SOCIAL JUSTICE*

Context
- As part of an innovative effort under the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), the Union Minister for Rural Development onboarded 19 Captive Employers.

Details
- Rural poor youth will be trained by captive employers, and trained youth will be offered opportunities within the organization or subsidiary.
- According to the Minister, the Agreement signed between MoRD and the Captive Employers is the first step in achieving India's potential for becoming the world's capital of skills.
- Almost 31,000 rural youth will be trained and given work during the first phase by 19 captive employers.

> **Captive Placement**
> - Captive Placement may be described as the job given to qualified applicants after training in the industry where they are trained.

Captive Employment initiative
About
- The Captive Employment programme aimed to realise the idea of a flexible and demand-based skilling ecosystem that would serve business partners' needs while ensuring long-term placements for underprivileged youth in rural areas.
- Companies or businesses known as captive employers select youths from rural areas, train them and place them in one of their facilities, or subsidiaries.

- The approved CAPTIVE EMPLOYERS will train youth in rural areas in hospitality, clothing and textiles, manufacturing, telecom, retail, power, etc.

Roadmap

- To train and employ rural youth as part of the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), the Union Ministry of Rural Development (MoRD) inked an Agreement with 19 captive employers.
- The RTD (Recruit, Train, and Deploy) methodology is ensured by the Captive Employment Guidelines. The model provides training that is in line with the demands of the sector and guarantees long-term positions for youth in rural areas.
- In addition to providing long-term employment for poor rural kids, this project meets the demands of industrial partners.

Captive Employers are required to

- All trained trainees must be offered captive (in-house) placement by captive employers.
- Provide captive employment to at least 70% of trained workers for 6 months.
- Captive employment gives a minimum salary of Rs 10,000 (for less than a 6-month course) and Rs 12,000 (for more than a 6-month course).

Significance

- It aims to provide sustainable employment to rural poor youth and also support industries that need a large amount of Manpower.
- The programme will close the employment gap between employers and job seekers.
- Provide young people in rural areas opportunities for jobs so they may become financially independent and start to stand on their own.

INDIA-GERMANY RELATIONS

GS-II INTERNATIONAL RELATIONS

Context

- India and Germany agreed on a vision statement to enhance cooperation on innovation and technology during Prime Minister Narendra Modi's meeting with visiting German Chancellor Olaf Scholz.

Details

Highlights:

- The statement said the **two countries share a long history of cooperation in science and technology, research and innovation, institutionalised under the framework of the Inter-Governmental Agreement on 'Cooperation in Scientific Research and Technological Development', signed in May 1974.**
- The leaders discussed progress on **Green and Sustainable Development Partnership (GSDP), which India and Germany had launched during Modi's visit to Berlin for the 6th IGC.**
    - The GSDP is an umbrella partnership that provides political guidance and steer to robust ties in climate action and SDGs.
    - Under this, Germany will also place €10 billion in new and additional commitments under their development cooperation portfolio in India.
- India and Germany also agreed to **cooperate on Green Hydrogen**.
    - The Indo-German Green Hydrogen Task Force was constituted in September 2022 and an Action Plan is close to finalisation.
- On **"Triangular Development Cooperation",** during the sixth IGC, India and Germany agreed to work on development projects in third countries. The four projects, announced in May 2022, are now in different stages of implementation:
    - **Cameroon:** Potato Seed Production through Rooted Apical Cuttings (RAC) Technology.
    - **Malawi:** Agri Business Incubator Models for Women in Agriculture & Food Systems
    - **Ghana:** Developing Bamboo-Based Enterprises for Sustainable Livelihood and Income Generation in Ghana
    - **Peru:** Development of a geospatial portal prototype for planning, monitoring, and evaluation of the Ministry of Development and Social Inclusion of Peru (MIDIS) interventions and social programs.
- Germany has come on board the **Indo-Pacific Oceans Initiative** (IPOI).
- The two sides continued discussion on **the proposed deal for Germany to build jointly with India six conventional submarines for the Indian Navy**. "
- The Modi-Scholz meeting resulted in **two intergovernmental documents – India-Germany Vision to Enhance Cooperation in Innovation and Technology and a Letter of Intent between Department of Science and Technology of the Government of India and Fraunhofer Institute for Solar Energy Systems of Germany** for Cooperation in Green Hydrogen and Clean Energy Technologies.

Background of relations

Relations over the years:

- Bilateral relations between India and Germany are founded on common democratic principles and are marked by a high degree of trust and mutual respect.
- **India was amongst the first countries to establish diplomatic ties with the Federal Republic of Germany after the Second World War.**
- Relations grew significantly following the end of the Cold War and the reunification of Germany.
- In the last decade, both economic and political interaction between India and Germany has increased significantly.
- Today, Germany is amongst India's most important partners both bilaterally and in the global context.
- **India and Germany have a "Strategic Partnership" since 2001**

High-level consultations:

- **Relationship has been further strengthened with the Inter-Governmental Consultations (IGC) at the level of Head of Governments which allows for a comprehensive review of Cooperation and identification of new areas of engagement.**
- India is amongst a select group of countries with which Germany has such a high-level Consultations.
- Regular visits take place from both sides, including at the highest level
- There is an **Indo-German Parliamentary Friendship Group**, in German Bundestag since 1971.
- Some States and Cities of India and Germany have entered into twinning arrangements. **Karnataka and Bavaria have Sister State arrangement since 2007. Mumbai and Stuttgart are sister cities since 1968. In January 2015, Maharashtra and Baden-Wurttemberg signed an MoU to establish a Sister State relationship**.

Institutional Cooperation Arrangements:

- Several institutionalized arrangements exist between India and Germany to discuss bilateral and global issues of interest namely, Foreign Office Consultations, High Defence Committee, Indo-German Energy Forum, Indo-German Environment

Forum, S&T Committee, and Joint Working Groups in various fields, including skill development, automotive, agriculture, coal, tourism, water and waste management.

Defence Cooperation:

- **India-Germany Defence Cooperation Agreement (2006)** provides a framework for bilateral defence cooperation.
- To further enhance the Defence Industry and defence cooperation between Germany and India, an Arrangement on Implementation of the Agreement concerning Bilateral Defence Cooperation was signed in 2019

Economic & Commercial Relations:

- **Germany is India's largest trading partner in Europe**.
- Bilateral trade grew from Euro 15.96 billion to Euro 20.41 bn in 2018.
- Germany is the 7th largest foreign direct investor in India since April 2000.
- A Fast-Track System for German companies has been operating in Department for Promotion of Industry and Internal Trade (DPIIT) since March 2016

Science & Technology:

- Indo-German Science & Technology cooperation started with the signing of the Intergovernmental S&T Cooperation Agreement in 1971 and 1974.
- There are more than 150 joint S&T research projects and 70 direct partnerships between Universities of both countries.

Development Cooperation:

- Germany has been an important development cooperation partner for several decades.
- Total bilateral Technical and Financial Cooperation since it began in 1958, amounts to approx. Euro 17 billion.
- Energy, sustainable economic development and environment & management of natural resources are priority areas.
- Financial assistance from Germany is mainly as soft loan, composite loans or grants routed through KfW, German Government's Development Bank.

Indians in Germany

- There are about 1.7 lakh Indians and people of Indian origin in Germany.
- The Indian diaspora mainly comprises of professionals, technocrats, businessmen/traders and nurses.

Germany

- **Germany** is formally known as the **Federal Republic of Germany**.
- It is located in Central Europe.
- It is the 2nd most populous country in Europe after Russia.
- It is the **most populous country in the European Union**.
- Germany is located **between the Baltic and North Sea in the north.**
- Germany **shares borders with;**
  - o The Alps in the South.
  - o Denmark in the north.
  - o Poland and the Czech Republic in the east.
  - o Austria and Switzerland in the south.
  - o France, Luxembourg, Belgium, and the Netherlands in the west.
- It is the 7th largest country in Europe.
- Most people follow Christianity.
- The official language is German.
- The capital is Berlin; it is also the largest city.
- Germany has the **largest economy in Europe**.
- It is the world's **4th-largest economy by nominal GDP and the 5th-largest by Purchasing power parities (PPPs).**
- It is both the world's third-largest exporter and importer of goods.
- It is categorised as **a developed country, it ranks very high on the Human Development Index.**
- Areas of Rhine, Danube and Elbe are **rich in natural resources** including iron ore, coal, potash, timber, lignite, uranium, copper, natural gas, salt, nickel, etc.

WINDSOR FRAMEWORK

GS-II INTERNATIONAL RELATIONS

Context
- Britain and the European Union have reached an agreement on new trade rules in Northern Ireland in an attempt to resolve a thorny issue that has fueled post-Brexit tensions in Europe and on the island of Ireland.

Details
- The deal could potentially resolve the issue of imports and border checks in Northern Ireland, **one of the most challenging and controversial aspects of the United Kingdom's split from the EU**.

Status of Northern Ireland
- Northern Ireland is part of the UK but shares a land border with the Republic of Ireland, an EU member state.

Windsor Framework
- The new deal, called the "Windsor Framework," **will deliver "smooth flowing trade" within the UK, "protects Northern Ireland's place"** in the UK and "safeguards" the sovereignty of Northern Ireland.
- The purpose of the deal is to **fix the issues created by the Northern Ireland Protocol, an addendum to the Brexit deal agreed by Boris Johnson and the EU in 2019.**
- The protocol was created to prevent a hard border on the island of Ireland by keeping Northern Ireland aligned with the EU, meaning goods don't need to be checked between the Republic and the province. The Windsor Framework will replace the Northern Ireland Protocol.

The two leaders laid out three essential areas in which the new deal will improve the protocol.

1. The deal will **protect the flow of free trade between Great Britain and Northern Ireland by creating green and red lanes for goods flowing into Northern Ireland.**
   - Goods that might end up entering the Republic of Ireland will be placed in the red lane for checks before entering Northern Ireland.
   - Goods destined to remain in Northern Ireland will flow freely
2. Through the deal the UK and the EU have **managed to protect "Northern Ireland's place in the union" by allowing the UK government to determine VAT rates applicable in Northern Ireland**, as opposed to the current system where the rates are determined by the EU.
   - This would allow recent policies, such as the reform to lower the price of pints in British pubs, to now apply in Northern Ireland.
3. **A new "Stormont brake"** that would allow Northern Ireland's devolved government to pull an "emergency brake" on any new EU laws from being imposed on the province.
   - This will establish a clear process through which the democratically elected assembly can pull an emergency brake for changes to EU goods, rules that would have significant and lasting effect on everyday lives.
   - If the brake is pulled by the Northern Irish government, the Westminster government will be given a veto over the law.

Criticism
- The Stormont brake is likely to be the most controversial part of the deal as it raises questions over the imposition of EU law on a sovereign country.
- The Northern Ireland Protocol, signed with Brussels by Boris Johnson, attempted to recognize the delicate situation that Brexit created in Northern Ireland.
   - Ordinarily, the existence of a border between an EU member state and a non-EU nation like the UK would require infrastructure such as customs posts.
   - But during the period of sectarian strife known as the Troubles, security posts along the border between Northern Ireland and the Republic of Ireland became a target for paramilitary groups fighting for a united Ireland.
   - In theory, the Northern Ireland Protocol was intended to do away with the need for border infrastructure. It was agreed that Northern Ireland would remain within the EU's regulatory sphere, and that goods entering Northern Ireland from Great Britain would be checked before they arrived – effectively imposing a sea border.
   - That enraged the pro-British unionist community in Northern Ireland, who argued they were being cut off from the rest of the UK and forced closer to the Republic.

Will this new deal fix things in Northern Ireland?
- Without question the biggest issue in Northern Ireland at the moment is that it doesn't have a government.

- The Belfast Agreement requires that Northern Ireland's government is comprised of representatives from the the Unionist and Republican communities.
- Disagreements over many things, including the protocol, caused the government to collapse, with the Democratic Unionist Party (the largest Unionist party) feeling cut off from the rest of the UK due to being in the EU's regulatory sphere and subject to new EU law.
- While this deal does make things less complicated and addresses the issue of EU laws being imposed, there will still be less friction between Northern Ireland and the Republic of Ireland than Northern Ireland and Great Britain.
- It's also worth noting that the Stormont Brake can only work if there is a government, which could through stick rather than carrot finally restore the government in Belfast.

Must read: https://www.iasgyan.in/daily-current-affairs/northern-ireland-protocol-10

UNITED NATIONS HIGH SEAS TREATY — *GS-II INTERNATIONAL RELATIONS*

Context
- For the first time, United Nations (UN) members have agreed on a unified treaty to protect biodiversity in the high seas.

Details
- An updated framework to protect marine life in the regions outside national boundary waters, known as the high seas, had been in discussions for more than 20 years, but previous efforts to reach an agreement had repeatedly stalled.
- **The unified agreement treaty applies to nearly half the planet's surface.**
- **The treaty will create a new body to manage conservation of ocean life and establish marine protected areas in the high seas**.
- It is critical to achieve the UN Biodiversity Conference's pledge to protect 30% of the planet's waters, as well as its land, for conservation.
- **This will be a binding agreement for the high seas, which until now have hardly been protected**
- The treaty also establishes ground rules for conducting environmental impact assessments for commercial activities in the oceans.
- This treaty will help to knit together the different regional treaties to be able to address threats and concerns across species' ranges.

Background
- The member nations **failed to reach a consensus on the treaty at the fifth session of the Intergovernmental Conference (IGC) on the BBNJ in August 2022.**
- **The high seas are areas beyond the 200 nautical mile limit of the exclusive economic zones of coastal states.**
- Home to around 270,000 species, the high seas cover more than two-thirds of the global ocean.
- Over 1,550 marine animals and plants face a risk of extinction, with climate change impacting at least 41 per cent of threatened marine species
- Only 1.44 per cent of the high seas are protected.
- **The legally binding treaty, if adopted, will safeguard global ocean health, climate resilience, socio-economic well-being and food security for millions of people.**

Sharing of MGRs
- Member states discussed an important element under the treaty: The benefit sharing of marine genetic resources (MGRs).
- It includes marine plants, animals and microbes from areas beyond national jurisdiction.
- The element aims to address the inequalities in sharing benefits from samples, basic and applied research results as well as monetary benefit sharing from MGRs.

What is the proposed UN High Seas treaty?
- Also referred to as the 'Paris Agreement for the Ocean', the treaty to deal with Biodiversity Beyond National Jurisdiction has been under discussion for several years.
- The proposed treaty concerns the ocean existing beyond the Exclusive Economic Zones that lie from the coast of a country to about 200 nautical miles or 370 km into the sea, till where it has special rights for exploration.
- Waters beyond that are known as open seas or high seas.
- The treaty was to be negotiated under the United Nations Convention on Laws of the Sea (UNCLOS) of 1982 which governs the rights of countries regarding marine resources.
- As there is no treaty for conserving the health of vast swathes of the earth's oceans, a UN resolution in 2017 had decided to rectify this while setting 2022 as the deadline.

- The pandemic resulted in many delays, and later, a High Ambition Coalition, which now has more than 100 countries including India, the US, and the UK, came about and put the focus on '30×30' goals – protecting 30% of the ocean by 2030. After the latest deadlock, talks will only resume next year, unless a special session is called.
- Some aspects of negotiations included establishing marine protected areas to put limits on certain activities, environmental impact assessments or clearances for sustainability of works, financial support to countries and sharing other scientific knowledge. The
- International Union for Conservation of Nature has said binding agreements are needed for this treaty to be effective.

About United Nations Convention on Biological Diversity (CBD)
- CBD is a **legally binding Convention** recognized for the first time, that the conservation of biological diversity is "a common concern of humankind" and is an integral part of the development process.
- The agreement **covers all ecosystems, species, and genetic resources.**

Objectives:
- The conservation of biodiversity
- Sustainable use of the components of biodiversity
- Sharing the benefits arising from the commercial and other utilization of genetic resources in a fair and equitable way
- It acknowledges that substantial investments are required to conserve biological diversity.

Further read: https://www.iasgyan.in/daily-current-affairs/biodiversity-in-areas-beyond-national-jurisdiction

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| INDIA-ITALY BILATERAL RELATIONS | *GS-II INTERNATIONAL RELATIONS* |

Context
- **Ending the chill in the bilateral relationship in the past few years, in what Foreign Secretary Vinay M. Kwatra described as "legacy issues" now behind**, India and Italy **announced the elevation of the bilateral relationship to the level of strategic partnership while also concluding a memorandum of understanding (MoU) on defence cooperation.**

Details
Key highlights of the meet:
- The meet led to establishment of a 'Startup Bridge' between India and Italy.
- Another important area of mutual cooperation is defence. They also decided to **organise the joint military exercises and training courses on a regular basis**.
- **Italy had decided to join the Indo-Pacific Ocean Initiative (IPOI).**
- The two countries also concluded a Declaration of Intent (DOI) on migration and mobility.

India - Italy Relations- a background:
- India and Italy are ancient civilizations but young states (Italy having been reunified only in 1861).
- The classical languages, Sanskrit and Latin both belong to the Indo-European language family.
- Peoples of these two ancient civilizations have known, interacted and traded with each other for over 2000 years.
- Italian port cities were important trading posts on the spice route. The Venetian merchant Marco Polo, during his travels to the east, also traveled to India in the 13th century and wrote about his experiences.
- Indian troops, serving with the British Indian Army, were active in Italy during the World War II. These included the Rajputana Rifles and Gurkha Rifles. The 10th Indian Division took part in the East African Allied campaign against the Italians in Somaliland and Abyssinia.

Political Relations:
- Political relations between India and Italy were established in 1947.
- Both countries regularly hold an institutionalized Senior Officials Dialogue (Foreign Office Consultations.
- An Italy-India Parliamentary Friendship Association was established in the IPU Italy Chapter in 2004.

Economic Relations:
- Italy is among India's top 5 trading partners in the EU.
- The balance of trade has been in India's favour since the early eighties.
- India ranks 19th as country of origin of Italian imports, accounting for 1.2% of Italian imports.
- Main items of Indian exports to Italy are ready-made garments, leather, iron ore, motor vehicles, textiles, chemicals, gems & jewelry.
- Main items of import from Italy are general and special purpose machinery, machine tools, metallurgical products, and engineering items. Around 140 large Italian companies are active in India.
- The Joint Economic Commission is an institutional mechanism chaired by the respective Commerce Ministers of both countries.

Defence:

- There are visits by the Chief of Army Staff, defence ministers of the two countries.
- Lot of untapped potential is there in this field.

Cultural Exchange, Scientific Co-operation etc:

- The agreement for cultural cooperation was signed in 1976. It was replaced by a new Agreement in July 2004.
- An Executive Programme for Cultural Cooperation/Cultural Exchange Programme (EPCC/CEP) is signed periodically, under the bilateral cultural agreement.
- An Agreement on S&T Co-operation exists since 1978. The Agreement envisages three yearly action plans under which a maximum of thirty joint research projects can be undertaken.

Indian Community:

- The Indian community in Italy (estimated at 2.5 lakhs including PIOs) is thethird largest community of Indians in Europe after UK and the Netherlands.

RAISINA DIALOGUE   *GS-II INTERNATIONAL RELATIONS*

Context

- Amid the G-20 Foreign Ministers' Meeting and ahead of the Raisina Dialogue, **India quietly held the second conference of intelligence and security chiefs and top officials from around the world, called the Raisina Security Dialogue**, on March 1 which saw participation from over 26 countries.

Details

- Prime Minister Narendra Modi and National Security Adviser Ajit Doval addressed the conference, which is **modelled on the lines of the Munich Security Conference, the 59th edition of which took place from February 17 to 19, and Singapore's Shangri-La Dialogue.**
- While the U.S. was absent, intelligence chiefs from the U.K., France, Japan and Bahrain were among those present

Raisina Dialogue

- Prime Minister Narendra Modi **inaugurated the eighth edition of the Raisina Dialogue in New Delhi**.
- **Italian Prime Minister GiorgiaMeloni is the Chief Guest** of the three-day Dialogue.
- Speaking on the occasion, the Italian Prime Minister said, India's leadership in G20 and the Raisina Dialogue together can send a message of cooperation and peace to the world.
- **Raisina Dialogue is India's flagship conference on geopolitics and geo-strategy.**
- The **theme of the 2023 Edition is "Provocation, Uncertainty, Turbulence: Lighthouse in the Tempest."**

About Raisina Dialogue

- It is a **multilateral conference** held annually in New Delhi, India.
- Since its inception in 2016, the conference has **emerged as India's flagship conference on geopolitics and geo-economics.**
- The conference is hosted by the **Observer Research Foundation, an independent think tank, in collaboration with the Ministry of External Affairs of India.**
- The conference is structured as a **multi-stakeholder, cross-sectoral discussion, involving a variety of global policymakers** including heads of state, cabinet ministers and local government officials.
- It also welcomes **major private sector executives, as well as members of the media and academia.**
- It is designed **on the lines of Singapore's Shangri-La Dialogue.**
- The name "**Raisina Dialogue" comes from Raisina Hill,** an elevation in New Delhi, seat of the Government of India, as well as the Presidential Palace of India, Rashtrapati Bhavan

About Security Conference

- **The security conference is organised by the country's external intelligence agency, the Research and Analysis Wing (R&AW) and the National Security Council Secretariat (NSCS) that reports to Mr. Doval**.
- The conference was held for the first time in April 2022, a day before the start of Raisina Dialogue, India's flagship conference on "geopolitics and geo-strategy" organised by the Ministry of External Affairs (MEA) in collaboration with Observer Research Foundation (ORF).
- The eighth edition this year was held from March 2-4.
- The conference comes a year after the war in Ukraine that is still ongoing and the global attention fixed on it, while India has been flagging other global issues including Afghanistan.

Importance

- India is trying to make its presence felt in bringing together global intelligence agencies for exchanges on issues of common

concern.
- The focus of the discussions was largely on global security which encompassed counterterrorism, radicalisation, drugs trafficking, and illegal arms smuggling, among others
- It was a broad-based discussion and shows the global confidence in India

SEMICONDUCTOR SUB-COMMITTEE   *GS-II INTERNATIONAL RELATIONS*

Context
- India and the United States signed a memorandum of understanding (MoU) that will pave the way for **creating a semiconductor sub-committee under the Commercial Dialogue** between the U.S. Department of Commerce and India's Ministry of Electronics and Information Technology (MeitY) and the Ministry of Commerce.

Details
Key features of the Commercial Dialogue:
- Creating reliable supply chains,
- Diversifying and friend-shoring [sourcing of material from countries with similar social and political values],
- Facilitating climate and clean technology cooperation, inclusive digital growth, talent development, post-pandemic economic recovery, and
- Focus on cooperation.

Major outcomes
- One of the major outcomes was signing of MoU on establishing semiconductor supply chain and innovation partnership.
- Both Ministers recognized that small businesses and entrepreneurs are the lifeblood of the U.S. and Indian economies and there is **need to facilitate collaboration between the SMEs of the two countries**. Both sides announced the launch of a **new Working Group on Talent, Innovation and Inclusive Growth under the Commercial Dialogue.**
- **Re-launched the Travel and Tourism Working Group** to continue the progress from before the pandemic and to also address the many new challenges and opportunities to create a stronger travel and tourism sector.
- **Launched Standards and Conformance Cooperation Program (Phase III)** to be carried out in partnership between ANSI (American National Standard Institute) from the US side and BIS (Bureau of Indian Standards from Indian side in furtherance of standards cooperation
- **L**aunched **"strategic trade dialogue"** focusing which will address export controls, explore ways of enhancing high technology commerce, and facilitate technology transfer between the two countries.
- Both sides also **pledged to work together in the Global Biofuels Alliance** and in the development and deployment of hydrogen technologies
- Announcement regarding **U.S.-India Energy Industry Network** (EIN) as a broad platform for facilitating U.S. industry involvement in the Clean EDGE Asia initiative, the U.S. government's signature initiative to grow sustainable and secure clean energy markets throughout the Indo-Pacific region.
- Both sides expressed interest in working together in **developing next generation standards in telecommunications, including 6G.**

Background
- In the last few years, India-U.S. bilateral relations have developed into a **"global strategic partnership",** based on **shared democratic values** and increasing convergence of interests on bilateral, regional and global issues.
- The two countries have created a lot of opportunities to reinvigorate bilateral ties and enhanced cooperation under the motto -- - **"Chalein Saath Saath: Forward Together We Go".**

High-level dialogue mechanisms
- **India-U.S. Commercial Dialogue:** The India-U.S. Commercial Dialogue is led by the Minister of Commerce and Industry (CIM) and the U.S. Secretary of Commerce.
- **India – U.S. Economic and Financial Partnership:** The India – U.S. Economic and Financial Partnership is led by the Finance Minister (FM) and the U.S. Secretary of the Treasury.
- **India-U.S. Trade Policy Forum:** The India-U.S. Trade Policy Forum is led by CIM and the U.S. Trade Representative (USTR).

Trade and Economic
- The U.S. is **India's largest trading partner, goods and services combined**.
- **Bilateral trade in goods and services grew by more than 10% per annum over the past two years to reach US$ 142 billion in 2018.**

- India's goods exports to the U.S. were valued at US$ 54 billion and India's goods imports from the U.S. were valued at US$ 33 billion.
- India's services exports to the U.S. were valued at US$ 28.7 billion and India's imports of services from U.S. were valued at US $ 25.8 billion.
- direct investments in India are estimated at about US$ 44.5 billion whereas Indian FDI in U.S. is estimated at US$ 18 billion.

S&T

- The multi-faceted cooperation between India and the U.S. in the field of Science and Technology has been growing steadily under the framework of the **India-U.S. Science and Technology Cooperation Agreement signed in 2005, renewed in 2019.**
- The **Indo-U.S. Science & Technology Forum** was established to promote cooperation in Science, Technology and Innovation.
- Both countries also have a long history of cooperation in civil space arena that includes cooperation in earth observation, satellite navigation, and space science and exploration.
- The **India-U.S Joint Working Group on Civil Space Cooperation** regularly reviews the status of cooperation and identifies new areas for furthering space cooperation.
- **ISRO and NASA** are also working towards intensifying cooperation in Mars exploration, heliophysics, and human spaceflight through relevant working groups between both sides.

Frictions

- **Trade related:** like removal of India from its list of developing countries and taking off India from list of beneficiary-developing countries under its scheme of Generalized System of Preferences.
- **Tariffs war:** In 2018, the US imposed additional tariffs of 25% on steel and 10% on aluminum imports from various countries, including India, India's refusal to remove the 20% tariffs on ICT products.
- **WTO disputes:** like Capping prices of medical devices by India, greater Indian market access for American agriculture and dairy products etc.
- **IPR:** India is also on U.S.'s Priority Watch List.
- **Trade deficit:** India enjoys a trade surplus with US. The trade gap between the countries has increased to USD 17.42 billion in 2019-20 from USD 16.86 billion in 2018-19. It is one of the concerns of US officials.
- **IPR issues:** Recently, the US placed India on its 'Priority Watch List' among other countries over the issue of Intellectual Property Rights (IPR). India has been alleged for not taking sufficient measures to improve its IP framework which has negatively affected the US right holders in the past years. According to the US, weak IP regime in India makes it tough for innovators to receive and maintain patents in India, especially pharmaceuticals. Insufficient enforcement actions, copyright policies that do not properly incentivize the creation, commercialization of content, and an outdated and insufficient trade secrets legal framework are some of the issues mentioned by plan report of Office of the United States Trade Representative (USTR).

RESTORATION OF TIES BETWEEN IRAN AND SAUDI ARABIA   *GS-II INTERNATIONAL RELATIONS*

Context

- Saudi Arabia and Iran, two of West Asia's major powers that have been at odds with each other for decades, agreed to restore diplomatic relations in an agreement brokered by China.

Details
Background:

- The rivalry between the two **dates back to pre-revolution Iran when they competed with each other for regional dominance**.
- After the 1979 revolution brought down the Iranian monarchy and turned the country into a Shia theocratic republic, sectarian and ideological flavours were added to the mix.
- In **recent times, it had turned into a cold war with both sides supporting their proxies across West Asia.**
- Formal ties between them collapsed in 2016 after the Saudi embassy in Tehran was overrun by protesters following Riyadh's execution of a Shia cleric. N
- ow, under China's mediation, they have agreed to start a new beginning. If peace holds, it could have far-reaching implications for regional security, stability and geopolitics.

What are the terms of the agreement?

- Finer details of the agreement are yet to be unveiled.
- **Iran has agreed to prevent further attacks against Saudi Arabia**, especially those from the Houthi-controlled parts of Yemen (Iran backs Houthis, a Shia militia in Yemen while the Saudis back the government forces).
- **Saudi Arabia, on its part, agreed to rein in** *Iran International,* a Farsi news channel that is critical of the Iranian regime (which the Iranian intelligence has termed a terrorist organisation).

Why did Saudi Arabia reach out to Iran?

- West Asia has been undergoing strategic realignments in recent years.
- In 2020, the **UAE became the first Arab country to normalise relations with Israel in a quarter century**.
- In the following years, **Israel and Arab countries deepened their partnerships**.
- In 2021, **Saudi Arabia, the UAE and their allies decided to end their failed blockade of Qatar**.
- The U.S. was also trying to broker a normalisation agreement between Saudi Arabia and Israel.
- **One of the key drivers of these realignments is the U.S.'s deprioritisation of West Asia**.
- **America's allies in the region see the twin realities of a power vacuum created by the U.S.'s deprioritisation and the challenge posed by Iran's rise.**
- To address these problems, the U.S. wanted to bring the two pillars of its West Asia policy — Israel and the Arab world — together against Iran so that the American alliance system in the region would not be disrupted.
- Additionally, **relations between Saudi Arabia and the U.S. have been rocky in recent years**.

What led Iran to accept the deal?

- **Iran is going through one of the toughest phases of economic isolation and domestic pressure**.
- Iran wanted Chinese investments and support for the rial.
- So, while struggling with isolation and sanctions, a deal with Saudi Arabia, under China's mediation, could open economic lifelines for Iran.
- **And strategically, Iran knows that such a deal could complicate American effort to rally Arab countries and Israel against it.**
- So economically and strategically, a reconciliation is beneficial for Tehran, at least in a tactical sense.

What does China gain from the deal?

- **China has economic, regional and strategic interests in playing the role of a peace broker in West Asia.**
- China is the world's largest oil buyer and stability in the energy market is essential for its continued rise.
- Regionally, the agreement marks China's arrival as a major power in West Asia
- Besides, China is also trying to send a clear message to countries in the Global South. While the U.S. is busy rallying the Western world to arm Ukraine to push back Russia and weaken Moscow through sanctions, China is quietly brokering peace in the Global South.

How does the U.S. look at the deal?

- **U.S. officials have welcomed the reconciliation**.
- But from a strategic point of view, the U.S. would be facing unpleasant questions about the agreement. The Iran nuclear deal is practically dead. The U.S. wants Saudi Arabia to normalise ties with Israel and put up a joint front against Iran.
- But now, when it looks at the region, it sees an ally (Saudi Arabia) drifting further away, a rival who it wanted to contain (Iran) making new friends and its global challenger (China) spreading and deepening its influence in a region which the U.S. had dominated since at least the Suez War of 1956.

How the situation in parts of the Middle East where Iran and Saudi Arabia have been involved in proxy conflicts could be affected by a Beijing-brokered deal?

- **Yemen:** Restored ties between Riyadh and Tehran could facilitate agreement between Saudi and the Houthis.
- **Syria:** The Saudi-Iranian deal comes as Arab isolation of Assad is thawing. Saudi has said more engagement could lead to Syria's return to the Arab League. Syria's foreign ministry welcomed the deal as an "important step" that could boost regional stability. The opposition's umbrella body did not comment.
- **Lebanon:** Lebanon has since sunk deeper into financial meltdown and now faces an unprecedented political crisis, with no president for months and a cabinet operating with limited powers.The rapprochement between Tehran and Riyadh has sparked hope that paralysis could end.
- **Iraq:** Iraqis hope for a general regional detente that would allow their country to rebuild, instead of being destabilised by U.S., Gulf Arab and Iranian score-settling.

AUKUS PARTNERSHIP
GS-II INTERNATIONAL RELATIONS

Context

- Australia has unveiled plans to buy up to five U.S. nuclear-powered submarines, then build a new model with U.S. and British technology under an ambitious plan to bulk up Western muscle across the Asia-Pacific in the face of a rising China.

Details

- The announcement came at an event at a San Diego, California, naval base where U.S. President Joe Biden hosted Australian Prime Minister Anthony Albanese and British Prime Minister Rishi Sunak.
- US said it had "safeguarded stability in the Indo-Pacific for decades" and that the submarine alliance would bolster "the

- US President **stressed, Australia, which joined a newly formed alliance known as AUKUS with Washington and London 18 months ago, will not be getting nuclear weapons.**
- However, **acquiring stealthy submarines powered by nuclear reactors puts Australia in an elite club and at the forefront of U.S.-led efforts to push back against Chinese military expansion.**
- IAEA, UN nuclear watchdog, said it has to ensure that "no proliferation risks" will come from the deal.

Background

- It is a **new trilateral security partnership called AUKUS** (Australia-U.K.-U.S.).
- **AUKUS aim:** to "update and enhance shared ability to take on the threats of the 21st century.

What are the terms of the grouping?

- Intent for AUKUS is **to preserve a free and open Indo-Pacific in the long term**.
- It drew a sharp response from China, whose territorial ambitions across the Indo-Pacific may well have been a key factor behind the formation of this group.
- Beijing's consternation that **AUKUS will "undermine" regional peace and "intensify" an arms race.**
- **Cornerstone of AUKUS**: U.S. and the U.K. will **transfer technology to build a fleet of nuclear-powered submarines for Australia** within 18 months.
- It is the first agreement on the technology to be publicly signed since the three countries (**Australia, U.K. and U.S**) announced the **formation of a defence alliance**, **AUKUS**, to <u>confront strategic tensions in the Pacific where China-US rivalry is growing</u>
- Under the AUKUS deal, **Australia would obtain eight state-of-the-art, nuclear-powered but conventionally armed submarines capable of stealthy, long-range missions.**

Will AUKUS be a game changer?

It is unlikely and the **reasons are**

- **US., as a leading global military power, already has a strong presence in the Indo-Pacific**, especially in a grouping that includes **Australia, India, and Japan —** the Quadrilateral Security Dialogue, or Quad.
- uS., the U.K., Australia, Canada, and New Zealand are members of **Five Eyes**, an **intelligence-sharing alliance**, which also has regional security implications.
- **AUKUS will not likely deter Beijing's strategic calculus across the region**, particularly relating to its maritime ambitions and territorial expansionism.
- AUKUS that has potential to cause a recalibration of China's plans in this realm is the nuclear-powered submarines.
- It will **raise the stakes over strategic flashpoints such as the South China Sea and Taiwan.**

Does India stand to gain from this development?

- New Delhi may **derive secondary benefits** from having three advanced nations with arguably the most sophisticated military know-how in the world coming together to support **a free and open Indo-Pacific**.
- Given the inroads that Beijing has made in recent decades with its Belt and Road Initiative, including through projects or proposals for infrastructure development in Southeast Asia, Sri Lanka, the Maldives, and beyond into Central Asia, fears in South Block over **'encirclement' by China may be partially mitigated by AUKUS.**
- India will work with the **transnational institutional arrangements** in place, roping in like-minded nations into symbiotic partnerships, and calibrate future alliance plans to evolving security situations across one of the most complex strategic ecosystems in the world.

INDIA-BANGLADESH FRIENDSHIP PIPELINE — *GS-II INTERNATIONAL RELATIONS*

Context

- Prime Ministers of both countries jointly inaugurated the India-Bangladesh Friendship Pipeline.

Details

About:

- The two Prime Ministers joined the ceremony of the pipeline in September 2018.
- Recently opened pipelines are 125 km in Bangladesh and 5 km in India.

Significance:

- The **first cross-border energy pipeline**
- Built at a cost of approximately $377 million. The Bangladeshi section of the pipeline was built at a cost of around $285 million, which was **undertaken by the Indian government with grant-in-aid**.

- The pipeline is capable of transporting 1 million metric tons per annum (MTPA) of diesel, which will initially be supplied to seven districts in northern Bangladesh.
- **Hope in times of crisis:** Bangladesh imports most of the fuel it needs for electricity.
- **Ensures fast delivery of fuel at the lowest cost.**

Other announcements
- **Bangladesh has offered India the use of its ports in Chattogram and Sylhet**, claiming that it will boost connectivity and increase people-to-people contact in the region.
- Chhattogram Port is an important seaport of Bangladesh and is strategically located due to its proximity to the North Eastern states of India.

Background of relations
- India was the first country to recognize Bangladesh as a separate and independent country and established diplomatic relations with the country after independence in December 1971.
- The two neighbors are organically linked by shared heritage and shared history, shared memories of tragic loss and family separation after the partition of India in 1947.
- In the last few years, relations have been strengthened through cooperation in new arenas

Trade
- Bangladesh is currently India's largest trading partner in the South Asian region.
- To boost and encourage the trade and commerce of Bangladesh, India has given several concessions to Dhaka, including free access to the Indian market for Bangladeshi products.
- The two countries hope to sign a bilateral Comprehensive Economic Partnership Agreement (CEPA).
- In the financial year 2019-20, India's exports to Bangladesh were $8.2 billion and imports were $1.26 billion.

Development Partnership:
- Bangladesh is the biggest development partner of India.
- India has extended 3 lines of credit (LOC) worth $8 billion to Bangladesh in the last 8 years for infrastructure development in various sectors including roads, railways, shipping and ports.

Connectivity
- In 1999, a bus service connecting Dhaka and Kolkata was opened.
- The old railway line, which was idle for 43 years, was restored in 2008 between Dhaka and Kolkata.
- The two countries established the Maitri (Friendship) Expressway and restored some old railway lines.
- Movement of goods by road is carried out through 36 land customs stations (LCS) and 2 integrated border checkpoints (ICP).
- This includes Petrapole-Benapole ICP where more than 50% of bilateral trade takes place.
- The Protocol on Inland Water Trade and Transit (PIWTT) has existed since 1972
- Both agreed that BBIN should be operational. Bangladesh is eager to be a part of the India-Myanmar-Thailand trilateral highway project.
- Feni Bridge (MaitreeSetu) connecting Tripura) and LCS Ramgarh (Bangladesh) was inaugurated in 2021.

Security
- India's efforts to contain the militant group Jamaat-ul-Mujahideen Bangladesh's activities are an example of engagement on this front.
- Both sides have agreed to facilitate completion of border fencing at all pending sectors at the international border
- High-level exchanges include India-Bangladesh CORPAT 'Bongosagar' exercise, the Regional Commanders meeting of Coast Guards, and the Annual Defense Dialogue.

Settlement of boundaries
- India and Bangladesh share 4096.7 km. of border (longest that India shares).
- The India-Bangladesh Land Boundary Agreement (LBA) in 2015 facilitated the transfer of 111 enclaves.
- The Coordinated Border Management Plan (CBMP) of 2011 aims to check cross border illegal activities and crimes

Cultural Cooperation:
- 2021 was historic in India Bangladesh bilateral relations as they commemorated the fiftieth anniversary of the Liberation War and the establishment of diplomatic relations between India and Bangladesh.

Bilateral institutional mechanisms:
- 50+ bilateral institutional mechanisms exist between India and Bangladesh. A Joint Consultative Commission (JCC) oversees the implementation of initiatives.

Sharing of River Waters:
- Joint Rivers Commission was established in 1972 to ensure maximum benefits from common river systems.
- The Ganga Waters Treaty was signed in 1996 for sharing of waters of river Ganga.
- India and Bangladesh share 54 common rivers

Power and Energy Sector Cooperation:

- Bangladesh is currently importing about hundreds of MW of power from India.
- The 1320 MW coal-fired Maitree thermal power plant is being developed at Rampal.
- India has agreed to fund the construction of India-Bangladesh Friendship Pipeline from Siliguri to Parbatipur for supply of Diesel to Bangladesh from Numaligarh Refinery Limited.

Indian community in Bangladesh

- About 10,000 strong Indian community is estimated to be living in Bangladesh.

Irritants in the relationship

- Proposed countrywide **National Register of Citizens (NRC) and the Citizenship Amendment Act** (CAA).
- Issues like **water sharing agreement on the Teesta**, which has been pending since 2011.
- **Presence of Arsenic in ground water of several areas has endangered lives of millions.**
- **China's economic footprint in Bangladesh** has been growing as it is also dependent on China's military hardware.
- Disbursement of line of credit is getting delayed **due to red tapism.**
- India faces **radical threat from several extremists' groups** like Jamaat-ul Mujahideen.

MCMAHON LINE   *GS-II INTERNATIONAL RELATIONS*

Context

- Two United States Senators, a Republican and a Democrat, have introduced a bipartisan resolution in the upper chamber of Congress reiterating that the US recognises the McMahon Line as the international boundary between China and India in Arunachal Pradesh**.**

Details

- **The resolution reaffirms India's well-known and established position that Arunachal Pradesh, which China calls 'South Tibet', is an integral part of India.**

What is the McMahon Line?

- The McMahon Line serves as the **de facto boundary between China and India in the Eastern Sector.**
- It specifically represents the boundary between Arunachal Pradesh and Tibet, from Bhutan in the west to Myanmar in the east.
- China has historically disputed the boundary and claims the state of Arunachal Pradesh as part of the Tibetan Autonomous Region (TAR).
- **The McMahon Line was drawn during the Simla Convention of 1914, officially described as the Convention Between Great Britain, China, and Tibet**.
  - o China was represented at the convention by the government of

the Republic of China, which was in power in the mainland from 1912 to 1949, when its leaders were driven to the island of Taiwan during the civil war that established the communists in Beijing and led to the proclamation of the People's Republic.
- The McMahon Line delimited the respective spheres of influence of Tibet and British India in the eastern Himalayan region in what is today India's Northeast and northern Myanmar.
- The border in this region was undefined prior to the signing of the convention.

What happened at the Simla Convention of 1913-14?

- The convention attempted to settle the question of Tibet's sovereignty and avoid further territorial disputes in the region.
- The Tibetan government in Lhasa was represented by its plenipotentiary Paljor Dorje Shatra, and Britain by Sir Arthur Henry

McMahon, foreign secretary of British India at Delhi. The Chinese plenipotentiary was Ivan Chen.

- **The treaty divided the Buddhist region into "Outer Tibet" and "Inner Tibet" – the former would "remain in the hands of the Tibetan Government at Lhasa under Chinese suzerainty", though China was not allowed to interfere in its affairs. The latter would be under the direct jurisdiction of the newly formed Republic of China.**
- **In its annexes, it also determined the border between China proper and Tibet as well as Tibet and British India.**
  - The latter of these newly decided boundaries would later be called the McMahon Line after McMahon, the chief British negotiator.
- While a draft convention was agreed upon by all three countries on April 27, 1914, China immediately repudiated it.
- The final convention was only signed by McMahon on behalf of the British government and Shatra on behalf of Lhasa.
- **Ivan Chen did not consent to the convention, arguing that Tibet had no independent authority to enter into international agreements**.

What has the status of the McMahon line been since 1914?
- While there were disputes regarding the McMahon line from the very beginning, after the communists took power in 1949, they pulled China out of all international agreements and the so-called "unequal treaties" that had been imposed on it during its "century of humiliation", and demanded a renegotiation of all its borders.
- During the 1962 Sino-Indian War, China was able to quickly overpower India and make deep inroads into Indian territory across the McMahon Line.
- However, its forces retreated to pre-war positions after the unilateral ceasefire was announced on November 21.

India-China border issue
- India-China-relations dates back to more than 2,000 years ago. There have been cultural and economic ties between the two countries since ancient times.
- Relations between contemporary China and India have been characterized by border disputes, resulting in military conflicts like — the **Sino-Indian War of 1962, the Chola incident in 1967, the 1987 Sino-Indian and the 2020 India-China skirmish.**
- Relations between India and China have come under "severe stress" time and again in the last decade due to multiple border stand-offs along the Line of Actual Control.

Root cause of border dispute between India & China
- The root cause lies in **an ill-defined, 3,440km (2,100-mile)-long border that** both countries dispute. Four states - Himachal Pradesh, Uttarakhand (erstwhile part of UP), Sikkim and Arunachal Pradesh and Union Territories of Ladakh (erstwhile state of Jammu & Kashmir) share a border with China.
- The Sino-Indian border is generally divided into three sectors namely: **Western sector, Middle sector, and Eastern sector.**

ONE CHINA POLICY

GS-II INTERNATIONAL RELATIONS

Context
- **China and Honduras signed a landmark communique to formally establish diplomatic relations, with the Central American nation becoming the latest country to switch recognition from Taipei to Beijing.**

Details
- The agreement now leaves a dwindling number of diplomatic partners for Taiwan, with Honduras joining Nicaragua, Panama and Costa Rica in recently recognising Beijing and ending ties with Taipei.

Highlights of the agreement
- The two Governments have decided to **recognise each other and establish diplomatic relations at the ambassadorial level.**
- **There is but one China in the world and the Government of the People's Republic of China is the sole legal Government representing the whole of China**. Taiwan is an inalienable part of China's territory.
- The only remaining among the 193 member countries of the UN that maintain diplomatic relations with Taiwan, along with the Holy See (Vatican), are the Marshall Islands, Nauru, Tuvalu, and Palau in the Pacific; Eswatini in Africa; and Belize, Guatemala, Haiti, Paraguay, St. Lucia, Saint Vincent and the Grenadines, and Saint Kitts and Nevis, in Latin America and the Caribbean.

Reason for breakdown
- Taipei hit out at the move.
- Officials in Taipei said **financial reasons were behind the switch, and Honduras had asked Taiwan for financial assistance as a condition to continue relations.**

What is the One China Policy?

According to China:

- The One China principle is the position held by the People's Republic of China (PRC) and the ruling party Chinese Communist Party (CCP) that **there is only one sovereign state under the name China, with the PRC serving as the sole legitimate government of that China, and Taiwan is a part of China.**
- It is opposed to the idea that there are two states holding the name "China", the People's Republic of China (PRC) and the Republic of China (ROC); as well as the idea that China and Taiwan form two separate countries.

According to US:

- The One China policy refers to a **United States policy of strategic ambiguity regarding Taiwan.**
- In a 1972 joint communiqué with the PRC, the United States "acknowledges that all Chinese on either side of the Taiwan Strait maintain there is but one China and that Taiwan is a part of China" and "does not challenge that position."
- The United States has formal relations with the PRC, recognizes the PRC as the sole legal government of China, and simultaneously maintains its unofficial relations with Taiwan while not recognising China's sovereignty over Taiwan.

One China Policy and India

- In 2022, India **refused to reaffirm the "one China policy".**
- In refusing to iterate its commitment to the "one China policy" and in articulating consistency, **India has signalled that the policy in place since 2010 continues to hold.**
- India **was among the first countries to accept the "one China policy" in 1949** and used to regularly iterate it in joint statements, but **stopped doing so around 2010 in response to Beijing's insistence on issuing stapled visas to residents of Jammu and Kashmir and Arunachal Pradesh.**
- India's last articulation of its adherence to the "one China policy" came in a 2005 joint statement during a visit by then Chinese Premier Wen Jiabao.
- Over the years, **India has also deepened its engagement with Taiwan through trade, including negotiations for a free trade agreement, and culture without having diplomatic relations.**
- India has a trade and cultural office in Taipei with a reciprocal set-up in New Delhi, which also provides consular services.

Why is China so fearful of Taiwan becoming independent?

- With the return of Hong Kong to Chinese control in July 1997, **Taiwan remains one of the few areas over which Beijing claims sovereignty but does not control**.
- It is widely viewed by Chinese on the mainland as the **last vestige of the century of humiliation that began with the Opium Wars in the middle of the nineteenth century**.
- The persisting separation of the mainland and Taiwan is also portrayed as a **hindrance to China's reemergence as a great power**, which President Xi Jinping has dubbed the great rejuvenation of the Chinese nation.
- The **Chinese Communist Party's legitimacy is linked to its pledge to achieve reunification of Taiwan** with the motherland.
- The Anti-Secession Law, adopted by Beijing in 2005, sets forth three conditions under which China would be justified in using "non-peaceful means and other necessary measures to protect China's sovereignty and territorial integrity:
  1. Taiwan independence forces cause Taiwan's secession from China;
  2. Major incidents entailing Taiwan's secession from China occur; or
  3. Possibilities for peaceful reunification are completely exhausted.

ANNUAL INDIA-JAPAN SUMMIT   GS-II INTERNATIONAL RELATIONS

Context

- There were two documents signed between India and Japan - Renewal of MOC (Memorandum of Cooperation) in the Japanese language, essentially focussing on higher level language learning and second agreement was Exchange of notes on JICA loan for 300 bn$ on Mumbai-Ahmedabad high-speed railway project.

Details

Highlights of the visit:

- 2023 has been announced as the India-Japan year of tourism.
- Japanese PM formally invited Indian PM to G7 Hiroshima Summit which was accepted.
- Both reaffirmed commitment to a peaceful, stable, and prosperous Indo-Pacific with the latter calling India an indispensable partner

Free and open Indo-Pacific (FOIP) policy

- Japanese Prime Minister unveiled his **plan for a "free and open Indo-Pacific"** with a focus on India's increasingly significant

role in the region.

- Japan announced **$75 billion to bolster Japan's free and open Indo-Pacific (FOIP) policy**. Japan would mobilise a total of more than $75 billion in public and private funds in the Indo-Pacific region by 2030 in infrastructure "and grow together with other countries.
- The policy will be based on four pillars, including
    1. principles for peace and rules for prosperity,
    2. addressing challenges in an Indo-Pacific way,
    3. multi-layered connectivity, and
    4. extending efforts for security and safe use of the sea to the air.
- Japan referred to the Ukraine conflict seven times as it condemned Russia's actions in Ukraine saying Moscow's aggression had "obliged" the world to face the most fundamental challenge of defending peace.
- They also discussed in detail defence and economic cooperation.
- **Japan will promote the Bay of Bengal-north-east India value chain concept in cooperation with India and Bangladesh for the development of the entire region.**

JICA Loan
- Earlier in 2022, JICA signed a loan agreement with India to provide ODA loan of 100,000 million Japanese Yen as Tranche 3 on the 'Project for the Construction of Mumbai-Ahmedabad High-Speed Rail (MAHSR).'
    o The objective of the project is to develop a high-frequency mass transportation system by constructing the High-Speed Rail between Mumbai and Ahmedabad, using Japan's Shinkansen technology (Bullet Train).

Background of relations
History:
- Exchange between Japan and India is said to have started in the 6th century when Buddhism was introduced to Japan.
- Indian culture filtered through **Buddhism** greatly influenced Japanese culture and this is the source of the sense of affinity between Japanese and Indian society.
- **Japan and India signed a peace treaty and established diplomatic relations on April 28, 1952.**
- After the visit of Japanese Prime Minister Nobusuke Kishi to India in 1957, Japan began lending yen to India in 1958, the first yen loan issued by the Japanese government.
- Prime Minister Yoshiro Mori's visit to India in August 2000 gave impetus to strengthening Japan-India relations. Mr Mori and Prime Minister Atal Bihari Vajpayee decided to create a "**global partnership between Japan and India**".

Post-2014:
- In 2014, the Prime Minister made his first bilateral visit outside India to close neighboring Japan.
- During the visit, India-Japan relations developed into a **special strategic global partnership.**
- The Prime Minister referred to India-Japan relations as one of the most natural partnerships in the region.
- A special India-Japan strategic global partnership based on the shared values of democracy, freedom and the rule of law is important for the promotion of peace, prosperity and stability in the Indo-Pacific region.
- India and Japan have both focus on the larger vision of act East.

Cooperation in Security Fields:
- The Joint Declaration on Security Cooperation between Japan and India was issued in 2008.
- There are also various frameworks of security and defense dialogue between Japan and India including **Foreign and Defense Ministerial Meeting ("2+2" meeting), annual Defense Ministerial Dialogue and Coast Guard-to-Coast Guard dialogue.**
- In September 2022, the second "2+2" meeting was held in Tokyo.
- **Agreement Concerning Reciprocal Provision of Supplies and Services between the Self-Defense Forces** of Japan and the Indian Armed Forces (so-called "Acquisition and Cross-Servicing Agreement" or ACSA) was signed in 2020.

Economic Relations:
- **India is Japan's 18th largest trading partner, Japan was India's 13th largest trading partner in 2021.**
- Also, direct investment from Japan to India increased and **Japan became the 5th largest investor in India in 2021.**
- Japanese private sector interest in India is on the rise and now, by 2021, around 1,439 Japanese companies have branches in India.
- **India has received Japan's largest ODA loan in recent decades.** For example: Delhi Metro.
- Japan continues to focus on the synergy between "Act East" policy and "Partnership for Quality Infrastructure" thereby enhancing connectivity with North east

Culture:
- Under the theme **"Resurgent Japan, Vibrant India: New Perspectives, New Exchanges",** various cultural events are organized in Japan and India to promote mutual understanding between the two countries.
- In 2022, Japan will celebrate anniversaries with seven countries in West Asia, including India.
- Japan has designated 2022 as **"Japan-Southwest Asia Exchange Year"** in order to take relations with West Asian countries to a new level.

Number of Residents:
- Number of Indian nationals residing in Japan: 40,752 (as of June, 2022).

WORLD FOOD PROGRAMME

Context
- According to a report titled **"The Status of School Feeding Globally 2022",** the proportion of children in low-income nations receiving school meals has decreased by about 4%, with the highest drops seen in Africa.

Details
Highlights of the Report
- According to the published data, which came from 176 nations, there are roughly 1.2 billion school-age children worldwide who are enrolled in preschool, primary, and secondary schools.
- The study found that h**igh-income, upper-middle-income, and lower-middle-income countries all experienced constant, modest increases in school meals** of 4%, 4%, and 16%, respectively.
- **Low-income nations have boosted their domestic spending for school meals** from 30% in 2020 to 45% in 2022 despite other post-pandemic needs and financial constraints.
- **Donor contributions have decreased** from 69% to 55%, a shortage that is probably the result of conflicting priorities.
- Around the world, **420 million children receive school meals, an increase of 30 million** (or almost 7%) from the 388 million children reported in this report's 2020 edition.
- **Brazil, Russia, India, China, and South Africa together accounted for 19 million of the 30 million increase** in the number of children receiving school meals between 2020 and 2022.
- School lunch programmes are an **essential safety net for vulnerable children and families**, according to the World Food Programme, 345 million people globally, including 153 million kids and teenagers, are experiencing food crises.
- According to the survey, **school lunch programmes can boost enrollment rates by 9% and attendance rates by 8%.**

Recommendations of the report
- Make sure that the schools stay open and that the coverage is maintained or increased.
- Encourage the Sustainable Finance Initiative to assist low-income nations in finding sources of funding for their programmes.
- Access to independent evidence on the costs, advantages, and efficacy of various domestic school feeding programme designs, as well as on climate change and food sovereignty, should be prioritised by the national government.

School Meals in India
- The **Midday Meal Scheme** is a school meal programme in India designed to supply free lunches on working days for children in primary and upper primary classes in government, government-aided, local body, Education Guarantee Scheme, and alternate innovative education centres, *Madarsa* and *Maqtabs* supported under Sarva Shiksha Abhiyan, and National Child Labour Project schools run by the ministry of labour.
- Serving 120 million children in over 1.27 million schools and Education Guarantee Scheme centres**, the Midday Meal Scheme is the largest of its kind in the world.** By 2002, the scheme was implemented in all of the states under the orders of the Supreme Court of India.
- **The name of the scheme was changed to PM-POSHAN (Pradhan Mantri Poshan Shakti Nirman) Scheme, in September 2021, by the Ministry of Education, which is the nodal ministry for the scheme.**
  - It will provide one hot cooked meal in Government and Government-aided schools from 2021-22 to 2025-26.
  - This is a **Centrally-Sponsored Scheme** which covers all school children studying in Classes I-VIII in Government, Government-Aided Schools.

United Nations World Food Program
- The World Food Programme (WFP) is the food-assistance branch of the United Nations.
- It is the **world's largest humanitarian organization** the largest one focused on hunger and food security, and the largest provider of school meals.
- **Founded in 1961**, it is **headquartered in Rome** and has offices in 80 countries.
- WFP is an **executive member of the United Nations Sustainable Development Group.**
- The World Food Programme was **awarded the Nobel Peace Prize in 2020** for its efforts to provide food assistance in areas of conflict, and to prevent the use of food as a weapon of war and conflict.
- WFP operations are **funded by voluntary donations** principally from governments of the world, and also from corporations and private donors.
- WFP is governed by an executive board which **consists of representatives from 36 member states,** and provides intergovernmental support, direction and supervision of WFP's activities.

REGULATION OF ONLINE SALE OF DRUGS

GS-II HEALTH

Context

- The Ministry of Health pulled up at least twenty companies including Tata-1mg, Flipkart, Apollo, PharmEasy, Amazon and Reliance Netmeds, by issuing them a show cause notice, for selling medicines online.
- This happened after the **All India Organisation of Chemists and Druggists (AIOCD),** a powerful lobby of over 12 lakh pharmacists, threatened to launch a country-wide agitation if the government didn't act.

Online Sale of Drugs

- The acute need for **door-step delivery of drugs was felt during COVID-19.**
- The year 2020 marked a watershed moment for the growth of e-pharmacies as the Ministry of Home Affairs issued orders for them to continue to operate. It saw nearly 8.8 million households using home delivery services during lockdown.

Associated concerns

- The Centre is of the view that online sale of drugs without a doctor's prescription or even otherwise, **poses threats to the public health including drug abuse, especially among youth**. Many instances of drug abuse, especially among youth have surfaced lately.
- It's a **great risk to national security as well as the online data** can be misused for criminal activities by promoting addictive medicines.
- The government has been receiving various representations raising concerns regarding **sale of drugs via online platforms in contravention to the Drugs and Cosmetics Act, 1940 & rules there under.**
- Some drugs are also being sold online which are only allowed for sale by retail under a valid prescription of a registered medical practitioner and supplied under the supervision of a pharmacist.
- Not just adults, children too use the internet, and this may cause severe health hazards in case we don't put a ban on online sales.

Response from the end of Government and Judiciary
Draft e-Pharmacy Rules

- The draft e-pharmacy rules, which were originally intended to whip e-pharmacy businesses into shape were floated by the Ministry of Health in 2018.
- The rules were finalised, public comments were taken into consideration and they were almost on the brink of being notified.
- But the proposal was abruptly shoved into cold storage, after being referred to a Group of Ministers as the matter was considered 'sensitive,'.

Orders from various Courts

- The **Delhi High Court in 2018 had ordered a ban of online sale of drugs across the country.** There are cases in various courts in this regard requesting to prohibit the online sale of drugs.
- Multiple court orders including those from Bombay, Madras, Delhi and Patna High Court have called for regulating e-pharmacies.

172nd Parliamentary Standing Committee

- The Report found it 'appalling,' that e-pharmacy rules had not been notified even after four years of the draft being introduced.

Show Cause Notice from Health Ministry

- Recently, Health ministry issued show cause notices to more than a dozen of companies including biggies like Amazon, Flipkart, Practo, Tata1mg, PharmEasy, Apollo, Zeelabs and Healthcart etc for selling drugs online without necessary licences.

Is a blanket ban on e-pharmacies a viable option?

- Banning e-pharmacies would be like **throwing the baby out with the bath water.**
- The demand for online delivery of drugs is burgeoning. There is a **possibility that some of these businesses will go underground if banned, because people are not going to stop ordering medicines online anytime soon**.
- One can't wish away the sale of drugs online by threatening to ban businesses, instead of regulating the sector.

Closing Remarks

- In the past eight years, the **market penetration of e-pharmacies has seen a growth from 3% to 5%.** It is an important option for consumers for buying chronic care medicines for diabetes, high blood pressure, cardiac issues, and so on.
- Hence, an outright ban on heaving e-pharmacies to the hellbox must be avoided. It goes against the government's intent of building digital infrastructure as a key pillar driving India's long-term growth strategy.

- Moreover, **the potential of India's over $344 million e-pharmacy market is promising**. It's expected to grow at an enviable 40–45%, all because of the surging internet connectivity, mobile phone penetration, government initiatives and rising investments.
- While **regulating drugs and medicines is crucial to public health and safety,** the **efficient and legitimate functioning of e-pharmacies can be ensured with comprehensive norms.**
- It's the <u>lack of unambiguous laws regulating, controlling and monitoring online players that can lead to an adverse effect on the health of the nation.</u>

SODIUM INTAKE
GS-II HEALTH

Context
- Two million deaths can be prevented by 2025 and seven million by 2030 if policies recommended by the **World Health Organization** to reduce sodium intake are implemented, according to the **WHO Global Report on Sodium Intake Reduction.**

Findings of the Report
Importance of reducing Salt Intake
- Reducing salt intake has been identified as one of the **most cost-effective measures countries can take to improve population health outcomes.**
- Key salt reduction measures will generate **an extra year of healthy life** for a cost that falls below the average annual income or gross domestic product per person.

Sodium Country Score
- The report allocated a sodium country **score from 1 (the lowest level) to 4 (the highest level)** to each member state based on the level of implementation of sodium reduction policies and other measures. This is a first-of-its-kind step.
- The sodium country score is <u>used to estimate the impact of policy progress on population dietary sodium intake and cardiovascular disease.</u>

Scores obtained
- Of the 194 WHO member states, **56 remain in score 1 in the sodium country score-card,** without further measures implemented in the WHO African Region and among low-income countries. Ninety-eight implemented either voluntary, or mandatory policies and other measures, and scored higher.

Targets met before
- Just under half of these member states had already made a sodium reduction policy commitment by 2013, the year of the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases and the global sodium reduction target.

Policies in place
- **Only nine countries** (Brazil, Chile, Czech Republic, Lithuania, Malaysia, Mexico, Saudi Arabia, Spain, and Uruguay) have a comprehensive package of recommended policies to reduce sodium intake.

Policy Implementation status
- Of the 194 WHO member states, **55 percent have implemented sodium reduction policies** and other measures through mandatory and voluntary approaches.

Policy Commitment
- **79 percent have a policy commitment towards sodium reduction**. Even though there is little variation across WHO regions, low-income countries less frequently have stated sodium reduction commitments.

Role of Schools in Salt reduction
- The most common setting in which **public food procurement and service policies** are applied in schools.
- Forty-three member states have set standards for foods and beverages offered during school lunches, other meals, or snacks, while 31 member states have set standards for foods and beverages sold in school cafeterias, tuckshops, snack bars, or vending machines.
- Five member states (Cabo Verde, Kiribati, Mongolia, Republic of Korea, and Seychelles) have set **sodium-specific standards** for food sold around the school perimeter.

Most implemented measures
- The most implemented sodium reduction measure is **voluntary media campaigns (49 percent),** followed by reformulation (34 percent) and public food procurement and service policies that are both mandatory and voluntary.

Reduction of Sodium in Manufactured food- An important opportunity
- The variation of sodium content in manufactured food offers an important opportunity for sodium reduction through reformulation and showed that **reducing sodium in processed food is possible.**
- Bread and bread products are the most targeted food category for sodium reduction across the implemented reformulation policies in member states. This was followed by meat, poultry, game or fish, ready-made and convenience foods, composite

dishes, and savoury snacks.

Mandatory Maximum Limit for Sodium Content

- The South African government introduced a **mandatory maximum limit for sodium content in 2013** and it was set for products in 13 food categories — including bread, breakfast cereals, margarine, meat products, snack foods, and soup mixes.
- Food companies were given a period of three years to ensure that their products were compliant.
- The **regulation came into effect in June 2016** and further reduction was expected three years later in 2019.
- Evidence from the **WHO Study on Global Ageing** and adult health suggests a reduction of 400 mg/day sodium (1.15 g/day salt) between 2015 and 2019.

RAJASTHAN'S RIGHT TO HEALTH BILL   GS-II HEALTH

Context
- The recently concluded Budget session of the Rajasthan Assembly revived the debate around the Right to Health Bill.

Background
- The Right to Health Bill, if passed, **will provide mandatory free and affordable medical services in hospitals, clinics and laboratories** — both public and privately owned.
- Rajasthan would be the **first State government to establish and protect the legal rights of patients** to access equitable healthcare services. The Bill also provides for strengthening the public healthcare system.

Objections
- Faultlines have emerged around the legislation's passage.
- Private hospital doctors object to the Bill citing it is **hastily drafted, ignores ground realities and may tighten norms in an already over-regulated field.**
- Civil society groups and activists, however, note that while the **Bill needs clarity and could be sharpened to avoid implementation loopholes, it is an important starting point in framing healthcare as a tangible "Right" for citizens.**

What does the Bill say?
- Rajasthan Government tabled the **Right to Healthcare Bill, 2022** in the Rajasthan State Assembly in September 2022.
- The Bill provides rights to patients and healthcare providers, places the obligation on the government to protect these legal rights and mandates the setting up of grievance redressal mechanisms.

Features and Benefits
- The legislation will be a **progressive reduction in out-of-pocket expenditure in seeking, accessing or receiving health care**" for patients, the preamble states.
- Rajasthan residents will be entitled to **free check-ups, drugs, diagnostics, emergency transport and care at all public health institutes, along with affordable surgeries.**
- The Bill frames **medical services as a public service** rather than a vehicle for making money.
- The Bill further avers that no private health care facility should deny **emergency care to anyone** -- even if the patient is not able to pay at the time.
- The Bill lays down 20 rights a State resident will be entitled to — including the right to informed consent, to seek information (in the form of medical records and documents) regarding diagnosis and treatment, to keep this data confidential and private and to receive treatment without discrimination **based on caste, class, age, gender, among other markers.**
- The Bill **shifts the burden of responsibility in providing adequate medical services to the government.**
- The government **is "obligated" to provide funds, set up institutions and constitute grievance redressal systems**.
- They **must take the initiative to set up a State Health Authority and district health authorities**. Beyond resolving complaints, the authorities would be tasked with planning healthcare services, monitoring services and conducting routine clinical, social and economic audits. Such decentralisation is a "regional approach to offering healthcare and it **allows for context-specific healthcare planning which is in tune with local healthcare needs.**
- Moreover, the Bill also **talks about the safety of healthcare providers and improving public health infrastructure**.
- The Bill **mandates that the government develop a Human Resource Policy** for Health ensuring the availability and equitable distribution of doctors, nurses and other healthcare workers at all levels of the system across regions. This focus on making services equitable and qualitative "works in favour of the healthcare providers and helps to **improve the patient-doctor relationship.**

Does the Constitution guarantee a right to health?
- The Indian Constitution **does not explicitly talk about a right to health.**
- A "right to health", in theory, is **derived from the right to life and liberty as guaranteed under Article 21 of the Constitution**.

Court Verdicts

- Previously, courts have highlighted the State's obligation to protect and promote the health of citizens, pointing to Constitutional provisions such as
  - Article 38 (promoting the welfare of people) and
  - Article 47 (which directs the government to meet the nutrition and health requirements of the population).
- In *Paschim Banga Khet Mazdoor Samity v. State of West Bengal (1996),* the Supreme Court averred that it is the government's responsibility to provide medical aid in the interest of bolstering public health.

As per a 2013 study, more than half of the world's countries have a guaranteed and specified right to public health and medical care written into their constitutions. An Act, will "legally bind the government" to protect the health of its citizens, and "how much of that is met or not met is a different question".

Opposition by various stakeholders

By Private healthcare providers

- **Private healthcare providers** are accusing of **ambiguity around who will pay for the mandatory free-of-cost emergency treatment**.
- It **abdicates the State's responsibility in providing health protection** and puts a larger patient load on the private sector.

Govt. Opinion:

- It calls the above narrative "misleading" because the Bill is anchored around bolstering public healthcare infrastructure and protecting patients' rights, with private service providers finding sparse mention. After protests, the government has agreed to create a fund to reimburse any emergency care offered by the private sector.

By Doctors

- Doctors argue the Bill is both futile and an exercise in over-regulation. Clinics and hospitals are required to abide by State regulations and norms. The National Human Rights Commission has also proposed a patients' rights charter for healthcare providers.
- A designated "right" to health would do little to improve equitable patient access to facilities, just like a mandated "right" to education still suffers from challenges including lacking awareness, poor implementation, bureaucratic difficulties and inability in reaching last-mile access.

Health activists and civil society members

- Health activists and civil society members agree the Bill, in its current form, is a **"diluted" version** of the draft which activists and *Jan Swasthya Abhiyan* submitted to the government in 2019.
- For instance, **there is no representation of local residents or healthcare workers in the State and district authorities** proposed by the Bill. Who will form these authorities and the power that will be delegated to them is a grey area – raising fear of executive overreach and arbitrariness in implementation.
- The Jaipur Medical Association further critiqued the Bill for a **"lack of a legal recourse if a patient's family wants to approach the court about a medical procedure or treatment".**

Other

- There's **no mention of a designated timeframe within which the rules must be framed** and the **Bill loosely mentions the term "guarantee" -- which makes the actual execution of an Act ambiguous.**
- The development of the Human Resource Policy for Health, for instance, and subsequent delivery of health services **would be pointless without any clarity on how the government plans to address the shortage of doctors, nurses and auxiliary support staff at the State level.**

Conclusion

- There's **much more scope for further improvement to make the Bill robust**.
- The Government **should address all the grievances and take all the stakeholders in confidence** and then pass the Bill.

UNIVERSAL HEALTH CARE — *GS-II HEALTH*

Context

- India is exploring the possibility of moving toward Universal Health Care.

About

- Universal health care is **a health care system in which all residents of a particular country or region are assured access to health care.**
- It is generally organized around providing either all residents or only those who cannot afford on their own, with either health services or the means to acquire them, with the end goal of improving health outcomes.

- Universal healthcare **does not imply coverage for all cases and for all people** – only that all people have access to healthcare when and where needed without financial hardship.
- As part of **Sustainable Development Goals, United Nations** member states have agreed to work toward **worldwide universal health coverage by 2030.**
- Universal Health Care/coverage (UHC) was implied as early as 1977.

Benefits
- Gives each legal citizen of a country the ability to access health care services regardless of their ability to pay.
- Eliminates the hierarchy of levels of care based on the ability to pay.
- Lower costs for both citizens and health care providers.
- There is no competition between health insurance companies. Instead, the government regulates health care costs. This drives the cost of healthcare down substantially.
- Reduces administrative costs for doctors and health care practitioners, as there is no need to deal with varying insurance companies.
- It removes the competition.
- It removes rules and cumbersome processes.

Challenges
- A universal health care system may limit costly services that have a low probability of success.
- Longer wait times to access elective procedures, and funds are focused on essential health care services for the population.
- Universal health care can take up an enormous portion of a government's yearly budget, in some cases totaling 40% of the total.
- It can limit new technologies. Because there is such a drive to keep costs down, innovation can fall behind in a universal system of health care compare to a free-market system.

Looking Forward
- Every individual has a right to be healed and not have complications, disability and death. That right is guaranteed only by individualism in public health, the new global approach to UHC, where **"nobody is left uncounted and uncared for".**
- Let us move forward with a newer concept of UHC which **encompasses primary, secondary and tertiary care for all who need it at affordable cost without discrimination.**
- **Need of the hour:** a multi-nodal system of varied sectors, professional streams and specialities with a variety of staff to deliver Comprehensive Universal Health Care.
- A system that coordinates across insurer, service provider, doctors & patients eventually driving rewards for better health outcomes would benefit the country significantly. It brings the burden of increasing cost of care down & push people towards leading healthier lives.
- India doctor to population ratio of 1:854 is better than WHO recommended 1:1000. However, the spread across various parts of country is uneven which needs to be solved. **National Commission for Allied Healthcare Professionals (NCAHP) Act, 2021** is focussed on improving quantum of allied health professionals coming out of institutions every year.
- Our policy shifts in making UHC a reality **need to be very structured & transformational.**

NATIONAL RABIES CONTROL PROGRAM   *GS-II HEALTH*

Context
- The Central Government has launched the National Rabies Control Programme (NRCP) for prevention and control of Rabies.

Details
The Strategies of the National Rabies Control Program are as follows:
a) Provision of rabies vaccine & rabies immunoglobulin through national free drug initiatives.
b) Training on appropriate animal bite management, prevention and control of rabies, surveillance and intersectoral coordination.
c) Strengthening surveillance of animal bites and rabies deaths reporting.
d) Creating awareness about rabies prevention.

Rabies
- Rabies is a viral disease that causes encephalitis in humans and other mammals.
- Rabies is caused *by lyssaviruses,* including the rabies virus and Australian bat lyssavirus. It is spread when an infected animal bites or scratches a human or other animals. Saliva from an infected animal can also transmit rabies if the saliva comes into

contact with the eyes, mouth, or nose. **Globally, dogs are the most common animal involved**. In countries where dogs commonly have the disease, more than 99% of rabies cases are the direct result of dog bites.

- Early symptoms can include **fever and tingling at the site of exposure**. These symptoms are followed by one or more of the following symptoms: **nausea, vomiting, violent movements, uncontrolled excitement, fear of water, an inability to move parts of the body, confusion, and loss of consciousness.**

Prevention

- The rabies vaccine is a **vaccine used to prevent rabies**. There are a number of rabies vaccines available that are both safe and effective. They can be used to prevent rabies before, and, for a period of time, after exposure to the rabies virus, which is commonly caused by a dog bite or a bat bite.

Other steps taken by the Government to control Rabies
'National Action Plan For Dog Mediated Rabies Elimination (NAPRE) from India by 2030'

- Ministry of Health & Family Welfare and Ministry of Fisheries Animal Husbandry & Dairying, Government of India jointly launched **'National Action Plan For Dog Mediated Rabies Elimination (NAPRE) from India by 2030'**. The stray dog population control and management of the stray dogs is the mandate of the local bodies.

Animal Birth Control (Dogs) Rules, 2023

- The Central Government has framed the **Animal Birth Control (Dogs) Rules, 2023** which is to be implemented by the local authority to control the population of stray dogs. The main focus of the rules is on anti-rabies vaccination of stray dogs and neutering of stray dogs as means of population stabilization.

ABC (Dogs) Rules, 2001

- As per the directions of the Hon'ble Supreme Court of India directed all the State Governments to implement the **ABC (Dogs) Rules, 2001** diligently to control the stray dog population, to constitute the **State Level Monitoring Committee & District Level Monitoring Committee** to address the issues related to stray dogs in the respective local bodies.
- Accordingly, the Animal Welfare Board of India has also forwarded a revised module to all the State Governments regarding the proper implementation of the **Animal Birth Control Programme.**

Advisory by the Animal Welfare Board of India

- The **Animal Welfare Board of India** has issued following advisories / guidelines for proper implementation of the Animal Birth Control Rules.

GENERAL STUDIES – III

FUGITIVE ECONOMIC OFFENDER ACT	*GS-III ECONOMY*

Context
- India has called upon G20 countries to adopt multilateral action for faster extradition of fugitive economic offenders and recovery of assets both on the domestic front as well as from abroad.

Fugitive Economic Offender Act

Introduction
- The Fugitive Economic Offenders Act, 2018 (FEOA) was introduced by the Indian Parliament in April 2018 with the intention of punishing economic offenders for an array of offences involving fraud and corruption.
- The Act recognises the necessity to serve justice to the economic offenders, who flee the country to evade punishment for their illegal financial activities.

Fugitive Economic Offender
- According to the Fugitive Economic Offenders Act (FEOA), 2018, a fugitive economic offender is any individual against whom a reasonable arrest warrant has been issued for his or her involvement in economic offences with the value of Rs. 100 crore or above and has left India to avoid prosecution.

Features of Fugitive Economic Offenders Act
The features of Fugitive Economic Offenders Act are as follows:
- Under the Fugitive Economic Offenders Act, an individual is declared as a Fugitive Economic Offenders (FEO) on satisfying the following conditions
  - Any arrest warrant has been issued for committing an offence specified under the Act, and the total value of the offence is at least Rs 100 crore.
  - Any person who left the country and refused to face criminal prosecution.
- To declare the person as an FEO, an application has to be filed in a "Special Court" specified under the Prevention of Money-Laundering Act, containing the details of the properties to be confiscated, and any other information about the FPO.
- The Special Court will declare a notice to an individual to appear at a specified place and date within six weeks from the issuance of notice.
- Also, FEOA allows designated authorities to provisionally attach properties of an accused, while the application is pending before the Special Court.
- In the case of the person appears in the specified date, the proceedings will be terminated. If not, the person would be declared as a Fugitive Economic Offender.
- Upon declaration as an FEO, the properties of the individual may be confiscated and vested in the Central Government. Further, the FEO or any company incorporated with the economic offender would be barred from filing or defending any civil claims.

Applicability of the Act
- The provisions under this Act is applicable to any individual who is fugitive economic offender on or after the date of commencement of Fugitive Economic Offenders Act.

Powers of Director
The Director or any other concerned authority appointed by the Central Government will undertake the following activities as specified below:
- Discovery and inspection
- Examination of Economic Offender
- Maintaining the attendance of any person, including any officer of a reporting entity
- Enforcing the production of records
- Obtaining evidence on affidavits
- Issuing commissions for verification of witnesses and documents and
- Any other particulars as prescribed.

Application for declaration of Fugitive Economic Offender
- **Step 1:** A Director appointed by the Central Government is responsible for filing an application to a special court in order to declare the person as a Fugitive Economic Offender. The application to be filed should possess the following details:
  - Reason to believe than an individual is a fugitive economic offender
  - Any information related to the fugitive economic offender.
  - Details and value of such properties including any such property outside India for which confiscation is made.
  - Benami properties owned by an individual in India or abroad for which confiscation is made.

o   Details of the persons who have the interest to purchase properties listed above.

Issuance of Notice

- **Step 2:** Upon receipt of the application, the Special Court will issue a notice to the Fugitive Economic Offender.
- **Step 3:** As specified in the notice, the individual has to appear in person or through counsel.
- **Step 4:** If the Special Court is satisfied on the service of notice the Special Court will records reasons and hear the application.
- **Hearing of the Application**
- **Step 5:** Upon hearing the application, the Special Court can declare the individual to be an FEO.
- **Step 6:** If an individual is declared as an FEO, then the Special Court is allowed to order confiscation against the crime made by FEO in India or abroad.

Confiscation Order

- **Step 7:** The confiscation order will be handled by the Central Government, along with the identification details of the same.
- **Step 8:** In the case that the Special Court declares the person is not to be an FEO, then the property seized will be ordered to be released to the concerned person.

Appeal

- **Step 9:** However, the Director can appeal to the Concerned High Court within thirty 30 days against the order of the Special Court.

Attachment of Property

- The Director, with the permission of the Special Court, can attach the details of the property as specified above. The Director has to attach the property by an order in writing within 30 days from the date of filing the application before the Special Court. The attachment of such property would continue for the period of 180 days from the date of order of such attachment. Further, it can also be extended on recommendations from the Special Court.

Confiscation of Property

- The Special court will appoint an administrator to oversee the confiscated property. This person will be responsible for disposing of the property as well, and the property will be used to satisfy creditors' claims.

Closing Remarks

- According to the Directorate of Enforcement, since 2014, the fugitive economic offenders, viz. Vijay Mallya, Nirav Modi, Mehul Choksi, Nitin Jayantilal Sandesara, Chetan Kumar Jayantilal Sandesara, Dipti Chetan Sandesara and Hitesh Kumar Narendrabhai Patel are wanted in financial crimes involving thousands of crores of rupees.
- India's view is that strengthening mechanisms for speedy confiscation of the proceeds of crime, both at home and abroad, will force the offenders to return to their home country. This will allow for an effective investigation and speedy trial for the related offence and this would also help the banks and other financial institutions and tax authorities to achieve recovery from defaults committed by such FEOs, thus restoring, to some extent the overall health of these banks and other financial institutions, while eliminating the possibility of further misuse of these funds.
- Corruption is a complex social, political, and economic challenge affecting all countries and in a globalised world, corruption has ramifications across the world. It adversely impacts the effective utilisation of resources, creates market distortions and adversely impacts the quality of life of citizens, impacting the benefits of globalisation and consequently, economic growth and overall governance and most disproportionately affecting the poor and most marginalised.
- For better coordination, streamlining of the judicial processes and timely disposal of cases, there is a requirement for multilateral action rather than bilateral coordination, which proves to be more complex and presents obstacles in making progress on cases related to FEOs and recovery of related assets.

IMF BAILOUTS   GS-III ECONOMY

Context

- The International Monetary Fund (IMF) confirmed a $3 billion bailout plan for Sri Lanka's struggling economy. Negotiations are also being held with Pakistan for a $1.1 billion bailout plan.

How does the IMF help countries?

- The IMF basically **lends money, often in the form of special drawing rights (SDRs), to troubled economies that seek the lender's assistance.**
- The IMF carries out its lending to troubled economies through a number of lending programs such as:
  o   the extended credit facility,
  o   the flexible credit line,
  o   the stand-by agreement, etc.
- Countries receiving the bailout can use the SDRs for various purposes depending on their individual circumstances. any money that they receive from the IMF is likely to go towards addressing these urgent issues.

> The SDR is an international reserve asset. The SDR is not a currency, but its value is based on a basket of five currencies—**the US dollar, the euro, the Chinese renminbi, the Japanese yen, and the British pound sterling**.

Conditions attached to an IMF bailout

- A country may have to **agree to implement certain structural reforms** as a condition to receive IMF loans.
- The IMF's conditional lending has been controversial as many believe that **these reforms are too tough on the public.**
- Some have also accused the IMF's lending decisions, which are taken by officials appointed by the governments of various countries, to be **influenced by international politics**.
- Supporters of the IMF's lending policies, however, have argued that conditions are essential for the success of IMF lending. For one, countries that seek an IMF bailout are usually in a crisis due to certain policies adopted by their governments that turned out to be inimical to economic growth and stability.
- **Corruption is another issue.** The IMF lending to troubled economies, may turn out to be a wasted effort because these economies have poor institutions and suffer from high corruption.

Details

Need for IMF bailout

- Countries seek help from the IMF usually when their economies face a major macroeconomic risk, mostly in the form of a currency crisis.

Conditions in Pakistan and Sri Lanka

- Both countries have **witnessed domestic prices rise rapidly and the exchange value of their currencies drop steeply against the U.S. dollar**.

Reasons

- Such currency crises are generally the result of **gross mismanagement of the nation's currency by its central bank**, often under the covert influence of the ruling government.
- Central banks may be forced by governments to **create fresh money out of thin air to fund populist spending**.
  - Such spending eventually results in a rapid rise of the overall money supply, which in turn causes prices to rise across the economy and the exchange value of the currency to drop.
- A country's **domestic economic policies can also have an adverse impact on its currency's exchange rate and foreign exchange reserves**. For example, economic policy that imperils productivity can affect a country's ability to attract the necessary foreign exchange for its survival.
- **Bad luck can also contribute to a crisis**. In the case of Sri Lanka, a decrease in foreign tourists visiting the country led to a steep fall in the flow of U.S. dollars into the nation.

Impact

- A rapid, unpredictable fall in the value of a currency **can destroy confidence in said currency** and affect economic activity as people may turn hesitant to accept the currency in exchange for goods and services.
- **Foreigners may also be unwilling to invest in the economy** where the value of its currency gyrates in an unpredictable manner.
- In such a scenario, **many countries are forced to seek help from the IMF to meet their external debt and other obligations, to purchase essential imports, and also to prop up the exchange value of their currencies**.

● SOCIAL STOCK EXCHANGE

GS-III ECONOMY

Context

- The National Stock Exchange (NSE) has received final approval from the Securities and Exchange Board of India, to set up a Social Stock Exchange (SSE) as a separate segment of the NSE.

What is an SSE?

- An SSE allows the listing of non-profit or Non-Government Organisations (NGOs) on stock exchanges, providing them with an alternative fund-raising structure. It may be listed on BSE or NSE. The idea of SSE was first floated by Finance Minister Nirmala Sitharaman in her 2019-20 Budget speech. Countries like the UK, Canada and Brazil have SSEs.
- The fundraising is proposed through several instruments such as **zero-coupon-zero-principal bonds, social venture funds and mutual funds.**

What are the objectives of SSEs?

- A Social Stock Exchange may be helpful in rebuilding the livelihoods of people as the investments will have a social impact.
- The SSEs will aim at unlocking large pools of social capital, and encourage blended finance structures, so that conventional

capital can partner with social capital to address urgent social issues.

Example

- The Cancer Fund by HDFC Mutual Fund is one example. It operates as a standard mutual fund, with the exception that the returns generated are channelled towards the financing of Non-Profit Organizations. Its investors get their money back from HDFC MF, but any interest or gains that are made are donated to the NPO.

What instruments will NPOs offer on SSEs?

- The SEBI working group report lays out several funding instruments such as **zero-coupon-zero-principal bonds, social venture funds, and mutual funds,** "providing a wide gamut of options to "donor" investors looking to invest with an objective to create a social impact. This initiative may also enable companies to be able to deploy CSR funding by connecting directly with social organisations.

Eligibility to participate in SSEs

- Social enterprises eligible to participate in the SSE will be Not-for-Profit organisations (NPOs) **as well as for-profit** social enterprises.
- Social enterprises eligible to participate in the SSE will be entities - NPOs and for-profit social enterprises - **having social intent and impact as their primary goal**. Also, such an intent should be demonstrated through its focus on eligible social objectives for the underserved or less privileged populations or regions.
- The social enterprises will have to engage in a social activity out of 16 broad activities listed by the regulator- SEBI. Some of the eligible activities include:
  o Eradicating hunger, poverty, malnutrition and inequality
  o Promoting health care including mental healthcare, sanitation and making available safe drinking water
  o Promoting education, employability and livelihoods
  o Promoting gender equality, empowerment of women and LGBTQIA+ communities
  o Promoting welfare of migrants and displaced persons.
  o Promotion of financial inclusion
  o Slum area development, affordable housing
  o Protection of national heritage, art and culture
  o Supporting incubators of Social Enterprises
  o Disaster management, including relief, rehabilitation and reconstruction activities
- Further, the organisations **will have to prove that over 67% of their business is related to activities like above to be recognised as a Social Enterprise.**
- Corporate foundations, political, religious organisations, professional or trade associations, infrastructure and housing companies **will not be eligible for** listing on the SSEs. However, the affordable housing segment will be eligible for the same.
- With regard to minimum requirements to be met by a NPO, **NPO needs to be registered as a charitable trust and should be registered for at least three years, must have spent at least Rs 50 lakh annually in the past financial year and should have received a funding of at least Rs 10 lakh in the past financial year.**
- NPOs raising funds through the issuance of zero coupon zero principal instruments, need to make disclosure about its vision, disclose target segment (those affected by the problem and how are they affected) and approach to accomplish its planned activities; details of its governing body, composition, dates of board meetings held; and details of key managerial staff.
- NPOs **need to make disclosure of financial statements for last three financial years**, details of past social impact and risks that they see to its work and how it proposes to mitigate these.
- In respect of annual disclosure by NPOs on SSE which have either raised funds through SSE or are registered with SSE, such NPOs will have to **disclose details of** the top five donors or investors **in terms of budget, scale of operations, including employee and volunteer strength, governance structure, financial statement, programme-wise fund utilisation** for the year and auditors report and auditor details.

How will SSEs work?

- The SSE shall be a separate segment under the existing stock exchanges. It is a set of processes **that act as a filter, selecting only those entities that are creating measurable positive social impact and reporting such impact.**

What are the tax benefits?

- Investors will get Section 80G benefits which allow all investments in securities/instruments of NPOs listed on SSE to be tax deductible, and corporates to deduct CSR expenditure from their taxable income, among other things.
- Investment by companies will be considered as part of their Corporate Social Responsibility (CSR) initiatives.

What is the size of the market?

- India has over 31 lakh NPOs – more than double the number of schools and 250 times the number of government hospitals, which amount to one NPO for 400 Indians.

Significance of SSEs

- SSE is a novel concept in India and it is meant to **serve the private and non-profit sectors by channelling greater capital to them.** It will also **make investing in social ventures easier for morally conscious investors.**
- This would be set up "under the regulatory ambit of SEBI for listing social enterprises and voluntary organisations **working for the realisation of a social welfare".**
- The establishment of the Social Stock Exchange is expected to create more opportunities for Social Auditors since the regulation makes it mandatory for social enterprises which are keen to list on the platform and raise money to undergo social audit.

SAMARTH SCHEME   *GS-III ECONOMY*

Context

- Out of the skilling target of 3.47 lakh beneficiaries allocated so far, 1.5 lakh beneficiaries have been provided training under the Samarth Scheme.

Samarth Scheme Details

- Samarth is a **demand-driven and placement-oriented** umbrella skilling program **of the Ministry of Textiles.**
- The **implementation period of the scheme is up to March 2024**.
- The scheme was formulated under the broad skilling policy framework adopted by **M/o Skill Development & Entrepreneurship.**

Aim of the Scheme

- Samarth **aims to incentivize and supplement the efforts of the industry in creating jobs** in the organized textile and related sectors, covering the entire value chain of textiles, **excluding Spinning and Weaving.**

Objectives of Samarth Scheme

The main objectives of the Samarth scheme are:

- Providing skilling programmes that are **National Skills Qualifications Framework (NSQF)** certified and are based on the demand and placement driven.
- To assist and **enhance the sector's job-creation initiatives.**
- Organise around the textile industry, **omitting spinning, weaving, and related sectors.**
- To improve and strengthen one's talents in the traditional industry that comprises jute, handicrafts, sericulture, and handloom.
- To guarantee that everyone in the nation has a sustainable means of subsistence whether they are self-employed or engaged for pay.

Implementation

- The scheme is implemented through Implementing Partners (IPs) comprising of **Textile Industry/ Industry Associations, State government agencies and Sectoral Organizations of Ministry of Textiles like DC/ Handloom, DC/Handicrafts and Central Silk Board.**

The organisations listed below will carry out the skill-building initiatives for the Samarth scheme

- Institutions or groups connected to the textiles industry and the state or federal governments that have training resources and connections to the textile industry for job placement.
- Reputable training facilities, NGOs, groups, trusts, and corporations.
- Businesses, startups, and business owners who have a textile industry agency agreement.

Features of Samarth Scheme

- The training programme and course curriculum have been rationalized keeping in view the technological and market demand of the domestic and international economies.
- In addition to the entry level skilling, a **special provision for upskilling/ re-skilling programme** has also been operationalized under the scheme towards improving the productivity of the existing workers in Apparel & Garmenting segments.
- Samarth also caters to the **upskilling/ re-skilling requirement of traditional textile sector such as handloom, handicraft, silk and jute.**

- A total of 184 courses aligned with **National Skill Qualification Framework (NSQF)** have been adopted under the scheme across various textile segments covering traditional sector like Handloom/ Handicrafts to conventional sector like Garmenting to advanced sector like Technical Textiles.

Execution and Monitoring

- There is an **end-to-end Digital solution for ease of implementation and monitoring**.
- Samarth has been formulated with advanced features such as <u>Aadhaar Enabled Biometric Attendance System (AEBAS), Training of Trainers (ToT), CCTV recording of the training programme, a dedicated call centre with helpline number, mobile app, Web-based Management Information System (MIS), on-line monitoring</u> of the training process etc.
- The State, District, Training Centre-wise information/ **data in the dashboard is available in the public domain.**
- **Employment linkage is mandated in the courses** under the organized textile sector with mandatory placement 70% in entry-level & 90% for Upskilling programmes.
- Also, a mobile app for physical verification of the training centres with **Geo-tagging/time-stamped photographs.**
- Besides, **third-party assessment trainees and QR code-enabled e-certificate has been operationalized for this purpose**. Additionally, all trainers are accredited through the Training of Trainers (ToT) (Online & Offline mode) programme through due process.

Evaluation of the Scheme

- The scheme has been **penetrated across 28 States and 6 Union territories of the country** and <u>caters to all sections of society including SC, ST and other marginalized categories</u>.
- Out of the skilling target of 3.47 lakh beneficiaries allocated so far, 1.5 lakh beneficiaries have been provided training.
- **More than 85% of the beneficiaries trained so far under the scheme are women.**
- More than **70% of the beneficiaries trained in organized sector courses have been provided placement.**

OPEN NETWORK FOR DIGITAL COMMERCE (ONDC)　　　　　　*GS-III   ECONOMY*

Context

- Open network for digital commerce (ONDC) will help small retailers survive the onslaught of large tech-based ecommerce companies, union minister Piyush Goyal said.

About ONDC

- Open Network for Digital Commerce, abbreviated ONDC, is **a private non-profit Section 8 company established by the Department for Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry of Government of India to develop open e-commerce.**
- It was **incorporated in 2021 with initial investment from Quality Council of India and Protean eGov Technologies Limited**(formerly NSDL e-Governance Infrastructure Limited).
- Often referred to as the UPI of e-commerce, ONDC is a freely accessible government-backed platform that aims to democratize e-commerce by moving it from a platform-centric model to an open network for buying and selling goods and services.

Aim

- The ONDC (Open Network for Digital Commerce), is **an initiative aiming at promoting open networks for all aspects of exchange of goods and services over digital or electronic networks**.
- Open Network for Digital Commerce (ONDC) is being seen as a step in the direction of **democratizing the e-commerce space in India, mainly controlled by multinational players Amazon and Flipkart.**

What led to the creation of ONDC?

- Technological self-reliance, demand for level playing field mainly from small retailers, smoothen the ease of doing business online, adoption of open digital ecosystem across key sectors and fixing the non-competitive behavior of big ecommerce firms like Amazon and Flipkart to capture the US$810 billion domestic retail market led to the creation of ONDC.
- It will also help check Big Tech companies violating Consumer Protection (E-Commerce)
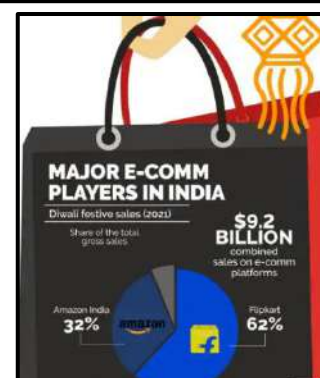
(Amendment) Rules, 2021 due to concentration of market power by integrating them into a decentralized open-source platform.

Major Objectives

The major objectives include:

- Ending monopolies of the platforms
- Democratisation and decentralisation
- Digitisation of the value chain
- Standardisation of operations
- Inclusivity and access for sellers, especially small and medium enterprises as well as local businesses
- Increased efficiency in logistics
- More choices and independency for consumers
- Ensured data privacy and confidentiality
- Decreased cost of operation

It is compared to unified payments interface (UPI)

Key Features

- Unlike the platform-based model, the ONDC will not be owned or controlled by a single entity or platform.
- Businesses and consumers will be able to carry out transactions over ONDC using any compatible application of their choice.

ONDC Advisory Council

- **About:** The primary role of the advisory council is **to watch over ONDC implementation in the country**.
- **Member and Convener:** The members were selected based on their experience in fields such as technology, finance, commerce etc. Convener of the ONDC Advisory Council is Additional Secretary from Department for Promotion of Industry and Internal Trade under Ministry of Commerce and Industry.

Structure

- The ONDC uses "free softwared methodology, open specifications and open network protocol".
- The backend of the ONDC is built on Beckn Protocol, an open and interoperable protocol for decentralized digital commerce. Beckn Gateways provides anonymised aggregated data generated from the network.
- On the ONDC, the consumers and merchants can transact for goods and services via open protocol instead of the central platform or application.

PERIODIC LABOUR FORCE SURVEY (PLFS) REPORT — GS-III ECONOMY

Context

- The NSSO's latest annual Periodic Labour Force Survey (PLFS) report for 2021-22 (July-June) shows the farm sector's share in the country's employed labour force at 45.5%. That's down from 46.5% in 2020-21, but still higher than the 2018-19 low of 42.5%.

PLFS

- But from 1st April 2017, the NSSO has adopted a new employment and unemployment survey called Periodic Labour Force Survey (PLFS).
- First report of the PLFS was published in June 2019 for the period of 2017-18.
- The PLFS has now become the major employment and unemployment data of the NSSO; replacing the previous five-year surveys.
- Since the PLFS aims to provide more employment data for more frequent intervals (annual and quarterly), the PLFS is superior to the earlier five-year employment estimates.
- Methodologically, the PLFS is different from the earlier quinquennial surveys in terms of survey methodology, data collection

mechanism and sampling design.

Measurement approaches under PLFS

- Unemployment rate for PLFS is measured under two approaches – Usual Status and Current approach and Weekly Status approach. The reference period for usual status (ps+ss) approach is 1 year and that for current weekly status approach is 1 week.

Current Weekly Status (CWS)

- The estimates of unemployed in current weekly status give an average picture of unemployment in a short period of 7 days during the survey period.
- Current weekly status measures the number of persons worked for at least 1 hour on any day during the 7 days preceding the date of survey.
- Thus, the workforce measured in current weekly status (CWS) gives the average picture of the workforce in a short period of one week during the survey period.

Usual Status

- The Labour Force under usual status approach is estimated by considering a time period of one year. It is estimated by clubbing two categories – usual principal status (ps) category and subsidiary status (ss) category.
- The estimate of the labour force in the usual status (ps+ss) includes
- (a) the persons who either worked or were available for work for a relatively long part of the 365 days preceding the date of survey and also
- (b) persons among the remaining population who had worked at least for 30 days during the reference period of 365 days preceding the date of survey.

Worker Population Ratio (WPR)

- Worker Population Ratio (WPR) is the percentage of persons employed among the persons in the population.
- **Unemployment rate (UR):** Unemployment rate (UR) is defined as the percentage of unemployed persons in the labour force.
- **Educated persons for employment survey:** Educated persons are defined as those who have attained the educational level of secondary and above.
- **Educated unemployment under PLFS:** Unemployment among people who have secondary or higher education and an age of 15 years and higher.
- **Labour force participation rate (LFPR):** LFPR is defined as the percentage of persons in the labour force in the population.

Some Definitions

1. *Joblessness or unemployment rate (UR) is defined as the percentage of unemployed persons in the labour force.*
2. *In the Current Weekly Status approach, a person is considered unemployed if he/she did not work even for one hour on any day during the week but sought or was available for work at least for one hour on any day during the period.*
3. *Labour force refers to the part of the population which supplies or offers to supply labour for pursuing economic activities for the production of goods and services and therefore, includes both employed and unemployed persons.*
4. *Labour force according to Current Weekly Status approach is the number of persons either employed or unemployed on an average in a week preceding the date of survey. LFPR is defined as the percentage of population in the labour force.*

Findings of NSSO's latest annual Periodic Labour Force Survey (PLFS) report for 2021-22 (July-June)

- Chart 1 shows the share of agriculture in the total workforce over a longer time period, based on previous years' PLFS reports (also called 'Employment and Unemployment' surveys until 2011-12). That share fell from 64.6% in 1993-94 to 42.5% in 2018-19.
- The biggest decline, from 58.5% to 48.9%, happened between 2004-05 and 2011-12. During this seven-year period, the workforce engaged in farming registered, for the first time in India's history, a fall even in absolute terms — from 268.6 million to 231.9 million. The share of the labour force employed in manufacturing too, peaked at 12.6% in 2011-12.

CHART 1
AGRICULTURE VERSUS MANUFACTURING
(% share of Workforce) — AGRICULTURE — MANUFACTURING

	1993-94	1999-2K	2004-05	2011-12	2017-18	2018-19	2019-20	2020-21	2021-22
AGRICULTURE	64.6	61.7	58.5	48.9	44.1	42.5	45.6	46.5	45.5
MANUFACTURING	10.4	10.7	11.7	12.6	12.1	12.1	11.2	10.9	11.6

Source: NSSO Employment & Unemployment Surveys (till 2011-12) and Periodic Labour Force Surveys (from 2017-18)

- Since 2011-12, this structural transformation has slowed, with the share of agriculture in employment not falling fast enough and, in fact, rising after 2018-19. The share of manufacturing has dropped behind even that of construction and trade, hotels &
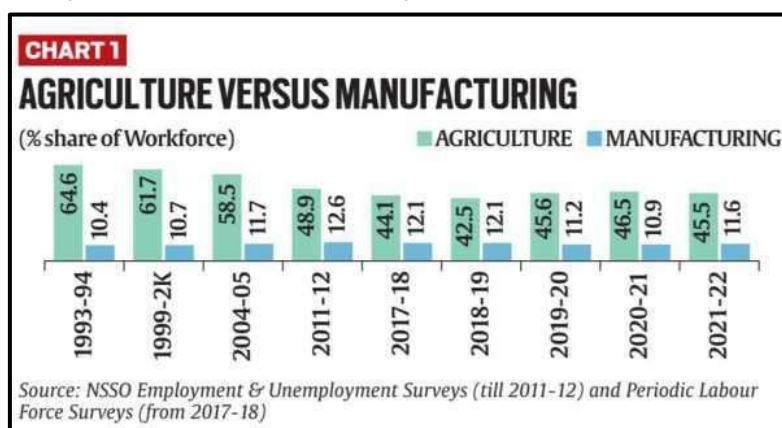
restaurants.

- In 2017-18, the latter two sectors accounted for 11.7% and 12% of the total workforce respectively, as against manufacturing's 12.1%. But in 2021-22, manufacturing's share, at 11.6%, was below that of construction (12.4%) as well as trade, hotels & restaurants (12.1%).

- In other words, the structural transformation hasn't just slowed — it has stalled, if not reversed. There is not much labour transfer taking place from farms to factories. The jobs that are getting generated outside agriculture are mostly in construction and low-paid services, whose share has overtaken that of manufacturing. The construction sector has now become the second-largest employer after agriculture. Five years ago, it was at No. 4, after agriculture, manufacturing and trade, hotels & restaurants. Today, manufacturing has been relegated to the fourth spot.

Output vs. Value added

- This links up with the second set of data, which are from the NSO's first revised estimates of national income for 2021-22, released on February 28. It also contains estimates of 'output' and 'value-added' by different sectors of the economy.

- Output is simply the gross value of production by an industry or sector. For the economy, it would mean the total value of all goods and services produced during a financial year. However, production involves the use of inputs. Further, the inputs for one industry are the outputs of other industries supplying to it. To avoid double-counting, one has to, then, deduct the value of inputs or intermediate consumption from the value of output. Since the producer merely adds value to the inputs that he uses, economists consider Gross Value

CHART 2
VALUE ADDED TO OUTPUT RATIOS (%)

Agriculture: 80.19
Manufacturing: 21.65
Mining: 58.99
Electricity, Water & Utilities: 41.76
Construction: 36.09
Trade & Hotels: 67.90
Transport & Communications: 44.56
Financial Services: 70.40
Real Estate & Professional Services: 74.49
Public Administration: 74.87
Other Services: 73.74
TOTAL: 48.32

Source: First Revised Estimates of National Income for 2021-22, National Statistical Office

Added (GVA), and not Gross Value Of Output (GVO), as a measure of aggregate production.
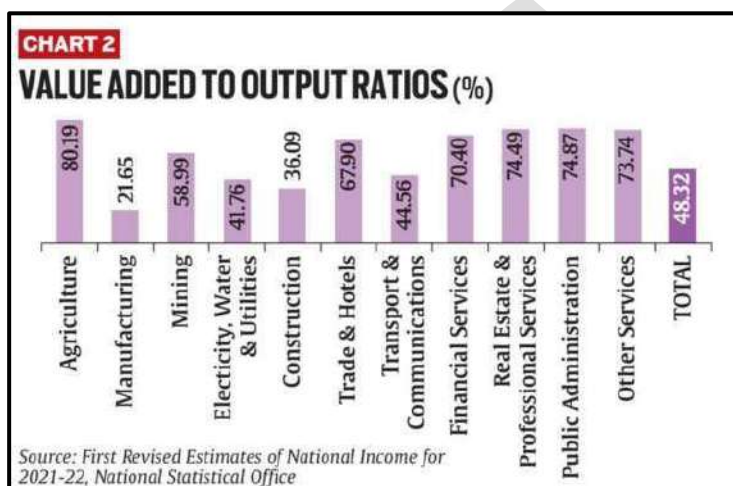
- One way to assess how much value an industry or sector actually creates in the process of production is by looking at the ratio of GVA to GVO. GVA, to repeat, is GVO at current prices minus the value of intermediate consumption. Chart 2 shows these ratios for various sectors in 2021-22, based on the NSO's latest revised estimates of national income.

- It can be seen that value addition is the highest in agriculture. For every Rs 100 worth of produce coming from Indian farms, Rs 80 is the value generated by those owning and working the lands. In 2021-22, the GVO from agriculture, forestry & fishing was estimated at Rs 50.71 lakh crore. After deducting the value of intermediate consumption (Rs 10.05 lakh crore), the GVA for the sector worked out to Rs 40.66 lakh crore.

- On the other hand, value addition is the lowest, at just over a fifth, for manufacturing. Although the GVO from manufacturing (Rs 156.90 lakh crore) was more than three times from agriculture, the value of intermediate consumption, too, was over 12 times (Rs 122.93 crore) higher. As a result, the GVA by manufacturing, at Rs 33.97 lakh crore in 2021-22, was way below agriculture.

- Purchased inputs are very little in agriculture, unlike manufacturing. The value produced comes mostly from the land rather than the seeds, fertilisers, pesticides, diesel and electricity that farmers consume.

Link with employment

- High value-addition is a key reason why agriculture is able to employ so many people. The sector's share in GVO — the total value of all goods and services produced by the country — was only 11.4% in 2021-22. When measured in terms of value-added or GVA though, the share rose to 19%. It was the other way around for manufacturing: its share in overall GVO was as high as 35.4%, while being just 15.8% relative to GVA.

- However, even taking into account high value-addition, a sector generating 19% of income — accruing to the primary factors of production, namely the owners of land (farmers), labour (agricultural workers) and capital (lenders) — cannot support 45% of the country's population.

- Moreover, the GVA-GVO ratio is not a measure of productivity. An agriculturalist may be adding more value to every unit of input he consumes than a manufacturer. But productivity is a function of output per worker or per unit of land — which is low in agriculture compared to modern manufacturing and services. It explains why the average farmer earns less than his urban counterpart. To earn more, the farmer's productivity has to go up — which means producing more on the same land with fewer hands.

- At the end of the day, there's no escaping the fact that India has too many people in agriculture. They need to be enabled to find employment in other sectors, which will, in turn, raise agriculture's productivity.

INDIA'S TEA INDUSTRY

Context
- India has taken several steps to boost tea output, create a niche brand for the Indian tea and ensure the welfare of families associated with this industry, the Commerce Ministry said.

Indian Tea
- Indian tea is among the **finest in the world** owing to strong geographical indications, heavy investment in tea processing units, continuous innovation, augmented product mix and strategic market expansion.

Major Tea growing regions
- The main tea-growing regions are in the **Northeast (including Assam) and in north Bengal (Darjeeling district and the Dooars region).**
- Dibrugarh is currently known as Tea City of India. The soil of the district is mostly fertile, alluvial soil.
- It is the gateway to the three tea-producing districts **of Tinsukia, Dibrugarh, and Sivasagar**.
- These three areas account for approximately 50% of India's Assam tea crop, and this gives Dibrugarh its rightly earned sobriquet as the **Tea City of India.**
- The state of Assam is the world's single largest tea-growing region. Tea is also grown on a large scale in the Nilgiris in south India.
- India is one of the world's largest consumers of tea, with about three-fourths of the country's total produce consumed locally.

India's Tea Market
- India is the **2nd largest tea producer and largest black tea producer in the world** with production at around 1350 M. Kg and is self-sufficient to meet out the domestic requirements and export obligations.
- India is also the **largest consumer of black tea and consumes around 18% of the total World tea consumption.**

Export Trends
- India is among the **top 5 tea exporters in the world making about 10% of the total exports**. In the year 2021, the total value of tea exports from India was around US$ 687.9 million. Indian Assam, Darjeeling, and Nilgiri tea are considered **one of the finest in the world**. The majority of the tea exported out of India is black tea which makes up about 96% of the total exports. India's total tea exports during 2021-22 in quantity was 201 million kg.
- India exports tea to more than 25 countries throughout the world. Russia, Iran, UAE, USA, the UK, Germany, and China are some of the major importers of tea from India. During 2021-22 Russia, Ukraine and Kazakhstan imported 32.5 million kg, 1.68 million kg and 6.48 million kg of tea from India.

Issues faced by the Tea Industry
Shutdowns of tea plantations
- There are many tea gardens which have closed down in recent years due to various problems affecting the industry.
- Some of these are Red Bank, Dharanipur, Dheklapara, Surendranagar and Bundapani of the Dooars and Raipur Tea estate in West Bengal.
- In Assam too, many tea estates have closed down or are operating just minimally.

Causes
Tea prices started declining
- Across the world, tea's auction price has declined by almost 44% in real terms in the recent past as per World Bank's report.
- In India, all the profits from the tea gardens were siphoned off and there was no real or proper reinvestment in improving quality of tea.
- The burgeoning growth of the small-holder sector (currently 50 per cent of Indian production of 1,390 million kg), consistent with their ability to produce teas at a lower cost, also added pressure to the price lines.
- These have resulted in closing down of the tea gardens.

Less Production
- Financial problems, power problems, labor issues, poor labor schemes, inadequate communication system, increased pollution fee, less subsidy for transport etc. have put the tea industry in North East India in a difficult situation, resulting in low production of tea and tea leaves.

Pest Problem
- Along with the mosquito bug, a disease called the **bacterial black spot** has also affected many plantations in North East Tea Estates.

Low wages for laborers

- As price realization of tea is very less in the international market and as temporary laborers are used in the peak seasons, usually the wages paid for tea industry laborers are very less.
- This made some of them starve and leave out the industry.

High production costs

- Low yields and High production costs are pulling the legs of Small Tea Growers backward.
- Even the corporate companies are slowly exiting out of the industry and were concentrating only on the retailing part instead of production.

Sick industry

- A considerable number of tea gardens have gone sick due to lack of infrastructure, modernization and efficient management.

No proper storage

- The problem of storing premium quality tea has always been there.
- Due to delay in transportation and lack of storage facilities, the processed tea gains moisture from the atmosphere and deteriorates in quality.

Climatic Conditions

- Unfavourable climatic conditions for tea plantations owing to scanty or very heavy rainfall have badly affected the tea industry.

Political turmoil

- In Darjeeling, due to political agitation, production of flag bearer variety of tea has suffered a lot.
- This has forced lot of exporters to substitute that with Nepal tea to compensate the flavor and aroma.

Health problems

- The poor living conditions make these labourers vulnerable to various diseases.
- The major health problems faced by the labourers are worm infestation, respiratory problems, diarrhoea, skin infections, filariasis and pulmonary tuberculosis.

No health benefits

- Under the Plantation Labour Act 1951, each tea garden should have a health centre with proper medical facilities.
- However, the gardens are remotely located and the health centres are located in distant towns.
- The workers do not have proper connectivity to these centres.
- There are no maternity benefit schemes available for the female tea garden workers.
- It has been found that women are engaged in hard jobs even during pregnancy and post natal period.

Wage/Price Movement

- The wage/price movement has been adverse.
- Taking 1995 as the base year, and measuring over a 24-year duration up to 2019, wages have gone up by eight times whereas tea prices have gone up only by 2 per cent. Consequently, many companies turned red.

Collapse of the captive Russian market

- South Indian plantations took an earlier and bigger hit because of the collapse of the captive Russian market.

Exit from captive production

- Branding and moving up the value chain were seen as a means to insulate oneself from the commodity price insecurity.
- But the integrated (forward and backward) tea companies soon figured out that captive production was a burden and exited, either fully or partially from captive production.

Under the circumstances, the industry, in general, is in crying need to have a
structural change in the way it operates.

Steps being taken

- Government through the Tea Board had helped in the formation of **352 Self Help Groups , 440 Farmer Producer Organisations and 17 Farmer Producer Companies.**
- **Assistance has been provided towards procurement of pruning machines and mechanical harvesters.**
- Other measures include setting up of **mini tea factories to encourage entrepreneurs; development of mobile app 'Chai Sahyog' to help small tea growers in terms of better price realisation and information.**
- Tea Board has devised a scheme of "**Assistance of education stipend to the wards of Small Tea Growers**" to improve their livelihood and education needs. During the year 2022-23, till January, 2023, a sum of Rs. 3.25 crore was disbursed towards this component.
- RoTDEP rate for tea exports has been enhanced with an increased cap of Rs. 6.70 per Kg as compared to Rs.3.60 per Kg earlier based on Tea Board's sustained persuasions.
- Various Buyer-Seller Meets (BSMs) are being organised at intermittent intervals with the help of Indian Missions abroad for market intelligence reports and exploring the possibilities of further increase of tea exports, especially with regard to Orthodox

tea importing countries such Iraq, Syria, Saudi Arab, Russia etc. There was BSM for Malaysia too.

- Tea Board floated a tender for **Price Sharing Formula for fixation of price of green leaves supplied between manufacturers and growers** which will benefit a large number of people in a scientific method.

Suggestions
Need for Organized Business
- Indian tea industry is still unorganized and even though Government is controlling this industry with Tea Board, it's not that effective as expected.
- Thus, it is the Tea Board that has to undergo structural reforms in order to safeguard the industry as well as so many people who is dependent totally on tea for their survival

Quality Enhancement
- Only quality tea production paves the way to preserve and significantly increase the export prices.
- Moreover, this also will increase the demand for Indian tea among international products in the global arena and thereby increasing the profit margins as well as improving the living standards of people who is dependent on tea industry.

Awareness Programs
- Growing Small Tea Growers become a biggest challenge for the Tea Industry that only production is given importance by them because of ignorance.
- Thus to improve the standards of Tea Production, Government and Tea board have to organize more awareness programs on Tea plantations and on entrepreneurship skills, so as to run the business with better profits.

Distribute Land-Ownership
- One way of ensuring a holistic sustainability of the plantation industry would appear to be to distribute land-ownership in favour of the plantation employees and buy back the raw material through a co-operative outfit.

Price Formula
- The green leaf purchase can be based on a price-formula linked to, the published industry auction price.
- Individual corporates may want to pay a higher price, based on their end price realisation (as is being done in the case of bought leaf purchases).
- In consideration of transfer of land ownership, it should be made obligatory for ex-employees to sell the raw materials to the corporate which has the infrastructure and technology for processing the primary produce, adding value as appropriate and marketing the same.

Land disinvestment
- The land disinvestment should also be viewed in the light of the increasing uncertainty over land ownership both due to 'land title' issues, as well as political, social and economic pressure for land ownership.
- The value of a plantation, be it in terms of Rs/kg of production or Rs/hectare of plantation will simply be based on operational profits.

Conclusion
- India being the second largest producer of Tea has numerous opportunities to develop the Tea Industry as it is providing employment to a huge number of people in the north eastern states. The industry is employing 1.16 million workers directly and an equal number are associated with it indirectly.
- A win-win for all and therefore a truly sustainable and transparent model — is the key requirement for a highly labour-centric industry like tea plantations.

SILICON VALLEY BANK CRISIS
GS-III ECONOMY

Context
- The collapse of Silicon Valley Bank and Signature Bank within a week has stoked fears of a larger financial meltdown across regional US banks.

About Silicon Valley
- Silicon Valley Bank (SVB) was a commercial bank **headquartered in Santa Clara, California.**
- Silicon Valley Bank, **established in 1983,** was the 16th-largest bank in the United States.
- Before collapsing, it used to provide services to nearly half of the venture-backed technology companies in the US.
- As a state-chartered bank, it was **regulated by the California Department of Financial Protection and Innovation (DFPI)** and was **a member of the Federal Reserve System**. The bank operated from **offices in 13 countries and regions.**
- The bank's assets, which include loans, more than tripled from $71 billion at the end of 2019 to a peak of $220 billion at the end of March 2022, according to financial statements.

What went wrong at Silicon Valley Bank?

- The short answer is <u>Silicon Valley Bank did not have enough cash to pay depositors so California regulators closed the bank</u>.
- The bank's problems can be traced back to its investment decisions after it amassed a fortune.
- SVB invested most of its deposits in government bonds when the interest rates were extremely low.
- With bonds considered a safe investment, the idea worked well until the Federal Reserve began hiking interest rates last year to cool inflation. <u>Bond prices fall when interest rates go up.</u>
- To honour customers' withdrawal requests, **the bank was forced to sell some of its investments despite the plunge in value.**
- SVB recently said it took a $1.8 billion hit on the sale of some of those securities and they were unable to raise money to offset the loss. These announcements <u>created a panic among their investors, and its stock fell 60%.</u>
- On March 10, California regulators seized the bank and put the Federal Deposit Insurance Corporation in charge of all the deposits.

How the US Government is handling the Crisis?

- Nearly $175 billion of Silicon Valley Bank's deposits are now under the control of the Federal Deposit Insurance Corporation, or FDIC.
- All of SVB's assets have been **put up for auction**. Recently, the UK arm of the bank was bought by HSBC for a measly sum of 1 pound.

What Next?

- Banking experts have been among those alarmed at the rapid collapse of Silicon Valley Bank and Signature Bank.
- The demise **has hit banking stocks around the globe.** Experts say that **markets may continue to fall in the near future.**

Impact of Silicon Valley Bank collapse on Indian financial sector

- Indian financial system could get impacted **if the exporters who are dependent on US market start seeing slowdown in their businesses** and **that would impact job growth and ability to repay debt to their banks**. A lot of **venture capital investment coming into India would also slow down.**
- <u>Lending to start ups would get severely restricted</u> and either they will have to downsize or they will have to shut down.
- Silicon Valley Bank's potential impact on the fall in demand for IT services could result in IT companies pulling back their recruitment efforts. This could significantly affect fresher recruiting as employers may prioritize keeping existing employees over hiring new talent.

What can Silicon Valley customers do now?

- The head of Silicon Valley Bridge Bank, created by US regulators to succeed Silicon Valley Bank, has **urged fleeing depositors to return with their money, as large banks see an influx of funds.**
- Customers have been asked to support the future of this institution is by helping them rebuild their deposit base.

LEAST DEVELOPED COUNTRIES

GS-III ECONOMY

Context

- Bhutan December 13th 2023 will become the **seventh nation to graduate from the United Nations' (UN) list of Least Developed Countries (LDC).**

What is a Least Developed Country (LDC)?

- The <u>LDCs</u> are developing countries listed by the UN that exhibit the lowest indicators of socioeconomic development.
- The **concept first originated in the late 1960s** and was **codified under UN resolution 2768 passed in November 1971.**
- According to the UN, an LDC is defined as *"a country that exhibits the lowest indicators of socioeconomic development, with low levels of income, human capital and economic diversification, high levels of economic vulnerability, and a population that is disproportionately reliant on agriculture, natural resources, and primary commodities."*

The UN identifies three criteria for a country to be classified as an LDC

1. First, it must have a gross national income (GNI) **per capita below the threshold of USD 1,230 over a three-year average**.
2. Second, it **must perform poorly on a composite human assets index** based on indicators including nutrition, health and education.
3. Lastly, the **country must demonstrate economic vulnerability** such as being prone to natural disasters and possessing structural economic constraints.
- Countries **must meet a selection from all three criteria simultaneously** and are **reviewed on a three-year basis by the UN**.
- Currently, **the UN lists 46 countries that qualify as LDCs.** Of those, 33 are from Africa, nine from Asia, three from the Pacific

and one from the Caribbean.

Advantages of being an LDC

- Concessions associated with LDC status include benefits in the areas of:
  - o **Development financing**, notably grants and loans from donors and financial institutions.
  - o **Multilateral trading system**, such as preferential market access and special treatments.
  - o **Technical assistance**, notably, toward trade mainstreaming (Enhanced Integrated Framework)
- Importantly, LDCs also enjoy duty-free and quota-free (DFQF) access to the markets of developed countries. This means that LDCs are not restricted by trade restrictions or tariffs when exporting their goods to wealthier nations.
- For LDCs, this is a significant advantage because it enables them to expand their exports and get access to new markets, which can boost their economic development.
- LDCs are also eligible for loans with special terms for development, which include loans with a lower interest rate and a longer repayment time than those given to other nations. The term "**Official Development Assistance" (ODA)** or "aid" is frequently used to describe this form of support. This money is intended to aid LDCs in their initiatives to meet their fundamental requirements, promote sustainable economic growth and development, and fight poverty.

How does a country get off the LDC list?

- To graduate from the LDC list, a country must meet certain criteria in the three areas - **income, human assets, and economic vulnerability.**
- A nation must have a GNI per capita of at least USD 1,242 for two consecutive triennial reviews in order to meet the income requirement. The nation must also show that this level of income can be sustained over the long term.
- By using measures like education, health, and nutrition, a nation must show that it has improved its human capital in order to achieve the human assets requirement. This entails expanding literacy rates, lowering malnutrition rates, and enhancing access to healthcare and education.
- A nation also **must show that it has improved its ability to withstand external economic shocks like natural catastrophes** or shifts in commodity prices in order to pass the economic vulnerability test. Diversifying the economy, investing in infrastructure, and raising the standard of institutions and governance are all ways to do this.
- To achieve these goals, a country might need to implement a combination of policies, including promoting economic growth through investment in infrastructure, improving governance and reducing corruption, diversifying the economy, addressing environmental challenges, and investing in human development.

Examples

- For example, **Botswana achieved graduation in 1994** primarily due to its strong economic performance driven by its diamond mining industry and investments in education and infrastructure.
- Similarly, **Carbo Verde graduated in 2007** following investments in tourism, fisheries, and services, as well as positioning its strategic location as a hub for sea and air transportation to help attract foreign investment.

Note: At the UN 2021 triennial review of LDC countries, the organisation recommended that Bangladesh, Laos, and Nepal be removed from the list.

How did Bhutan get off the LDC list?

- Bhutan was included in the first group of LDCs in 1971. However, over the last few decades, it has made remarkable progress on a variety of socio-economic metrics.
- Bhutan's economy increased more than eight times in the last 20 years, from just under USD 300 million in 2000 to USD 2.53 billion in 2017, with an **average annual growth rate of more than 7 per cent.**
- Additionally, the percentage of people living in poverty, **decreased from 17.8 per cent in 2003 to 1.5 per cent in 2017**.
- The **percentage of people living below the national poverty line decreased from 23.2 per cent in 2007 to 8.2 per cent in 2017.**
- Bhutan has mostly accomplished this by increasing exports of hydropower to India, which now accounts for 20 per cent of its economy. The nation also established Brand Bhutan in an effort to diversify exports while acknowledging the modest size of its local market.
- The idea was to target high-end markets with specialised exports of high-value, low-volume Bhutanese goods. Their goods come from sectors of the economy including textiles, tourism, handicrafts, culture, and natural resources.

Implications of graduating from LDC

- Graduation from LDC status is a major achievement, but it **can be a double-edged sword.**
- On the one hand, it signals that a country has made significant progress in its economic and social development.
- On the other hand, it can also create new challenges and risks, as the country may lose access to some of the trade-related benefits and support that it had as an LDC **making it more challenging for it to expand its exports and get access to new**

markets.

PREVENTION OF MONEY LAUNDERING ACT (PMLA)

GS-III ECONOMY

Context
- The Finance Ministry placed all transactions involving virtual digital assets under the purview of the Prevention of Money Laundering Act (PMLA).

Rationale behind the move
- The intergovernmental Financial Action Task Force (FATF) — the global money laundering and terrorist financing watchdog — has been continuously flagging the potential that virtual digital assets have for criminal misuse considering the speed and anonymity with which they can be traded worldwide.
- India, which holds the presidency of the G-20, has been repeatedly stressing the need for a globally coordinated regulatory response to deal with crypto assets. A July 2021 online report by BrokerChooser.com, for instance, had estimated **India as being the country with the highest number of 'crypto owners', at 10.07 crore**, which was more than threefold the number of owners of crypto assets in the second-ranked U.S.
- Even if this is discounted as a speculative guesstimate, measures and disclosures by the government indicate that the **volume of trade in unregulated virtual assets has grown sizeably in recent years.**
- The decision to mandatorily bring all trade in virtual digital assets under the PMLA now lays the onus of ascertaining the provenance of all activity, including safekeeping, in such assets upon individuals and businesses participating in or facilitating these transactions.

Money Laundering
- **Money laundering is defined as the illegal process of converting money generated through criminal activities**, such as drug trafficking or terrorist funding, t**o appear to have come from a legitimate source. The money from the criminal activity is considered 'dirty', and the laundering process makes it look clean.**

PMLA
- Prevention of Money Laundering Act was **enacted as a response to India's global commitment (including the Vienna Convention) to curb the menace of money laundering.**
- PMLA was e**nacted in 2002 and it came into force in 2005** , to curb money laundering (process of converting black money into white) and to provide for seizure of property derived from money-laundering.

Objectives of the PMLA act
- **While the objectives of the PMLA act can be extended to anything. Here are a few core objectives.**
  - Prevention and controlling money laundering.
  - Confiscation and seizing of property involved in or derived from money laundering.
  - Providing punishment to offenders.
  - Appointment of adjudicating authority and appellate tribunal concerning money laundering matters.
  - Maintaining records and putting obligations on financial institutions, banking companies and institutions.
  - Dealing with every issue related to money laundering.

Adjudication Authority
- The **Director or officer above the rank of Deputy Director can 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 Adjudicating Authority is **appointed by the central government**. It decides whether the property attached or seized is involved in money laundering.
  - The Adjudicating Authority shall **not be bound by the procedure laid down by the Code of Civil Procedure,1908, but shall be guided by the principles of natural justice and subject to the other provisions of PMLA.**

Punishment
- The Act prescribes that **any person found guilty of money-laundering shall be imprisoned for a minimum of 3 years and a maximum of 7 years**, and **If the crime of money laundering is involved with the Narcotic Drugs, the punishment can go up to 10 years**, along with fine.

Proof
- The **burden of proof lies with the accused,** who has to prove that the suspected property/assets have not been obtained through money laundering.

Appellate Tribunal
- An **Appellate Tribunal appointed by the Government is given the power to hear appeals against the orders of the Adjudicating Authority. Orders of the tribunal can be appealed in the appropriate High Court.**

Special Court

- Provision for establishing **special court** by the Union government under Prevention of Money Laundering Act, 2002 (PMLA).

Financial Intelligence Unit – India (FIU-IND)

- It was set by the Government as the central national agency responsible for receiving, processing, analyzing and disseminating information relating to suspect financial transactions under the PMLA Act.
    o **FIU-IND is also responsible for coordinating and strengthening efforts of national and international intelligence,** investigation and enforcement agencies.
    o FIU-IND is an independent body **reporting directly to the Economic Intelligence Council (EIC) under the Finance Minister.**

Concerns

- **Enforcement Directorate:** The Act allows the government and the Enforcement Directorate (ED) practically infinite authority to issue arrest warrants, make arrests and conduct raids. The ED is not considered to be a "police agency," despite having investigatory powers. The ED's decision to choose which instances to look into is also not entirely clear.
- **The burden of Proof:** The Act makes getting out on bail nearly impossible and puts the burden of proving one's innocence on the accused rather than the government. The Court made it very clear that the State has a compelling interest in placing severe bail restrictions on those accused of economic crimes.
- **Low Conviction rate:** Everyone who has gone through a trial claim that the trial itself is punishment, and that any assets you have can be seized while the case is pending. The conviction rate under this law is very low, less than 5%.
- The protections against property attachment are strong in theory, but in practice, they are ineffective and do not permit even reasonable exceptions that would be required to maintain your dignity or carry on with your business or livelihood.

ENFORCEMENT DIRECTORATE

- In 1956, Enforcement Directorate was **founded as the "Enforcement Unit" within the Department of Economic Affairs under the Ministry of Finance.**
- The **Enforcement Directorate investigate cases related to;**
    o Economic crimes.
    o Violations of foreign exchange laws.
- **At present Enforcement Directorate deals with 4 laws**
    o The Prevention of Money Laundering Act, 2002 (PMLA).
    o The Foreign Exchange Management Act, 1999 (FEMA).
    o The Fugitive Economic Offenders Act, 2018 (FEOA).
    o Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA).
- Currently, the Enforcement Directorate (ED) is administered by the Internal Security Department under the **Ministry of Home Affairs.**

SUGAR EXPORTS

GS-III ECONOMY

Context

- By pivoting to raw sugar exports, India has gone from being a marginal player five years ago to No. 2 in the world currently, behind only Brazil.

Details

- Between 2017-18 and 2021-22, sugar exports have soared from $810.9 million to $4.6 billion, and could cross $5.5 billion — or Rs 45,000 crore — in the fiscal year ending March 31.
- During the 2016-17 and 2017-18 sugar years (Oct-Sept), India's shipments were a mere 0.46 lakh tonnes (lt) and 6.2 lt respectively. They had zoomed to 110 lt by 2021-22.

CHART 1

INDIA'S SUGAR EXPORTS IN VALUE

- $ Million
- ₹ Crore

Year	$ Million	₹ Crore
2017-18	810.9	5,225.6
2018-19	1,360.29	9,523.14
2019-20	1,966.44	13,981.56
2020-21	2,789.91	20,668.57
2021-22	4,602.65	34,344.69
2021-22*	3,570.34	26,545.76
2022-23*	4,689.97	37,397.86

*April to January

CHART 2

INDIA'S SUGAR EXPORTS IN LAKH TONNES

Sugar Year	Raw Sugar	White Sugar***	Total
2016-17	0	0.46	0.46
2017-18	0.47	5.73	6.2
2018-19	13.13	24.87	38
2019-20	17.84	41.56	59.4
2020-21	28.16	43.74	71.9
2021-22	56.29	53.71	110
2022-23**	19.13	30.91	50.04

Note: Sugar Year is from Oct-Sept   **As on March 15; ***Includes refined sugar*

What led to the surge in sugar export?

> **ICUMSA**
>
> ICUMSA, short for the International Commission for Uniform Methods of Sugar Analysis, is a measure of the purity of sugar based on colour. The lower the value, the more the whiteness.

- Raw sugar is what mills produce after the first crystallisation of juice obtained from crushing of cane. This sugar is rough and brownish in colour, with an ICUMSA value of 600-1,200 or higher.
- Raw sugar is processed in refineries for the removal of impurities and de-colourisation.
- The end product is refined white cane sugar having a standard ICUMSA value of 45. The sugar used by industries such as pharmaceuticals has an ICUMSA of less than 20.
- Till 2017-18, **India hardly exported any raw sugar**. It mainly shipped plantation white sugar with 100-150 ICUMSA value. This was referred to as low-quality whites or LQW in international markets.
- From 2018 onwards **the focus shifted to raw sugar.**

Raw sugar
- Raw sugar **requires no bagging or containerisation and can be loaded in bulk**; the buyer here is the refiner, not the end-consumer.
- The refineries in those countries are **mostly imported raw from Brazil.** Brazilian mills operate from April to November, whereas our crushing is from October to April. We told them that they could source our raws during Brazil's off-season. The voyage time from Kandla, Mundra or JNPT to Ciwandan Port of Indonesia is 13-15 days, compared to 43-45 days from Brazil's Port of Santos," said an official who was part of the 2018 Indian delegation.

India's raw advantage
- First, it is **free of dextran**, a bacterial compound formed when sugarcane stays in the sun for too long after harvesting.
- Raw sugar in India has no dextran, **as it is produced from fresh cane crushed within 12-24 hours of harvesting.** The cut-to-crush time is 48 hours or more in Brazil.
- Second, Indian mills could supply raws with a very high polarisation of 98.5-99.5%. **Polarisation is the percentage of sucrose present in a raw sugar mass**. The **more the polarization** — it is only 96-98.5% in raws from Brazil, Thailand and Australia — the **easier and cheaper it is to refine.**

The end result
- Out of India's total 110 lt sugar exports in 2021-22, **raws alone accounted for 56.29 lt**.
- The biggest importers of Indian raw sugar were Indonesia (16.73 lt), Bangladesh (12.10 lt), Saudi Arabia (6.83 lt), Iraq (4.78 lt) and Malaysia (4.15 lt).
- The country also exported 53.71 lt of white/ refined sugar, the leading destinations for which included Afghanistan (7.54 lt), Somalia (5.17 lt), Djibouti (4.90 lt), Sri Lanka (4.27 lt), China (2.58 lt), and Sudan (1.08 lt).
- To put this in context, from being a marginal exporter until five years ago, India has become the world's No. 2, with its shipments of 110.58 lt in 2021-22 (according to the International Sugar Organization) next only to Brazil (255.40 lt) and way ahead of Thailand (79.86 lt) and Australia (25.67 lt).

Important Article: https://www.iasgyan.in/blogs/sugarcane-industry-38

INSOLVENCY & BANKRUPTCY CODE (IBC), 2016　　　*GS-III ECONOMY*

Context
- The Ministry of Corporate Affairs has released a discussion paper that proposes several changes to the Insolvency & Bankruptcy Code (IBC), 2016.

What does the discussion paper propose?
- The discussion paper acknowledges concerns among creditors regarding inequitable distribution.
- It says there is a need to devise an objective formula so that the distribution is fair and equitable for all creditors.
- Therefore, it proposes a statutory scheme wherein the liquidation value will be distributed in accordance with the waterfall mechanism. However, any surplus over such liquidation value shall be pro-rated amongst all the creditors in a ratio of their unsatisfied claims.

> ## WATERFALL MECHANISM
> The NCLAT's judgment essentially holds that if a corporate debtor is being liquidated, a creditor cannot claim superiority over other secured creditors in the same band and that everyone must receive their fair share by following the waterfall mechanism of liquidation.

Insolvency and Bankruptcy Code (IBC) 2016
- The Insolvency and Bankruptcy Code, 2016 (IBC) is an Indian law that **creates a consolidated framework that governs insolvency and bankruptcy proceedings for companies, partnership firms, and individuals.**
- The law was necessitated due to the huge pile-up of non-performing loans of banks and delay in debt resolution.

What does the IBC aim to do?
- IBC applies to companies, partnerships and individuals. It **provides for a time-bound process to resolve insolvency**.
- When a default in repayment occurs, creditors gain control over debtor's assets and must take decisions to resolve insolvency.
- Under IBC debtor and creditor both can start 'recovery' proceedings against each other.

What is the timeframe for completion of the exercise under the Code?
- Companies have to complete the entire insolvency exercise **within 180 days under IBC.**
- The deadline may be extended if the creditors do not raise objections on the extension.
- For smaller companies including startups with an annual turnover of Rs 1 crore, the whole exercise of insolvency **must be completed in 90 days** and the **deadline can be extended by 45 days**. If debt resolution doesn't happen the company goes for liquidation.

Who regulates the IBC proceedings?
- Insolvency and Bankruptcy Board of India has been appointed as a regulator and it can oversee these proceedings.
- IBBI has **10 members; from Finance Ministry and Law Ministry the Reserve Bank of India.**

Who facilitates the insolvency resolution?
- A licensed professional administer the resolution process, manage the assets of the debtor, and provide information for creditors to assist them in decision making.

Who adjudicates over the proceedings?
- The proceedings of the resolution process is **adjudicated by the National Companies Law Tribunal (NCLT),** for companies and the Debt Recovery Tribunal (DRT) for individuals.
- The courts approve initiating the resolution process, appointing the insolvency professional and giving nod to the final decision of creditors.
- The Insolvency and Bankruptcy Board regulates insolvency professionals, insolvency professional agencies and information utilities set up under the Code.

What is the procedure to resolve insolvency under the Code?
- When a default occurs, the resolution process may be initiated by the debtor or creditor.
- The insolvency professional administers the process. The professional provides financial information of the debtor from the information utilities to the creditor and manage the debtor's assets. This process lasts for 180 days and any legal action against the debtor is prohibited during this period.

What does the committee of creditors do?
- A committee consisting of the financial creditors who lent money to the debtor is formed by the insolvency professional.
- The creditors' committee decides the future of the outstanding debt owed to them. They may choose to revive the debt owed to them by changing the repayment schedule or selling the assets of the debtor to get their dues back. If a decision is not taken in 180 days, the debtor's assets go into liquidation.

What happens under liquidation?
- If the debtor goes into liquidation, an insolvency professional administers the liquidation process.
- Proceeds from the sale of the debtor's assets are distributed in the following order of order**: First insolvency resolution costs, including the remuneration to the insolvency professional, second secured creditors, whose loans are backed by collateral and third dues to workers, other employees, forth unsecured creditors.**

For more details, Read: https://www.iasgyan.in/daily-current-affairs/insolvency-and-bankruptcy-code-ibc-2016

AMENDMENTS TO FINANCE BILL 2023

GS-III ECONOMY

Context
- The Finance Bill 2023 was been passed in Lok Sabha.

Highlights of the Amendment

GST Appellate Tribunals to be set up across country
- The Finance Bill has paved the way for setting up GST Appellate Tribunals across the country, with a principal bench in New Delhi and several State benches. The Tribunal will be headed by a former Supreme Court judge or a retired Chief Justice of a High Court.

Securities Transaction Tax raised on F&O contracts from April 1
- The Government is raising the **Securities Transaction Tax (STT**) on futures and options contracts in the stock market from April 1, 2023.
- Options contracts will now attract 0.021% STT from 0.017% earlier and futures will attract a levy of 0.0125%, up from 0.01%.
- On the sale of options contracts, the STT now stands at Rs 6,200 on a turnover of Rs 1 crore, indicating a 25 per cent hike as compared with Rs 5,000 earlier.
- STT on the sale of futures contract has been increased to Rs 1,250 on a turnover of Rs 1 crore, a 25 per cent hike as compared with Rs 1,000 earlier.

> **STT**
>
> STT was introduced in the Budget of 2004. Securities Transaction Tax (STT) is the tax levied on transactions on securities done on the listed stock exchanges in India. The securities include equities, derivatives, equity funds, unlisted shares of IPO and offer for sale.

Capital Gains
- The most significant amendment was withdrawal of the benefit of Indexation on Long term capital gains on Debt Mutual funds for investments made on or after April 1, 2023. From April 1, 2023 Debt Mutual fund schemes will be taxed at Income tax rates applicable to an Individuals Income tax slab.
- Debt mutual funds held for more than 3 Years will no longer enjoy indexation benefit and won't be eligible for 20% tax rate. Investment in mutual funds [where not more than 35% is invested in equity shares of Indian company] will now be deemed to be short term capital gains.

Relief for Individual Taxpayers
- It has been proposed to provide marginal relief for taxpayers adopting new tax regime and having income exceeding Rs 7 lakh.
- As per the Finance Bill, 2023, it was proposed that no tax will be payable under the new regime in case the income does not exceed 7 lakh.
- However, there was no marginal relief for those having income above Rs 7 lakh. Marginal relief has now been provided.
- With this, those having income in the range of Rs 7,00,001-Rs 7,29,000 will be treated at par with the person having an income of up to Rs 7 lakh.

Debt MFs to be subject To STCG
- Capital gains arising from debt-based mutual funds (where investment in equity shares of domestic companies is not more than 35 per cent of the total proceeds of the mutual fund) acquired on or after April 1, 2023, will now be subject to short-term capital gain.
- No benefit of indexation shall be available as well.

In a nutshell,
- Enhanced tax benefits to offshore banking units operating in GIFT City (Gujarat International Finance Tec-City). Offshore banking units to get 100 percent deduction on income for 10 years.
- Tax on Royalty or technical fee earned by foreign (non-resident) Cos hiked from 10 percent to 20 percent.
- No Change in tax on non-par savings insurance products (Rs 5 lakh cap remains).
- No change in taxation on REITS/INVITS despite representation ('Repayment of loans' from REITS to the investor to be taxed as 'income from other sources and NOT as capital gains).
- No change in residential housing Rs 10 crore cap on capital gains re-investment.
- All credit cards payments for foreign tours to be considered under LRS. The Reserve Bank of India (RBI) to look into the payments made through credit cards for foreign tours which escape tax at source.
- A committee to be set up under the finance secretary on the pension system to address the needs of employees and also maintain fiscal prudence.
- Tax Collection at Source (TCS) shall apply to all Liberalized Remittance Scheme (LRS) even if within India.
- Tax proposed on the income from debt mutual fund at the applicable rate since it is of the nature of interest income
- Marginal relief proposed to the tax that one pays should not be more than the income that exceeds 7 lakh (Rs 100 in this case).

PREPAID CARDS FOR POWER TO SAVE GROUNDWATER

GS-III AGRICULTURE

Context
- A Parliamentary Standing Committee has said that the use of electric pumps needs to be further discouraged by introducing measures such as pre-paid cards for power supply and restricting power supply to a few hours a day.

Report: "Groundwater: A Valuable but Diminishing Resource"
- In its report, **"Groundwater: A Valuable but Diminishing Resource",** the Standing Committee on Water Resources said, "States like Punjab, Haryana, Telangana and Tamil Nadu **offer completely free power, while other states have provision for collection of token charges."**
- The Committee noticed that over-extraction of groundwater for meeting irrigation needs is prevalent mainly in northern states, particularly in Punjab, Haryana and Rajasthan, which are extracting 97%, 90% and 86% of groundwater, respectively.
- Other states such as Karnataka, Tamil Nadu and Uttar Pradesh are also significant users of groundwater for irrigation as they are using approximately 89%, 92%, and 90%, respectively, of their total groundwater extraction for agricultural purposes.
- The primary reason for excessive exploitation of groundwater is the **wide cultivation of water-guzzler paddy and sugarcane crops, which are "heavily incentivized".**
- According to the report, the committee observed that **restricting free electricity to the farmers will certainly reduce the misuse of groundwater.**
- The committee noted that the **progress made in terms of bringing down groundwater use is "minimal."**

Challenge
- Both the Department of Water Resources, River Development and Ganga Rejuvenation and Department of Agriculture and Farmers Welfare "have expressed **an inability to persuade states to reduce/stop subsidy for power given in agriculture as electricity is a concurrent subject and SERCs determine the electricity tariff for retail supply of electricity to end consumers under the extant provisions of Electricity Act, 2003".**

Suggestions made by the Standing Committee
- The committee is of the view that the use of electric pumps needs to be further discouraged by way of devising such measures as the introduction of pre-paid cards for power supply, restricting it for a few hours in the day, etc.
- The committee, also asked the government to devise **"integrated measures" for adoption in agriculture to reduce dependence on groundwater in agriculture.**
- The committee also said that there is **a need for a shift in focus from 'land productivity' to 'water productivity'.**
- The Committee emphasized that in addition to land productivity, water productivity i.e. production per cubic meter of water should be a major criterion in decisions relating to crop production. Thus, the **Ministry of Jal Shakti should engage with Agriculture Ministry to enable the formulation of appropriate policy decisions relating to crop production in the country.**

Read: https://www.iasgyan.in/daily-current-affairs/ground-water

BIOCOMPUTERS

Context

- Scientists recently outlined a plan for a revolutionary **new area of research called "organoid intelligence", which aims to create "biocomputers".**

Background

- Understanding how the human brain works have been a difficult challenge. Traditionally, researchers have used rat brains to investigate various human neurological disorders.
- But there are several differences in structure and function and obvious differences in the cognitive capacities of rodents and humans.

New Research and Development

- **Scientists are building 3D cultures of brain tissue in the lab, also called brain organoids**. These "mini-brains" (with a size of up to 4 mm) are <u>built using human stem cells and capture many structural and functional features</u> of a developing human brain.
- Researchers are now using them to study human brain development and test drugs to see how they respond.

<u>Challenge</u>

- The human brain also requires various sensory inputs (touch, smell, vision, etc.) to develop into the complex organ it is, and brain organoids developed in the lab aren't sophisticated enough. The organoids currently also don't have blood circulation, which limits how they can grow.

What is the new 'bio-computer'?

- In this researcher will **combine brain organoids with modern computing methods to create "bio-computers".**
- They have announced plans to couple the organoids with machine learning by growing the organoids inside flexible structures affixed with multiple electrodes (similar to the ones used to take EEG readings from the brain).
- These structures **will be able to record the firing patterns of the neurons and also deliver electrical stimuli, to mimic sensory stimuli.** The response pattern of the neurons and their effect on human behaviour or biology will then be analysed by machine-learning techniques.
- Recently, **scientists were able to grow human neurons on top of a microelectrode array that could both record and stimulate these neurons.**
- Using positive or negative electric feedback from the sensors, they were <u>able to train the neurons to generate a pattern of electrical activity that would be generated if the neurons were playing table tennis.</u>

Potential Applications

- Brain organoids can also be developed using stem cells from individuals with neurodegenerative diseases or cognitive disorders. Comparing the data on brain structure, connections, and signalling between 'healthy' and 'patient-derived' organoids can reveal the biological basis of human cognition, learning, and memory.
- They could also **help decode the pathology of and drug development for devastating neurodevelopmental and degenerative diseases such as Parkinson's disease and microcephaly.**

SAGITTARIUS A*

Context

- Astronomers have discovered a young star around the supermassive black hole at the core of the Milky Way galaxy, known as Sagittarius A* (Sgr A*).

About Sagittarius A*

- Sagittarius A* is the **supermassive black hole at the Galactic Center of the Milky Way**.
- It is **located near the border of the constellations Sagittarius and Scorpius.**
- Its accretion disc is also connected with X-ray emissions caused by friction driving temperatures in the disc up **as high as 18 million degrees Fahrenheit (10 million degrees Celsius).**
- From Earth, we can see it in **the Sagittarius constellation**, and it's over 26,000 light-years away.
- The black hole itself, known as Sagittarius A*, cannot be seen because **no light or matter can escape its gravitational grip**. But its shadow is traced out by a glowing, fuzzy ring of light and matter that is swirling on the precipice at close to the speed of light.
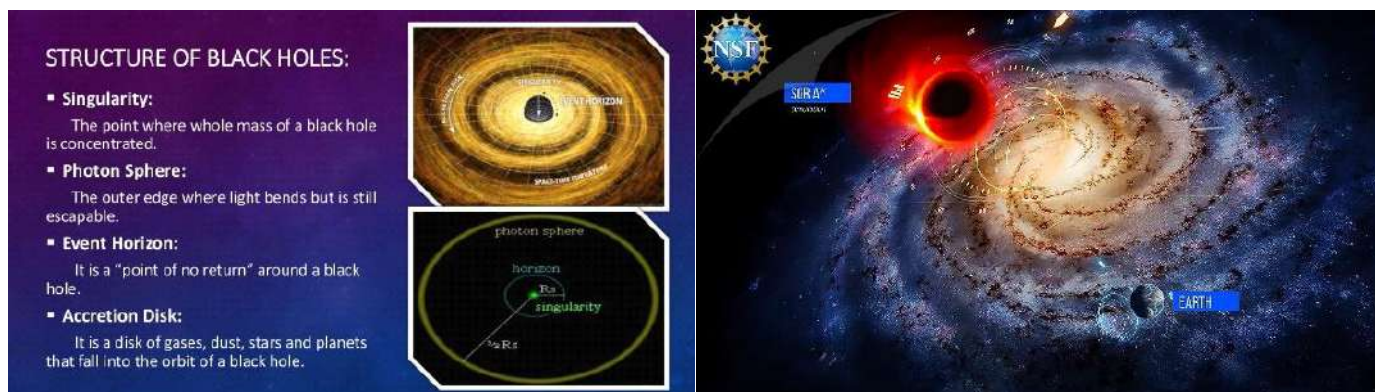
Baby Star-X3a

- The baby star has been discovered within a cloud of dust, one of the many mysterious X-ray sources surrounding the galaxy core, designated as X3.
- The star itself has been given the designation X3a. The star is **ten times as big as the Sun, and fifteen times as massive.**
- The discovery of the young, large star towards the core of the galaxy **reveals a new process of star formation to astronomers.''**

A new process.. Why?

- The galaxy core is considered to be a highly dynamic region, with extreme X-ray and ultraviolet radiation.
- There is a tremendous amount of heat and energy swirling around the galaxy core, in the accretion disc around the central supermassive black hole.
- Stellar nurseries, where stars are born, have large clouds of gas and dust, which can get clumpy over time, forming a dense core, which then starts accreting material because of the concentration of mass.
- Eventually, the dense core can collapse under the influence of its own gravity, leading to the formation of a new-born star.
- The conditions around the galaxy's core are believed to be very different from stellar nurseries.
- However, about twenty years ago, astronomers discovered young stars around Sgr A*, and are still struggling to explain how they could be formed. Astronomers believe that the star formation for X3a was initiated within a dense cloud, shielded from radiation and gravitational influence, in the outskirts of the gas and dust ring around the galaxy's core. The stars formed here mature very rapidly.
- Such stars would also be able to grow very massive, very quickly.

| ARTIFICIAL INTELLIGENCE (AI) | *GS-III SCIENCE & TECHNOLOGY* |

Context

- The Ministry of Electronics and IT has set up a task force for framing a **draft roadmap for the artificial intelligence ecosystem in India.**
- It has also, announced the setting up of an **IndiaAI platform** which will focus on boosting research and facilitating tools required for the start-up community.

Understanding AI

- Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence.
- Artificial intelligence **allows machines to model, or even improve upon, the capabilities of the human mind.** And from the development of self-driving cars to the proliferation of smart assistants like Siri and Alexa, AI is increasingly becoming part of everyday life.
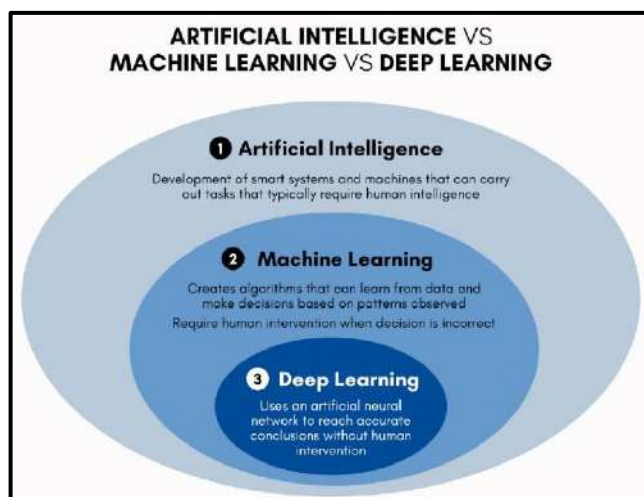
State of AI in India

- The AI market is steadily increasing in India, driven by strong IT infrastructure, a rich data economy and the large-scale investments that government and corporates have been making towards digitalization.
- The India artificial intelligence market was **valued at US$ 680.1 Million in 2022.**
- India's artificial intelligence (AI) market is **expected to witness a growth of 20% over the next five years**- Microsoft and the

Internet and Mobile Association of India (IAMAI) study.

Government initiatives to boost AI in India

- GOI has taken several steps to promote upskilling or reskilling in the field of Artificial Intelligence which include the following: -

  o **Future Skills PRIME**: Ministry of Electronics and IT (MeitY) has initiated a programme titled **Future Skills PRIME** in collaboration with NASSCOM, a B2C framework for re-skilling/ up-skilling of

  IT professionals in 10 Emerging are as including Artificial Intelligence.

  o **National Strategy for Artificial Intelligence**: Government published the National Strategy for Artificial Intelligence in June 2018 and proposes to develop an ecosystem for the research and adoption of Artificial Intelligence i.e. **#AIFOR ALL.**

  o **'National AI Portal':** Government has launched **'National AI Portal'** which is a repository of Artificial Intelligence (AI) based initiatives in the country at a single place.

  o **'Visvesvaraya PhD Scheme':** Government has initiated 'Visvesvaraya PhD Scheme' with an objective to enhance the number of PhDs in Electronics System Design & Manufacturing (ESDM) and IT/IT Enabled Services (IT/ITES) sectors in the country. The research areas under the scheme include Artificial Intelligence (covering 82 PhD fellows) and Machine Learning (covering 59 PhD fellows).

  o **National Programme on Responsible Use of AI for Youth:** With the objective to empower the youth to become AI ready and help reduce the skill gap, the government along with Industry partner has started this initiative to promote AI awareness among Government school going children.

  o **'Centres of Excellence':** To foster innovation through research, government has created several 'Centres of Excellence' on various Emerging Technologies including Artificial Intelligence. These centres connect various entities such as startups, enterprises, venture capitalists, government and academia to look into problem statements and develop innovative solutions.

  o **National Mission on Interdisciplinary Cyber-Physical Systems:** Department of Science & Technology is implementing the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) to promote R&D, Human Resource Development (HRD), Technology Development, Entrepreneurship Development, International Collaboration etc.

  o **Global Partnership on Artificial Intelligence (GPAI):** The government of India has also joined the league of leading economies including USA, UK, EU, Australia, Canada, France, Germany, Italy, Japan, Mexico, New Zealand, Republic of Korea, Singapore as a founding member of the Global Partnership on Artificial Intelligence (GPAI), which is an international and multi-stakeholder initiative to guide the responsible development and use of AI, grounded in human rights, inclusion, diversity, innovation, and economic growth.

  o **Responsible AI for Social Empowerment (RAISE):** GOI organized Responsible AI for Social Empowerment (RAISE) in 2020, a first-of-its-kind global meeting of minds on Artificial Intelligence to drive India's vision and roadmap for social transformation, inclusion and empowerment through responsible AI.
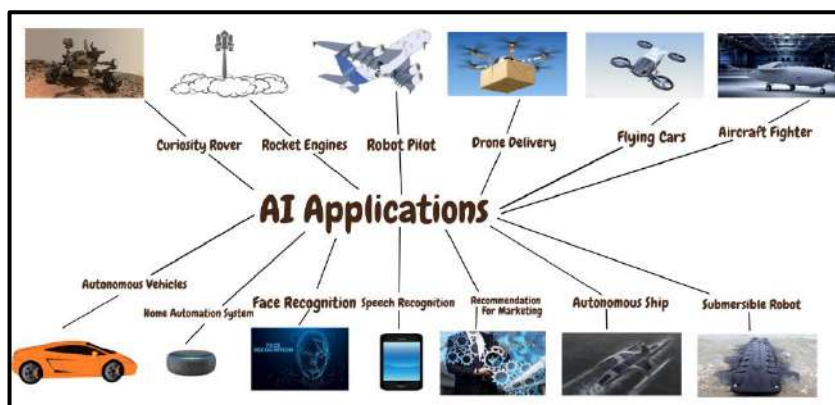
Challenges

- **Data security and privacy issues:** AI solutions build on ML and DL are based on a huge volume of confidential data, which are often sensitive and personal in nature. Along with automation, AI also brings a range of security and privacy vulnerabilities, which can subsequently exacerbate any organisation's exposure to cyber risk and geopolitical risk. However, India is moving in the right direction with the Personal Data Protection Bill, 2019, and the National Cyber Security Strategy, 2020.

- **Limited AI expertise and lack of investment to implement AI solutions:** AI requires highly trained and skilled professionals, but being an emerging technology, the talent pool is limited.

- **Lack of AI and cloud computing infrastructure:** India lacks access to specialised compute and storage facilities which forms the backbone of AI. A beginning has been made with India's own AI-first compute infrastructure, **AIRAWAT, which is a cloud platform for Big Data analytics with advanced AI processing capabilities.**

- **Lack of data and poor data quality**: Data is the backbone of AI, hence easy availability of open-source data is crucial for any country to accelerate AI innovation and adoption.

- **Driven largely by the private sector:** AI-based applications to date have been **driven largely by the private sector and have been focused primarily in consumer goods**. The policymakers in government are yet to to take notice of this.

- **Outdated work and education system**: The **sequential system of education and work is outdated in today's economic**

environment as the nature of jobs shifts rapidly and skills become valuable and obsolete in a matter of years.

Recommendations

- With our day to day lives being increasingly influenced by Artificial Intelligence, it is **critical that government, industry, academia and civil society work together to evaluate the opportunities presented by AI, ensuring that it benefits all of humanity.**
- India must **adopt a policy to drive and promote AI innovation, adaptation, and proliferation in all sectors** and make AI a critical component of the prime minister's flagship *Make in India, Skill India, and Digital India programs.*
- **Incentivise AI Adoption:** Offer incentives to manufacturers, create regional innovation clusters for manufacturing automation and robotics in partnership with universities and start-ups, incorporate market-based mechanisms for identifying the kind of skills that employers will value in the future, and promote cloud infrastructure capacity building inside India.
- The **National Education Policy must make recommendations on alternative models of education** that would be more suited to an AI-powered economy of the future.
- **AI-powered adaptive personalised learning platforms**, if made available to the students in their mother tongues, will help to scale up the learning outcome.
- The government needs to identify public sector applications such as detecting tax fraud, preventing subsidy leakage, and targeting beneficiaries, where current advances in AI could make a significant impact.
- India must view **machine intelligence as a critical element of its national security strategy.**

*To achieve the goal of **#AIforAll,** the government should act as a facilitator and an active promoter while ensuring that it does not crowd out the private sector.*

GREEN AND SELF-POWERED DESALINATION PLANT   *GS-III SCIENCE & TECHNOLOGY*

Context

- As a part of its ongoing initiative **National Institute of Ocean Technology (NIOT)** was providing potable water in six islands of Lakshadweep using **Low-Temperature Thermal Desalination (LTTD) technology**. But now it is working at **making this process free of emissions.**

Desalination

- The centuries-old concept uses thermal distillation or a reverse osmosis membrane to separate salt from the sea. The by-product of the desalination process is brine.

Marine and climate impacts of desalination

- Separating salt from water is **highly energy intensive.**
- Four desalination plants in Cyprus generate around 2% of its total greenhouse gas emissions.
- The plants also accounted for 5% of the total electricity consumption in Cyprus, representing one of the largest shares by sector of electricity consumption.
- **Highly toxic brine:** Desalinated water produced generated around 103 million cubic meters of **toxic, high-salinity brine effluent that impacted the Mediterranean seagrass ecosystem in the region of the discharge pipes.**
- Increased salinity, combined with climate-driven temperature rise, can cause a decrease in the dissolved oxygen content, **resulting in conditions called hypoxia.**
- This hypersaline water can sink to the ocean bed and kill marine microorganisms that are vital to the entire food chain.
- In addition, **chemical compounds such as copper and chloride are also observable in the desalination pre-treatment process and can be toxic to organisms in the receiving water.**

Solutions:

- A Berlin-based company, Boreal Light, has developed **off-grid solar and wind energy desalination plants that ensure greater energy independence and immunity from price fluctuations**.
- Sodium, magnesium, calcium, potassium, bromine, boron, strontium, lithium, rubidium and uranium **could be harvested from the filtered material and reused in industry and agriculture**.
- MIT Scientists have suggested ways to **repurpose brine by using the salt to produce caustic soda, or sodium hydroxide.**

Desalination Plants at Lakshadweep

- Currently, the desalination plants, each of which provides at least 100,000 litres of potable water everyday, are powered by diesel generator sets — there being no other source of power in the islands.
- **LTTD exploits the difference in temperature (nearly 15°C) in ocean water at the surface and at depths of about 600 feet.** This cold water condenses water at the surface, that is warmer but whose pressure has been lowered using vacuum pumps. Such de-pressurised water can evaporate even at ambient temperatures and this resulting vapour when condensed is

free of salts and contaminants and fit to consume.

- However, **the need for diesel power to reduce the water pressure means that the process is not fossil-fuel free and also consumes diesel,** a precious commodity in the islands that has to be shipped from the mainland critical for powering the electric grid.
- But now, for the first time in the world, NIOT is setting up **a [desalination] plant that will also supply power to the plant.**

LTTD
- **Low-temperature thermal desalination**(LTTD) is a desalination technique that takes advantage of the fact that water evaporates at lower temperatures at low pressures, even as low as ambient temperature.
- The system uses vacuum pumps to create a low pressure, low-temperature environment in which water evaporates even at a temperature gradient of 8 °C (14 °F) between two volumes of water.
- Cooling water is supplied from deep sea depths of as much as 600 metres (2,000 ft). This cold water is pumped through coils to condense the evaporated water vapor. The **resulting condensate is purified water.**
- The LTTD technology **does not require any chemical pre and post-treatment of seawater** and thus the pollution problems are minimal and suitable for island territories.
- Since **no effluent treatment is required**, it gives less operational maintenance problems compared to other desalination processes. The LTTD technology is completely indigenous, robust and environment friendly.

National Institute of Ocean Technology (NIOT)
- The **National Institute of Ocean Technology**(NIOT) was **established in 1993 as an autonomous society** under the Ministry of Earth Sciences in India.
- NIOT is **managed by a Governing Council and is headed by a director**. The **institute is based in Chennai.**
- The major aim of starting NIOT was to **develop reliable indigenous technologies** to solve various engineering problems associated with harvesting of non-living and living resources in India's exclusive economic zone, which is about **two-thirds of the land area of India.**

SAMUDRAYAAN   GS-III SCIENCE & TECHNOLOGY

Context
- The National Institute of Ocean Technology is set to spearhead a 6,000-metre dive into the Indian Ocean, a mission to explore marine biodiversity and potential of the seabed.

About
- Samudrayaan Mission is related to the ocean/sea.
- The Indian Government launched the **Samudrayaan mission in October 2021.**

Aim of the Mission
- It is aimed to develop "a self-propelled manned submersible to carry three human beings to a water depth of 6,000 meters in the ocean with a suite of scientific sensors and tools for deep ocean exploration.
- Developed indigenously, **MATSYA 6000 is a manned submersible vehicle.**
- It will facilitate the Ministry of Earth Sciences (MoES) in **conducting deep ocean exploration.**
- It has an **endurance of 12 hours** of operational period and 96 hours in case of emergency.
- The manned submersible will **allow scientific personnel to observe and understand unexplored deep-sea areas by direct intervention.**

Device for Samudrayaan misison
- National Institute of Ocean Technology (NIOT), Chennai, an autonomous institute under the Ministry of Earth Sciences (MoES), has developed a **6000 m depth-rated Remotely Operated Vehicle (ROV)** and various other underwater instruments.
- Some of the critical subsystems of the manned submersibles are the development of the **Ti Alloy Personnel Sphere, Human support and safety system in enclosed space, low-density buoyancy modules, and Ballast and Trim System.**

Relevance for India
- India has a unique maritime position, a 7517 km long coastline, which is home to nine coastal states and 1,382 islands.
- The mission aims to boost the Central government's **vision of 'New India' that highlights the Blue Economy as one of the ten core dimensions of growth.**
- For India, with its three sides surrounded by the oceans and around 30% of the nation's population living in coastal areas and coastal regions play a major economic factor. It supports fisheries and aquaculture, tourism, livelihoods, and blue trade.

Significance of the Mission

- This niche technology shall facilitate in carrying out deep ocean exploration of the non-living resources such as polymetallic manganese nodules, gas hydrates, hydro-thermal sulfides, and cobalt crusts, located at a depth between 1000 and 5500 meters.

Read about Deep Ocean Mission: https://www.iasgyan.in/daily-current-affairs/deep-ocean-mission-and-samudrayaan-project

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| GPT-4 | **GS-III SCIENCE & TECHNOLOGY** |

Context

- AI powerhouse OpenAI announced GPT-4, the next big update to the technology that powers ChatGPT and Microsoft Bing.

GPT-4 and its Features

- GPT-4 is a **large multimodal model created by OpenAI.**
- Multimodal models can encompass more than just text – **GPT-4 also accepts images as input.** Meanwhile, GPT-3 and GPT-3.5 only operated in one modality, text, meaning users could only ask questions by typing them out.
- GPT-4 also **"exhibits human-level performance on various professional and academic benchmarks."**
- The language model can pass a simulated bar exam with a score around the top 10 per cent of test takers and can solve difficult problems with greater accuracy thanks to its broader general knowledge and problem-solving abilities.
- For example, it can "answer tax-related questions, schedule a meeting among three busy people, or learn a user's creative writing style."
- GPT-4 is also **capable of handling over 25,000 words of text**, opening up a greater number of use cases that now also include long-form content creation, document search and analysis, and extended conversations.

How is GPT-4 different from GPT-3?

*GPT-4 can 'see' images now:

- The most noticeable change to GPT-4 is that it's multimodal, allowing it to understand more than one modality of information. **GPT-3 and ChatGPT's GPT-3.5 were limited to textual input and output, meaning they could only read and write.** However, **GPT-4 can be fed images and asked to output information accordingly.**

Note: There seems to be a resemblance with Google Lens. But Google Lens only searches for information related to an image. GPT-4 is a lot more advanced in that it understands an image and analyses it.

*GPT-4 is harder to trick:

- One of the biggest drawbacks of generative models like ChatGPT and Bing is that they can get facts mixed up and produce misinformation.
- OpenAI says that it spent 6 months training GPT-4 using lessons from its "adversarial testing program" as well as ChatGPT, resulting in the company's "best-ever results on factuality, steerability.

*GPT-4 can process a lot more information at a time:

- Large Language Models (LLMs) may have been trained on billions of parameters, which means countless amounts of data, but there are limits to how much information they can process in a conversation. ChatGPT's GPT-3.5 model could handle 4,096 tokens or around 8,000 words but **GPT-4 pumps those numbers up to 32,768 tokens or around 64,000 words.**
- This increase means that where ChatGPT could process 8,000 words at a time before it started to lose track of things, **GPT-4 can maintain its integrity over way lengthier conversations.** It can also process lengthy documents and generate long-form content – something that was a lot more limited on GPT-3.5.

*GPT-4 has an improved accuracy:

- OpenAI admits that GPT-4 has similar limitations as previous versions – it's still not fully reliable and makes reasoning errors.
- However, "GPT-4 **scores 40 per cent higher than GPT-3.5 on factuality evaluations.**
- It **will be a lot harder to trick GPT-4 into producing undesirable outputs such as hate speech and misinformation.**

GPT-4 is better at understanding languages that are not English:

- Machine learning data is mostly in English, as is most of the information on the internet today, so training LLMs in other languages can be challenging.
- But **GPT-4 is more multilingual** and outperforms GPT-3.5 and other LLMs by accurately answering thousands of multiple-choice across 26 languages.
- It handles English best with an 85.5 per cent accuracy, but Indian languages like Telugu aren't too far behind either, at 71.4 per cent.
- What this means is that **users will be able to use chatbots based on GPT-4 to produce outputs with greater clarity and higher accuracy in their native languages.**

SPACE TOURISM

Context

- Indian Space Research Organisation (ISRO) Chairman S Somnath has said, "Work is in progress around India's very own space tourism module, which is both safe and reusable."

Details

- Enthusiasts will be able to take a trip to space by 2030. The estimated cost of the trip is slated to be Rs 6 crore.
- People who take the trip will also be able to call themselves astronauts.
- It has not been announced whether the module will include sub-orbital space travel or orbital space travel.

Note:

- The main difference between sub-orbital and orbital space travel is the speed at which a vehicle is travelling. An orbital spacecraft must achieve what is known as orbital velocity, whereas a suborbital rocket flies at a speed below that.
- Sub-orbital trips generally involve spending 15 minutes at the edge of space, experiencing a few minutes in a low-gravity environment, before the spaceflight descends back to Earth.

Space Tourism

- Space tourism is another niche segment of the aviation industry that seeks to give tourists the ability to become astronauts and experience space travel for recreational, leisure, or business purposes.
- Companies including Virgin Atlantic, SpaceX, XCOR Aerospace, Jeff Bezos's Blue Origin and Armadillo Aerospace are working on providing space tourism services to people.

The Pros and Cons of Space Tourism

Cons

- **Exposure to Sun's Radiation:** Space travel technology at the nascent stage can make entering space a dangerous venture. Space travelers are likely to get exposed to harmful radiations from the sun.
- **Health:** Spending long hours in zero gravity condition can be dangerous for the person's cardiovascular and musculoskeletal system. If people accidentally get exposed to high-energy ionizing cosmic rays, it may lead to cancer.
- **Exposure to harmful organisms:** We may unwittingly introduce some harmful microorganism from space into the atmosphere of Earth.
- **Poor Regulation:** Lack of proper regulation and inadequate safety protocols can make space travel extremely dangerous.
- **Commercialization:** Companies engaged in this form of travel may fail to stick to safety measures in a spree to gather more customers.
- **Waste of Resources:** Experimentation and unsuccessful ventures may cause an unnecessary waste of resources. Developing space programs and spacecrafts need a lot of money. That money can be utilized for alleviation of poverty.
- **Inequity:** Space tourism is meant for the super rich only. For example, a single 2 ½ hour flight ticket in Virgin Galactic's upcoming space ship costs $ 250,000.
- **Not environment friendly:** Several natural resources are wasted in flying the fuel guzzling rockets. It pollutes the atmosphere as well. Thus, space program is bad for our environment.
- **Not a panacea**: It is great to imagine people walking on the surface of Mars. It would not be wise to consider the escape to space will help in escaping the problems of earth. There is nowhere in the solar system where we can find the environment as congenial as that available on earth.

Pros

- **Boost to economy:** Space tourism will increase the commercial activity in the time of poor state of world economy.
- **Generate Employment:** Space tourism will give employment to thousands of people. Manufacturing of new and better spacecraft will give employment to many skilled people.
- **Draw Investors:** It will renew interest in space exploration. This will draw more investors for more financial backing to support more innovations in the industry.
- **Pave ways to protect Earth:** It would also help in identifying potential hazards dangerous for our planet.
- **Technological advancement:** Opens avenues for advanced technology which can be applied to other domains apart from space missions.
- **New resources:** Help to find new minerals and other precious materials in space and other planets. This will be of great help to the people of Earth where natural resources are depleting fast.
- **Adventure Tourism:** Open a new avenue for adventure tourists.

Final Words

- Once space tourism does become mainstream, it will also positively impact many socioeconomic factors on Earth: creating jobs, educating citizens about space and fostering a new solar-based energy infrastructure.
- The sweet escape to the stars can eventually awaken us to the awe-inspiring potential of space exploration while also giving us a better appreciation of home.

BHARAT 6G PROJECT   GS-III   SCIENCE & TECHNOLOGY

Context

- Recently, Prime Minister Narendra Modi unveiled the "Bharat 6G Vision Statement".
- India is gearing up to roll out high-speed 6G communication services by 2030.

Key Features of 6G

Multiband Ultrafast Speed	Energy Efficient Comunication	Artificial Intelligence	High Security, Secrecy and Privacy
Visible light spectrum band	Wireless charging by inductive coupling, magnetic coupling etc.	Service Intelligence	Distributed management mechanism for multi level security
Spectrum range: 0.1 to 10 Thz	Energy to be harvested from sunlight	Environmental Intelligence	Block Chain Technology
	Energy to be harvested from ambient radio frequencies	Operational Intelligence	Quantum key distribution

What is 6G?

- 6G, or the sixth-generation telecom network, is the **cell phone technology that will provide internet speed of up to 1 terabyte (TB) per second with "ultra-low latency".**

Latency is the time it takes for data to pass from one point on a network to another.

- It will ensure smooth **machine-to-machine and machine-to-human interactions** and boost the development of virtual and augmented reality (VR/AR) and Artificial Intelligence (AI).
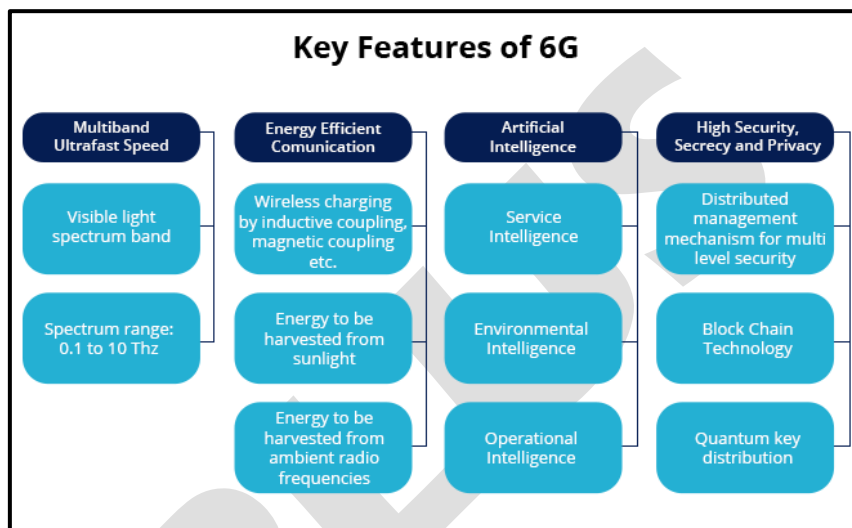
How is 6G different from 5G?

- Under the 5G technology, the **average speed range lies between 40 to 1,100 Mbps**, potentially hitting maximum speeds of 10,000 Mbps through technologies such as millimetre-wave spectrum and beamforming.
- According to the document, **6G will offer ultra-low latency with speeds up to 1 Tbps.**

Why is 6G necessary?

- The primary focus of 6G is to support the **4th Industrial Revolution** by building a **bridge between human, machine, and environmental nodes.**
- In addition to surpassing 5G, 6G will have a range of unique features to establish next-generation wireless communication networks for linked devices by using **machine learning (ML) and artificial intelligence (AI).**
- This will also benefit emerging technologies like **smart cities, driverless cars, virtual reality, and augmented reality, in addition to smartphone and mobile network users.**
- It will combine and correlate different technologies, like **deep learning with big data analytics**.

What will change with 6G?

- 6G mobile communication technology is expected to **improve and enable access to required information, resources, and services**.
- Its deployment is expected to **reduce differences in regional and social infrastructure and economic opportunities.**
- Thus, it promises a way to **slow down rural migration to cities and metro-led urbanisation.**
- 6G will play an important role in **filling the gap in the availability of e-services between urban and rural communities**. This will subsequently **fulfill the UN's SDGs and tremendously contribute to improving the quality and opportunities of human life.**
- The main use cases of the 6G network will include **remote-controlled factories, constantly communicating self-driven cars and smart wearables.**

India's plan to develop and launch 6G - Bharat 6G Project

The objective of the Project

- To enable India to become a leading global supplier of intellectual property, products and solutions of affordable 6G telecom solutions and identify priority areas for 6G research based on India's competitive advantages.

Phases of the Project

- The Centre will implement the Bharat 6G project in two phases.
  - In the first phase, it will provide support to explore new ideas and pathways. With the government's support, these ideas will then be used to develop use cases, intellectual properties (IPs) and testbeds.
  - In the second phase, these IPs, prototypes and testbeds will be commercialized.

Apex council
- The government has appointed an apex council to oversee the project and focus on issues such as **standardization, identification of the spectrum for 6G usage, for creating an ecosystem for devices and systems,** and figuring out finances for research and development, among other things.
- The apex council will **facilitate and finance research and development, design and development of 6G technologies** by Indian start-ups, companies, research bodies, and universities.
- A key focus of the council will be on new technologies such as Terahertz communication, radio interfaces, tactile internet, artificial intelligence for connected intelligence, new encoding methods and waveforms chipsets for 6G devices.

How much money has been set aside for the development of 6G?
- The statement recommended the creation of a corpus of Rs 10,000 crore to facilitate various funding instruments such as grants, loans, VC funds, funds of funds, etc., over the next ten years.

Is there any caution?
- While 6G promises growth, it will simultaneously have to be balanced with sustainability as most **6G supporting communication devices will be battery-powered and can have a significant carbon footprint.**

Which other countries are focussing on the 6G network?
- South Korea has unveiled its 6G research and development plan with an investment of Rs 1,200 crore till 2025.
- Dedicated research centres have been set up in the country and are working closely with the Korean Intellectual Property Office.
- In Europe, the European 6G Vision has identified key features of this network and is currently conducting a research project named Hexa-X. It will end this year.
- In Japan, the Integrated Optical and Wireless Network (IOWN) Forum has published its Vision 2030 white paper for 6G. The paper laid out key technology directions for infrastructure evolution in four dimensions: **cognitive capacity, responsiveness, scalability, and energy efficiency.**

PIEZOELECTRIC EFFECT — GS-III SCIENCE & TECHNOLOGY

In News
- For the first time, scientists have reported evidence of the piezoelectric effect in liquids.

Details
- The effect was found in pure 1-butyl-3-methyl imidazolium bis(trifluoromethyl-sulfonyl)imide and 1-hexyl-3-methyl imidazolium bis (trifluoromethylsulfonyl)imide – both ionic liquids (i.e. liquids made of ions instead of molecules) at room temperature.
- The effect has been known for 143 years and in this time has been observed only in solids.
- The new finding challenges the theory that describes this effect as well as opens the door to previously unanticipated applications in electronic and mechanical systems.

What is the piezoelectric effect?
- Piezoelectric Effect is the ability of certain materials to generate an electric charge in response to applied mechanical stress.
- In the piezoelectric effect, **a body develops an electric current when it is squeezed.**

Discovery
- "The piezoelectric effect was discovered in 1880, in quartz.

Example
- **Quartz** is the most famous piezoelectric crystal: it is used in this capacity in analog wristwatches and clocks.

Applications
- Such crystals are also used in cigarette lighters, electric guitars, TV remote controls, audio transducers, and other instruments where converting mechanical stress to a current is useful.

Why is the effect in liquids surprising?

- The reason the piezoelectric effect has only been expected in solids thus far is that the body being squeezed needs to have an organised structure, like the pyramids of quartz.
- Liquids don't have such structure; instead, they take the shape of their container.
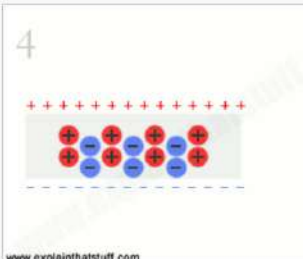
Significance

- The discovery **opens the door to applications that have previously not been accessible with solid-state materials**, and [room-temperature ionic liquids] are more readily recyclable and in many instances pose fewer environmental issues than many currently used piezoelectric materials.

How piezoelectricity works

Here's a quick animation showing how piezoelectricity occurs. It's somewhat simplified, but it gives you the basic idea:

1. Normally, the charges in a piezoelectric crystal are exactly balanced, even if they're not symmetrically arranged.

2. The effects of the charges exactly cancel out, leaving no net charge on the crystal faces. (More specifically, the **electric dipole moments**—vector lines separating opposite charges—exactly cancel one another out.)

3. If you squeeze the crystal (*massively* exaggerated in this picture!), you force the charges out of balance.

4. Now the effects of the charges (their dipole moments) no longer cancel one another out and net positive and negative charges appear on opposite crystal faces. By squeezing the crystal, you've produced a voltage across its opposite faces—and that's piezoelectricity!

www.explainthatstuff.com

- The liquids also displayed the inverse piezoelectric effect: they became distorted when an electric charge was applied. This fact could be used to control how the liquids bent light passing through them by passing different currents through them.
- That is, using this simple control mechanism, vials of these liquids could be lenses with dynamic focusing abilities.
- Having a theory to explain the liquids' behavior could reveal why these liquids behave the way they do, which could in turn reveal better ways to manipulate them and develop newer applications.

BORDER VIGILANCE

Context
- Constant vigil on northern, western borders and entire coastline must be maintained, says Rajnath Singh

Details
India borders:
- India currently has more than **15000 km of land borders and more than 7500 km of maritime borders**. It shares borders with seven countries including Afghanistan, Pakistan, China, Nepal, Bhutan, Bangladesh and Myanmar.
- Border guarding responsibility initially was with the state forces post-independence, however, the same was found inadequate to handle the challenges and threats.
- Based on the inadequacies, experienced paramilitary forces (PMFs), now called **central armed police forces (CAPFs) were raised under the Ministry of Home Affairs (MHA) and were tasked to guard the borders under the control of the ministry**.
- In case of active hostilities, the Army is given the responsibility to man the borders.
- CAPFs responsible for the border guarding role are invariably placed under the operational control of the Army in such cases as an integrated approach becomes critical for success.
- All our borders are currently being guarded with different models with no single force being responsible exclusively for border guarding.

Pakistan
- Despite the accession of Jammu and Kashmir (J&K) to India as per the Indian Independence Act of 1947, Pakistan fought four conventional wars with India namely in 1947-48, 1965, 1971 and 1999.
- It has also been engaged in a proxy war as well both in the state of J&K and Punjab.
- It is already in adverse possession of PoK, an Indian territory and continues doing so even today.
- The border is active in form of LOC where the Army has been deployed in addition to the BSF. A border fence, also called the anti-infiltration obstacle system (AIOS) has been created

Bangladesh:
- The relations between India and Bangladesh have been moving up and down based on the government in power.
- The current relations with Bangladesh are very good but Pakistani efforts to create a religious divide, Chinese inroads and presence of inimical elements have made the peace process prone to disruption.
- A stretch of 6.1 kilometers is a problem area for Indo-Bangladesh ties, though their relations are generally courteous.

China:
- The most complex and longest border that too in the form of LAC enmeshed with areas of differing perception at multiple locations is with China.
- The ITBP is responsible for Chinese border management.

Nepal:
- SSB is now responsible for the Nepalese border.
- Due to close relations between India and Nepal, Nepalese working in the Indian Army as soldiers and porous border, border management remains a challenge.

Bhutan:
- In addition to Nepal, the SSB is also responsible for Bhutan's borders.
- The border is relatively open all along.

Myanmar:
- Along the 1,643 kilometer border with Myanmar , only 52 kilometers is manned by Indian security forces.
- The Assam Rifles deputed to man this border is preoccupied with anti-insurgency operations to attend to the Burma border.

India's Border length with neighboring counties
- **4,096 km With Bangladesh**
- **3,488 km with China**
- **3,323 km with Pakistan.**
- **1,751 km with Nepal**
- **1,643 km with Myanmar**
- **699 km with Bhutan**
- **106 km with Afghanistan**

Steps taken for border management
- A **department of border management (DBM)** in the MHA was set up. DBM has been spearheading the border management

effort in the country.

Border Infrastructure and Management:

- Government has approved the **continuation of the central sector umbrella scheme of the Border Infrastructure and Management (BIM) during the 15th Finance Commission cycle from 2021-22 to 2025-26,** at a cost of Rs.13,020 crore.
- **The Scheme is implemented under The Ministry of Home Affairs.**
- It will strengthen the border management and infrastructure for improving policing and guarding the borders.
- It will **promote construction of border fence, border flood lights, border roads and Border Outposts, Operating Bases** to secure Indo-Pakistan, Indo-Bangladesh, Indo-China, Indo-Nepal, Indo-Bhutan and Indo-Myanmar borders.

Other program for improving border infrastructure and management:

- **In 1960, Jawaharlal Nehru laid the foundation of the Border Roads Organization (BRO), to provide defense infrastructure including roads, bridges, highways, airports, tunnels, buildings and other such structures.**
- Government launched a **Comprehensive Integrated Border Management System (CIBMS) to improve the capability of Border Security Force** in detecting and controlling the cross border crimes like illegal infiltration, smuggling of contraband goods, human trafficking and cross border terrorism etc.
- **Project BOLD-QIT (Border Electronically Dominated QTR Interception Technique) under Comprehensive Integrated Border Management System (CIBMS) on the Indo- Bangladesh border.**

Indian Maritime Agencies:

- **Indian Navy:** aims to be the 'net security provider' in the maritime neighbourhood, including deployments for anti-piracy, maritime security, Non-combatant Evacuation Operations and HADR (Humanitarian Assistance and Disaster Relief) operations.
- **Coast Guard**: protects India's EEZ from criminals, pirates, smugglers, poachers, human-traffickers and foreign subversion. It also carries out rescue missions in India's search and rescue zone. It is also engaged in developing bilateral and multilateral cooperation.
- **Coastal police**: confining its activities to largely coastal waters up to 24 nautical miles, with the help of other agencies, it has a surveillance network comprising coastal villagers, CISF personnel and data from radar chain and sensors installed on sailing vessels.
- **Maritime shipping and shipbuilding**: A major task for the government is to enhance its capacity for Indian commercial shipping as well as infrastructure.
- **Ocean affairs**: Ministry of Earth sciences (2006) is responsible for development of technology for exploitation and exploration of marine resources, weather services, climate change and geo-hazards, including tsunamis and vulnerability mapping for the purpose.
- **Customs Marine Organisation:** created following the recommendations of the Nag Chaudhari Committee.
- **Multi-layered Surveillance System:** Under the system, the outer layer (beyond 200 nautical) was patrolled by the Indian naval ships and aircraft; the intermediate layers (12-200 nautical miles) was patrolled by Indian Coast Guard; and the inner layer i.e. the territorial waters (shoreline to 12 nautical miles), was patrolled by the marine police.
- **National Committee for Strengthening Maritime and Coastal Security:** coordinates all matters related to Maritime and Coastal Security and periodically reviews coastal security against threats from the sea with all stakeholders.
- **Coastal Surveillance Network:**
  o comprising of static sensors along coasts, **automatic identification systems** (AIS), long range tracking, day-night cameras and communication devices has been put in place.
  o **Vessel Traffic Management System** (VTMS) radars are installed on all major & minor ports to facilitate surveillance.
  o Commissioning of **Information Management & Analysis Centre** (IMAC) in Gurugram for easy collection and dissemination of shipping data for increased awareness.
  o The Navy established **the Information Fusion Centre for the Indian Ocean Region** (IFC-IOR) at IMAC for 24/7 regional information sharing on commercial shipping.
  o **Central Industrial Security Force** (CISF) now guards ports. Moreover, **Sagar Prahari Bal** was constituted as a special force from navy for protection of naval bases.
- To leverage the potential of being present on the oceanic trade route, Indian Government has called for the blue economy development, modernization of its ports, **Sagarmala programme**, Industrial parks and logistic parks. This will provide the port led development in the Indian coastal states thus fuel the Indian economy.
- **Operation Sagar Kavach** was put in operation post 26/11 to improve coordination between security agencies including Indian Navy, Coast Guard and the local police.
- **Indian Maritime Security Strategy (IMSS) 2015** of Indian Navy: envisages greater coordination between different maritime agencies; securing SLOCs; Maritime Security Operations for contemporary assessments of maritime terrorism, piracy etc.; multilateral maritime engagement, local capacity building, technical cooperation etc.
- **Coastal Security Scheme** to strengthen security infrastructure of Marine Police Force in coastal states/UTs.
- Enhance Maritime Domain Awareness through **National Command Control Communication and Intelligence Network**

(NC3I), an over-arching coastal security network which collates and disseminates data about all ships, dhows, fishing boats and all other vessels operating near our coast.

The main challenges in managing India's borders are the following:

- **Multiple stakeholders:** Borders are manned by a large number of military, paramilitary and police forces, multiple ministries such as Ministry of Home Affairs, Ministry of Defence and Ministry of external Affairs. It results in lack of co-ordination in managing the borders.
- Lack of Border Management policy enunciating clear cut response mechanisms and issues of command and control.
- **Porous border:** Border is physically unguarded at many places due to terrain constraints and lack of approachability.
- **Cross border Ethnic ties:** Ethnic, cultural, religious and racial affinity across the border at many places such as Indo-Myanmar border. For example free movement regime of 16 km across Nagaland border – exploit by insurgents.
- Unsettled border especially with China and Pakistan and frequent border clashes and skirmishes due to the different perceptions on Line of Control and Line of Actual Control. Un-demarcated border area along Indo-Myanmar border.
- **Illegal immigration:** especially from Bangladesh. Here a different type of border management has to be adopted. Unabated illegal immigration has caused serious long term economic, political, and social and security implications for India.
- **Smuggling:** of drugs, arms, human, cattle, fake currency, salt, diesel, Urea etc. Ex- Moreh in Manipur is place of drug smuggling. Involvement of local people make it more difficult to curb. Country-wise:
  - Pakistan border – arm, fake currency and drug
  - Bangladesh – arm, fake currency, drug, cattle, human, urea, diesel etc.
  - Nepal – cattle, drug, human, arms
  - Myanmar – arms, drug
- **Lack of resources:** Border guarding forces are often under resourced and ill-equipped.
- Institutional mechanisms for coordinating intelligence gathering, sharing and intelligence coordination are weak.
- **Emergence of non-state actors:** Increased cross-border terrorism, Infiltration and exfiltration of armed militants, Nexus between narcotics and arms smugglers, Separatist movements aided and abetted by external powers. Bangladesh has been used by the insurgent groups in the North-East like United Liberation Front of Assam (ULFA), and Nationalist Socialist Council of Nagaland (NSCN-I).

Way Forward

- The **MHA approach seems to be to curb and regulate rather than facilitate**.
- Taking border area populations into confidence and generating trust in local populations is very important.
- Border areas require more **connectivity** and more **socio-economic activity. Illegal migrations** from the border areas can be highly destabilising. The border management must take this into account.
- **International cooperation** is also essential. India Bangladesh border has stabilised due to much better coordination between the BSF and BGB.
- **Northeast** is the gateway to ASEAN which is relatively a prosperous area. The vision of connecting ASEAN with Asia through India is laudable but there are many problems. The issue is **connectivity and the developmental potential** of the region.
- The Northeast receives drugs, arms and other contraband through the porous borders. The border with Myanmar is porous and is affected by intractable **insurgencies** on the Myanmar side. That makes border management that much more difficult.
- The government is thinking of **setting up a maritime commission to deal with coastal security**. This will help bring the required focus on the problem, improve the coordination and help monitor the various projects.
- **Coastal police need to be strengthened**.
- The **problems of island territories require a special focus and approach**. Andaman and Nicobar Islands are highly strategic as well as ecologically fragile. We need special policies for the development of these islands. The same can be said of the Lakshadweep Islands.
- The key to border management is to take **people-centric approaches and make them partners in national security**. Good cooperation with the neighbours is also essential.
- Further, we should **harness space technologies, IT, and modern methods of infrastructure construction** to ensure better border management.

International Organisation for Migrations, a UN agency:

"Good border management… serves a dual purpose, helping to balance States' interests in both facilitating cross-border movements and maintaining security. Achieving this balance depends upon border management policies and interventions focused on four areas of work: 1) identity management, 2) Border Management Information Systems (BMIS), 3) Integrated Border Management (IBM) and 4) Humanitarian Border Management (HBM)."

SUSPENSION OF OPERATIONS AGREEMENT

GS-III SECURITY & DEFENSE

Context

- The Manipur government withdrew from the Suspension of Operations (SoO) agreement with two hill-based tribal insurgent groups, claiming they were fueling unrest among forest settlers.

Details

- The **decision to withdraw from the Suspension of Operations (SoO) agreement is the outcome of a long - period of unrest in the Kuki-dominated hills of Manipur**, which began with a campaign to remove "encroachers" from forest land, a call for a "peaceful" protest march that turned into violence as Section 144 was implemented, this **created a conflict between Kuki tribal organisations and the state government**.

Background

- 38 villages in the Churachandpur-Khoupum Protected Forest area have allegedly been labelled "illegal settlements" and their occupants as "encroachers" by various government ministries since August 2022.
- After sending notifications to five villages, the authorities began an eviction campaign in the K Songjang village. It resulted in clashes between the residents and the police authorities.
- The Kuki Inpi, the largest tribal body of the Kukis in Manipur, requested a peaceful march in the state. The authorities enforced Section 144 to curb the demonstrations.
- When the police attempted to put an end to the locals' protests in Kangpokpi, things became violent. Before the situation could be stabilised, at least five demonstrators and a couple of police officers were hurt.

Suspension of Operations (SoO) agreement

- This cease-fire agreement was made with two umbrella organisations, the Kuki National Organization (KNO) and the United People's Front (UPF), which together represent 25 groups: 17 under the KNO and 8 under the UPF.
- This trilateral agreement, which was **signed by the state, the groups, and the centre, called for an end to tensions and violence on all sides and the beginning of a political discussion.**
- The tribal bodies said that "the Union Home Minister vowed to solve the Kuki demand for a separate ethnic state during the 2022 election, now the questions have been raised as a result of the recent step taken by the state government. The Centre will decide what happens next."

Arguments made by the State government

- The state government claimed that **the protests had been organized with an "unconstitutional" motive**. They were challenging the provisions of the constitution.
- The Chief Minister stated that the demonstration was organised for a poppy plantation and a drug trade, and people were encroaching on reserved forests, protected forests, and wildlife sanctuaries.
- The demonstrations, according to the Chief Minister, were **motivated by the Zomi Revolutionary Army (ZRA) and Kuki National Army (KNA), two armed organisations** with which the state and the Centre first signed a Suspension of Operations (SoO) agreement in 2008 to start a political conversation. It has regularly been renewed.
- The Chief Minister announced that the cabinet discussed the Suspension of Operations agreement, particularly with the ZRA and KNA who are reportedly encouraging the protests after the eviction letters were issued to the forest encroachers.

Arguments made by the Kuki tribal bodies

- The tribal organisations have maintained that the **armed organisations had nothing to do with the protests.**
- They claimed that it was a "peaceful" protest against the weakening of Article 371 C, which grants the tribally dominant hill regions of Manipur considerable administrative autonomy.
- They stated that the **public's outrage was the outcome of the state government's violation of the scheduled Hill Areas and Article 371C of the Indian Constitution**; this was the only factor in the peace rally.
- They said that the peaceful demonstration was a result of great disregard and exploitation of tribal land rights in the name of various laws and actions.
- They highlighted that the **authorities are evicting us from our homes and destroying our traditions**.
- They noted that the tribes of Manipur have always been the "rightful landholders" since colonial times and the villagers have been living there since well before independence, long before the passage of the Indian Forests Act of 1972, the Wildlife Protection Act of 1972, and other Acts the government has used to justify the evictions.

Insurgency in Manipur

- The Insurgency in Manipur is a continuous armed conflict between the government and several separatist rebel groups.
- Manipur's insurgency is a part of the larger insurgency in Northeast India and contains elements of an ethnic conflict and a battle for national liberation.
- **Historical background:**
  - o The Kangleipak State was established in 33 AD, beginning Manipur's long tradition of independence. A single power did not rule the entire country before that.
  - o Following the brief Anglo-Manipur War of 1891, Great Britain seized control of the Kingdom of Manipur and turned it into a protectorate.
- **After Independence**
  - o In October 1949, Manipur was integrated into India.
  - o It became an independent state in 1972 as a response to violent demonstrations.
- Following Manipur's integration into the Indian state, several insurgent groups emerged, arguing that the union with India was forced upon Manipur and calling for the establishment of an independent state within its borders.
- **Main insurgent groups**
  - o United National Liberation Front (UNLF), the first secessionist organisation, was established in 1964. However, they didn't start using force until 1991.
  - o The Kangleipak Communist Party (KCP), People's Revolutionary Party of Kangleipak (PREPAK), and the People's Liberation Army of Manipur (PLA) were all founded between 1977 and 1980 and joined the conflict.
- The Armed **Forces (Special Powers) Act, of 1958 was imposed on Manipur** by the Indian government in 1980 after the region was declared a source of instability; the act is still in effect today.
- Manipur-based militants are differentiated from the other insurgencies in the Northeast by a **low rate of defections and a well-organized intelligence network.** However, they have **avoided targeting local police officers to win over the public.**
- The primary means of funding for armed organisations continue to be extortion.

Way Forward

- A transparent administration, a just judicial system, **respect for the rule of law, and the provision of the bare necessities** like hospitals, schools, police stations, etc. are all necessary for the establishment of good governance in the state.
- For the **overall state's development**, both in the valley and the hills, there must be political sincerity and an equitable allocation of resources.
- **Border management** is necessary before starting any counter-insurgency operations or policies on the international boundary between India and Burma.
- To **promote national integration**, greater emphasis should be given to the connections and interactions between the diverse communities of Manipur and mainland India.

TACTICAL NUCLEAR WEAPONS   *GS-III SECURITY & DEFENSE*

Context

- Russian President Vladimir Putin's announcement that he intends to deploy tactical nuclear weapons on the territory of Belarus appears to be another attempt to raise the stakes in the conflict in Ukraine.

Possible consequences behind Putin's move

- With his latest statement, Putin again is **dangling the nuclear threat to signal Moscow's readiness to escalate the war in Ukraine.**
- The **deployment of tactical nuclear weapons to Belarus, which has a 1,084-kilometer border with Ukraine, would allow Russian aircraft and missiles to reach potential targets there more easily and quickly if Moscow decides to use them**.
- It would also extend Russia's capability to target several NATO members in Eastern and Central Europe.

Reactions from Ukraine and the West

- Ukraine has responded to Putin's move by calling for an **emergency meeting of the U.N. Security Council**.
- NATO rejects Putin's claim that Russia only is doing what the US has done for decades, saying that **Western allies act with full respect for their international commitments.**

About Tactical Nuclear Weapons

- Tactical (nonstrategic) nuclear weapons (TNWs) typically refer to **short-range weapons**; within the U.S.-Soviet (Russian) context, this means land-based missiles with a range of less than 500 km and air- and sea-launched weapons with a range of less than 600 km.
- France classifies all its currently deployed nuclear weapons as strategic; China also classifies many nuclear weapons as

strategic.

Worldwide TNW Arsenals
- TNWs **constitute a large percentage of the arsenals of the nuclear weapon states**:
  - o 30-40% of the American and Russian arsenals,
  - o nearly 100% of the Chinese and French arsenals, and
  - o all of the Israeli, Indian, and Pakistani arsenals;
  - o Great Britain no longer has short-range nuclear weapons.

TNWs in Russia
- **Unlike strategic weapons, which have been subject to arms control agreements between Moscow and Washington, tactical weapons never have been limited by any such pacts, and Russia hasn't released their numbers or any other specifics related to them.**
- While strategic nuclear weapons are fitted to land- or submarine-based intercontinental ballistic missiles that are constantly ready for launch, **tactical nuclear weapons are stored at a few tightly guarded storage facilities in Russia, and it takes time to deliver them to combat units.**
- Some Russian hawks long have urged the Kremlin to send a warning to the West by moving some tactical nuclear weapons closer to the aircraft and missiles intended to deliver them.

Arms Control Regime
- TNWs are the **least-regulated category of nuclear weapons covered in arms control agreements**.
- They are only subject to an informal regime created by unilateral, parallel declarations made by George Bush and Mikhail Gorbachev in the fall of 1991.

The Dangers Associated with TNWs
- Their small size and the absence of electronic locks or Permissive Action Links (PALs) on older versions contribute to their **vulnerability to theft and unauthorized use**.
- TNWs were intended for the use in battlefield and theatre-level operations in conjunction with conventional forces. These **missions encourage their forward-basing and can make the decision to use TNWs psychologically and operationally easier.**
- **The very existence of TNWs in national arsenals increases the risk of proliferation and reduces the nuclear threshold, making the nuclear balance less stable**.

The Role of TNWs in the post-Cold War World
- In Russia, TNWs **acquired greater significance because of the deterioration of Russia's conventional forces and its growing reliance on nuclear arms as a "poor man's" counter to the "revolution in military affairs" and technological breakthroughs** in costly, advanced conventional arms by the United States. The Road Ahead

Analysis
- The new perception of the usability of nuclear weapons in Russia could c**reate a dangerous precedent for other countries, leading them to believe that nuclear weapons could provide tangible political and military benefits and increasing propensity to acquire nuclear capability**.
- For that reason, it seems highly desirable to strengthen the non-nuclear regime on TNWs.

ARMED FORCES (SPECIAL POWERS) ACT
GS-III SECURITY & DEFENSE

Context
- The Ministry of Home Affairs (MHA) has removed the Armed Forces (Special Powers) Act (AFSPA) from the jurisdiction of three police stations in Wokha and Zunheboto districts of Nagaland, while one more police station in Arunachal Pradesh has been declared as a "disturbed area" under the Act.

Details
- The **AFSPA has been extended in eight districts and 21 police stations in five other districts of Nagaland for another six months**, down from nine districts earlier.

Present Status
- AFSPA now applicable fully only in 31 districts of 4 Northeast states and partially in 12 districts.
- The Act is applicable in the entire state of Jammu and Kashmir.
- **States are:**
  - o Nagaland
  - o Assam
  - o Arunachal Pradesh

o Manipur

About the Act
Over the years:

- AFSPA had its roots in the Lord Linlithgow Ordinance 1942 which was enacted to curtail the Quit India movement and Nagaland was one of the first former states to demand the withdrawal of itself from Indi
- AFSPA, put to force in 1958, confers paramount powers on the Armed Forces to control the rebellious and violent uprisings in certain states of the country.
- This Act was **meant to help the armed forces for acquiring control over violent internal demonstrations and unrest organized by underground combative aggressors to continue their illegal and unconstitutional activities and influence more people**.
- The AFSPA was initially introduced to fight against the Naga uprisings following which it was applied to the prescribed disturbed areas as per the Act which was at that time the North-Eastern states of India mainly.
- The State Government's power of declaring an area disturbed was altered in 1972 and the Central Government was added in the scope too.
- After a few years, the parliament came up with the **Armed Forces (Jammu and Kashmir) Special Powers Act, 1990.**
- Along with the North-Eastern states and Jammu and Kashmir, it **was also implemented in Punjab**, but in 2008 it became the first state from which the AFSPA was removed.

Important provisions

- Section 2(a) notifies that the term **"armed forces" includes the military forces as well as the air forces which are considered as land forces**. It could constitute any other armed forces of the Union as well.
- Section 2(b) further defines a "disturbed area" as an area that has been notified or declared as a disturbed area under Section 3 of the Act.
- The **Central Government, the Governor of a state, the administrator of Union Territories, it is under the opinion of the whole or part of a State or Union territory being under dangerous conditions and requiring the aid of the Armed forces, then they can declare that area as a "disturbed area"** under Section 3 of the Act.
- Section 4 of the Act notes down the special powers given to the commissioned, non-commissioned, warrant, or any other officers of the prescribed rank.
  - o One of the powers give the **authority to the officers of firing or using force**, even if it caused the death of the person contravening law and order against whom such steps were taken or even in disturbed areas where even after the assembly of five or more people or the possession of arms or explosive substances are prohibited, it takes place after ignoring the warnings.
  - o The officers **can arrest a person without a warrant** if he/she commits a cognizable offence or if there is a suspicion of such a person going to or already have committed such an offence. The force required for the arrest can be applied as the officers deem fit.
  - o Officers can even **enter and search places without warrants** if they believe some property is being used for illegal purposes, used for storing arms, unreasonably confining people, and so on.
- According to Section 6, **no prosecution or legal proceedings can be furthered against a person acting under the powers given by this Act.** It can only be instituted with authorization from the Central Government.

Arguments in the support of AFSPA

- Neither the soldiers nor their superiors have any training in civilian law or policing procedures. That is why a special law like AFSPA needed to legitimize the presence and acts of armed forces in extraordinary situations.
- **Repealing the act will encourage insurgency and militancy and also threaten the peace and unity of the nation.**
- The Army needs such powers because the army is only deployed when national security is at serious risk**. "Extraordinary circumstances demand extraordinary measures".**

Arguments against AFSPA

- The act has been **criticized for human rights** violations in the regions of its enforcement. It provides immunity from human rights abuses and fuels cycles of violence.
- **This law started a Vicious cycle of Violence in the North East**: The use of the AFSPA drives the demand for more autonomy, giving the people of the North East more reason to secede from a state which enacted such powers and these agitations justify the use of the AFSPA from the point of view of the Indian Government.
- The Second Administrative Reforms Commission (ARC) recommended the repeal of the Armed Forces Special Powers Act, 1958. It commented that its **scrapping would remove sentiments of discrimination and alienation among the people of North-East India.**

- It has been years since this act came into being in India but the conflicts related to the law have not changed and have remained the same till now.
- There have been incidents like in Kashmir where a large number of civilians were injured and many were killed and blinded for their whole life because of the use of pellet guns.
- There have been **several cases of fake encounters in Manipur** as it was claimed in the case of Extra-Judicial Execution Victim Families Association and Anr. v. Union of India.
- Rapes and other incidents of sexual harassment have become common.
- There have been **many human rights activists who have protested against such acts like Irom Sharmila** where she followed the example of Mahatma Gandhi.

Judicial Verdict

- The Supreme Court in its decision in the case of **Naga People's Movement of Human Rights v. Union of India upheld the constitutional validity of AFSPA** but laid down certain guidelines in the form of do's and don'ts.
  - A person should not be detained for more period than what is required and then he should be handed over to the nearest police station and no force should be used on that person who is arrested except when he is trying to escape.
  - No persons are allowed to use third-degree torture on the person arrested or against the person who is under suspicion that will cause pain to him to get information or make the person confess and only the armed personnel are allowed to arrest the person.
- In another famous case of **Indrajit Barua v. The State of Assam**, the court found and declared that the state has to assure the protection of its citizens and their rights guaranteed under Article 21 which is also given to people where the AFSPA is enforced.
- The Supreme Court ruled that any encounter carried out by **armed forces under AFSPA should be subjected to thorough inquiry.**
- Supreme Court stated that "It does not matter whether the victim was a common person or a militant or a terrorist, nor does it matter whether the aggressor was a common person or the state. The law is identical for both and is equally applicable to both. This is the necessity of democracy and there is a requirement of protection of the rule of law and protecting individual liberties".

Committees

- In 2013, the Supreme Court created a committee under Santosh Hegde, the committee suggested **making the Armed Forces Special Powers Act (AFSPA) more humane, and the security forces more accountable.**
- There have been committees in the past that were set-up in 2004 to repeal the act like the **Justice Jeevan Reddy Committee** which was set-up.
  - The reports showed that they had recommended repealing the act and also made a conclusion that it was a bad act.
  - The committee even recommended that some of the provisions should be transferred to the Unlawful Activities (Prevention) Act, 1967 and even asked to set up an independent cell which will be called as 'grievance cell' that will do the work to enquire into the complaints filed for violation of basic human rights.
- It is not only this committee that has recommended repealing Armed Forces Special Powers Act, 1958 but committees like **Justice Verma Commission in the year 2013 had also reported that there has been an abuse of powers by the armed forces.**

Way Forward

- **Section 4(a)** which is completely against the scope of international human rights that protects the right to live **should be repealed or amended.**
- **Section 5 of the Act should be consistent with Article 22 of the constitution** under which it is compulsory to present an arrested person in front of the Magistrate within 24 hours.
- The scope of Section 6 should be increased to keep a **close check on the armed forces and stop them from committing inhumane and heinous crimes against innocent civilians**.
- The **sanction of the Central Government shouldn't be waited for**, maybe a special committee could be formed to begin inquiries straight away without any delays or prejudices against anyone.
- Sarkaria Commission suggested that the states should **develop their system of maintaining and dealing with public order**.
- The recommendations of the National Police Commission of **deploying the Central Reserve Police force for day to day policing** instead of engaging the army and paramilitary forces should be looked into.

NATIONAL SECURITY ACT

Context

- National Security Act has been invoked in the case of self-styled Sikh preacher and on-the-run Waris Punjab De chief Amritpal Singh.

Details

What is the National Security Act, 1980?

- The National Security Act was passed by Parliament in 1980 and has been amended several times since then.
- **The NSA "authorizes states to detain people without formal charges or trial."**

Evolution of NSA:

- The **Defense of India Act of 1915** was amended at the time of the First World War to enable the state to detain a citizen preventively.
- The **Government of India Act, 1935** gave the powers of preventive detention to the State for reasons connected with defense, external affairs or discharge of functions of the Crown in its relations with the Indian States.

Features of the law:

- According to the law, a person is detained to prevent him from committing an act that endangers "state security" or "the protection of public order".
- The administrative order passed by the Commissioner of this Division or the District Magistrate (DM) shall not include arrest by the police on any specific charge or offence.
- Even if a person is in police custody, the district administration can strike NSA against them.
- Or if a person is granted judicial bail, he can be immediately arrested under the NSA.
- If the person is acquitted by the court, the same person can be arrested by the NSA.
- The law removes a person's constitutional right to be brought before a judge within 24 hours, as in the case of an accused in police custody.
- The arrested person does not have the right to apply for bail in criminal court.
- A person can be detained without charge for a **maximum of 12 months.**
- A detainee can be held for 10-12 days in exceptional cases without being charged.

Reasons for invocation:

- The NSA can be called upon to prevent a person from taking actions detrimental to India's defence, India's relations with foreign powers or India's security.
- Among other things, it can also be used to prevent a person from taking action to support the services and services that the community needs.

Protection:

- **Important procedural guarantees in the NSA are provided in Article 22(5),** where prisoners have the right to represent effectively before an independent panel of three members
- The board is led by **one member who is or has been a high court judge**.
- The DM who passes the arrest order is protected under the Act: no legal action or prosecution can be initiated against the officer who executes the order.
- Therefore, the writ of **habeas corpus** is a constitutional remedy against the state's right to detain people under the NSA.

Constitutional Provision

- The Constitution of India allows preventive detention in certain cases and the right to be protected from arrest and detention under Article 22 of the Constitution.
- However, Article 22(3) states that the rights granted to arrested persons shall not apply to preventive detention, so there is an exception.

What the Supreme Court says?

- **The Supreme Court has said in previous cases that "preventive detention must be strictly construed to prevent this dangerous abuse of power" and "must strictly adhere to the guarantees of due process."**

Criticisms

- Human rights groups had earlier argued that the Act is against the Article 22 of the Constitution and several provisions of the CrPC.
- The arrested person must be informed about the reason for arrest and the right to appeal to a legal practitioner.
- Also, under the CrPC, the person arrested must be produced before the nearest Magistrate within 24 hours, but the NSA

makes an exception.

- Some human rights groups are often abused by the authorities to silence political opponents or critics of the government.
- There are calls for the Act to be repealed or amended to prevent this abuse.
- Few experts believe that law cannot be construed as a draconian law as it protects the larger interests of the state and hence is likely to remain in place.

Way forward

- **India's parliament and judiciary must revisit** the NSA to close any loopholes that permit law enforcement to abuse constitutional and statutory rights.
- It is time for India to catch up with the international community and recognise that preventive detention must not be used as an ordinary and regular law and order measure.

FOREST CONSERVATION RULES 2022

GS-III ENVIRONMENT & ECOLOGY

Context

- In the middle of a face-off with the Environment Ministry over the new Forest Conservation Rules (2022) potentially diluting the Forest Rights Act, 2006, the **National Commission for Scheduled Tribes has now secured FRA implementation reports of all States and Union Territories by invoking its Constitutional powers to approach the Supreme Court directly.**

Details
Issue:

- After the Union government introduced the new FCR, the panel wrote to the Environment Ministry in September, asking that they be put on hold because they would violate provisions of the FRA.
- In response, Environment Minister Bhupendra Yadav insisted that the rules were framed under the Forest (Conservation) Act, 1980 and that the panel's apprehension was "not legally tenable".
- The commission in February wrote to the Supreme Court Registrar, invoking powers under Clause 8d of Article 338A.
- Commission was looking to review the overall implementation of the FRA at the ground level, examine rejection of titles and encroachments on forest land. It will propose recommendations to further secure the rights of tribespeople, under its Constitutional mandate.
- This will be part of the report sent to the Office of the President, which will then be tabled in Parliament

Background

- The new Forest Conservation Rules — notified by the Ministry on June 28 — **do not mention the earlier requirement of attaining a gram sabha NOC before diverting forest land for a project.**
- They also **allow forest rights to be settled after the final approval for forest clearances has been granted by the Centre,** a point flagged by critics.
- **The settling of forest rights now needs to be carried out by the state government instead of the Centre, as was the case earlier.** The state governments will be under even greater pressure from the Centre to accelerate the process of diversion of forest land, critics say.
- The government said that the **Forest (Conservation) Rules, 2022, are reformative with an objective to streamline the process of approvals under the Act, and enable the parallel processing under other Acts and Rules including FRA, 2006.**
- The **Forest Conservation Act of 1980, brought the diversion of forest land for non-forestry purposes under the purview of the central government** — prior to this the states were solely in charge of clearing projects and diverting forest land.
- The **Forest Conservation Act, laid down the process by which forest diversion could be carried out for projects such as mines or dams.**
- But the Forest Conservation Act, and the Forest Advisory Committee, which would decide on the cases of forest diversion, would earlier only look at issues of forest health, protection of wildlife species, major harm to biodiversity, the land required for compensatory afforestation in lieu of the forest diversion etc.
- It was **only when the Forest Rights Act, 2006 was enacted that the government mandated that the rights of forest dwelling communities need to be recognised, and that they needed to be consulted before the project was sanctioned**.

About the new rules

- It constituted an **Advisory Committee**, a **regional empowered committee** at each of the integrated regional offices and a **screening committee** at State/Union Territory (UT) government-level. The role of the Advisory Committee is restricted to **advise or recommend with regards to grant of approval** .
- The MoEFCC has directed the constitution of a **project screening committee in each state/UT for an initial review of proposals involving diversion of forest land.** The five-member committee **will meet at least twice every month** and will advise the state governments on projects in a time bound manner.
- All **non-mining projects between 5-40 hectares** must be reviewed within a period of 60 days and all such mining projects must be reviewed within 75 days. For projects involving a larger area, the committee gets some more time — 120 days for non-mining projects involving more than 100 hectares and 150 days for mining projects.
- All linear projects (roads, highways, etc), projects involving forest land up to 40 hectares and those that have projected a use of forest land having a canopy density up to 0.7 shall be examined in the **Integrated Regional Office.**
- The applicants for diverting forest land in a hilly or mountainous state with green cover covering more than two-thirds of its geographical area, or in a state/UT with forest cover covering more than one-third of its geographical area, **will be able to take up compensatory afforestation in other states/UTs where the cover is less than 20%.**

Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006

- The Forest Rights Act (FRA), 2006 recognizes the rights of the forest dwelling tribal communities and other traditional forest dwellers to forest resources, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs.
- The Act encompasses Rights of Self-cultivation and Habitation which are usually regarded as Individual rights; and Community Rights as Grazing, Fishing and access to Water bodies in forests, Habitat Rights for PVTGs etc.
- It also provides rights to allocation of forest land for developmental purposes to fulfil basic infrastructural needs of the community.
- In conjunction with the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Settlement Act, 2013 FRA protects the tribal population from eviction without rehabilitation and settlement.
- The Act further enjoins upon the Gram Sabha and rights holders the responsibility of conservation and protection of bio-diversity, wildlife, forests, adjoining catchment areas, water sources and other ecologically sensitive areas.
- The Gram Sabha is also a highly empowered body under the Act, enabling the tribal population to have a decisive say in the determination of local policies and schemes impacting them.
- Thus, the Act empowers the forest dwellers to access and use the forest resources in the manner that they were traditionally accustomed, to protect, conserve and manage forests, protect forest dwellers from unlawful evictions and also provides for basic development facilities for the community of forest dwellers to access facilities of education, health, nutrition, infrastructure etc.

Objective

- To undo the historical injustice occurred to the forest dwelling communities
- To ensure land tenure, livelihood and food security of the forest dwelling Scheduled Tribes and other traditional forest dwellers
- To strengthen the conservation regime of the forests by including the responsibilities and authority on Forest Rights holders for sustainable use, conservation of biodiversity and maintenance of ecological balance.

MUST READ: *https://www.iasgyan.in/daily-current-affairs/national-commission-for-scheduled-tribes-ncst*

METHANE EMISSION	*GS-III ENVIRONMENT & ECOLOGY*

Context

- According to the International Energy Agency's (IEA) annual Methane Global Tracker report, fossil fuel companies emitted 120 million metric tonnes of methane into the atmosphere in 2022, only slightly below the record highs seen in 2019.

Details

- The report has come just weeks after energy giants such as Shell, BP, ExxonMobil and others reported record profits last year as the Russia-Ukraine war drove up oil and natural gas prices

Findings

- These companies have done almost nothing to curb the emissions despite their pledges to find and fix leaking infrastructure.
- The report said **75 per cent of methane emissions from the energy sector can be reduced with the help of cheap and readily available technology.**
- The implementation of such measures would cost less than three per cent of the net income received by the oil and gas industry in 2022, but fossil fuel companies failed to take any substantial action regarding the issue.
- The **energy sector accounts for around 40 per cent of the total average methane emissions from human activity, as oil and natural gas companies are known to release methane into the atmosphere when natural gas is flared or vented.**
- The greenhouse gas is also released through leaks from valves and other equipment during the drilling, extraction and transportation process.
- More than 260 billion cubic metres (bcm) of natural gas (mostly composed of methane) is wasted through flaring and methane leaks globally today.
- It further mentioned that 80 per cent of the available options to curb the release of methane could be implemented by the fossil fuel industry at net zero cost.

How are methane emissions driving climate change?

- **Methane is a greenhouse gas, which is responsible for 30 per cent of the warming since preindustrial times, second only to carbon dioxide.**
- A report by the United Nations Environment Programme observed that over a 20-year period, **methane is 80 times more potent at warming than carbon dioxide.**

- Last year, the US National Oceanic and Atmospheric Administration (NOAA) said that the **atmospheric levels of methane jumped 17 parts per billion in 2021, beating the previous record set in 2020.**
- While carbon dioxide remains in the atmosphere for much longer than methane, **methane is roughly 25 times more powerful at trapping heat in the atmosphere, and has an important short-term influence on the rate of climate change.**

Global Methane Pledge

- The Global Methane Pledge, launched in 2021, aims to keep alive the 1.5 degrees Celsius goal.
- **Over a 100 countries have committed to reducing global methane emissions by at least 30 per cent by 2030 from 2020 levels. This reduction could eliminate over 0.2°C warming by 2050, the Pledge read.**
- India, which is not a part of the Global Methane Pledge, is among the top five methane emitters globally. Most emissions can be traced back to agriculture.
- Methane and short-lived climate pollutants like hydrofluorocarbons stay in the Earth's atmosphere for a few years, unlike carbon dioxide.

Why is methane potent as a greenhouse gas?

- Methane accounts for **about a fifth of global greenhouse gas (GHG) emissions** and is about **25 times as potent as** carbon dioxide in trapping heat in the atmosphere.
- In the last two centuries, **methane concentrations in the atmosphere have more than doubled**, mainly due to human-related activities.
- M**ethane is short-lived**, compared with carbon dioxide.
- Methane is emitted from a variety of anthropogenic (human-influenced) and natural sources.
- The **human sources** include landfills, oil and natural gas systems, agricultural activities as well as livestock rearing, coal mining, stationary and mobile combustion, wastewater treatment, and certain industrial processes.
- Sources of methane can be harnessed for energy and in principle reduce dependence on energy sources that emit high carbon dioxide.
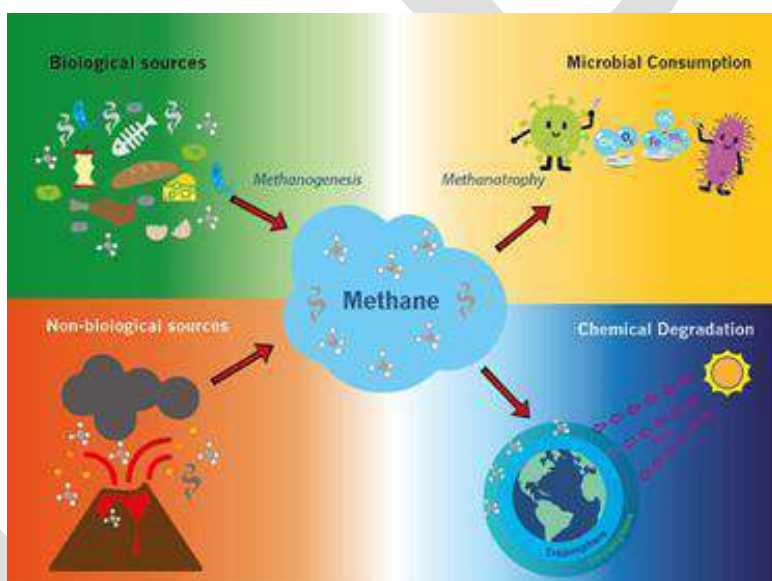
Why hasn't India signed the pledge?

- **India is the third largest emitter of methane**, primarily because of the size of its rural economy and by virtue of having the **largest cattle population**.
- India has stated earlier that it **plans to deploy technology and capture methane that can be used as a source of energy.**
- India's approximately 20% anthropogenic methane emissions come from agriculture (manure management), coal mines, municipal solid waste, and natural gas and oil systems.
- To tap into this "potential," the Ministry of New and Renewable Energy (MNRE) claims to have invested heavily in a **national strategy to increase biogas production** and **reduce methane emissions**.
- The biogas strategy includes many policy initiatives, capacity-building, and public-private partnerships.

VULTURE SURVEY   *GS-III ENVIRONMENT & ECOLOGY*

Context

- As many as 246 vultures were spotted in the first ever synchronised survey conducted along the borders of Tamil Nadu, Kerala and Karnataka.

Details

In India, we have nine species of vultures:

- One can spot the **long-billed vulture (Indian vulture), red-headed vulture, white-rumped vulture and the Egyptian vulture in the Nilgiris Biosphere of the Western Ghats**.
- The **Himalayan Griffon or Himalayan vulture (Gyps himalayensis), declared "near threatened" in the IUCN Red List**, was sighted in the Patrampur and Bail Parao ranges of the Terai forest range after nearly 15 years.

- The **white-rumped vulture, or Gyps bengalensis**, once very common in the Indian subcontinent but declared **critically endangered** by the IUCN 23 years ago, was caught on camera three days ago in Banbasa area of Champawat district.

- **Red-headed vultures (also called Asian King vulture and listed as "critically endangered" by the IUCN) were spotted in the Dudhwa tiger reserve.**

- The main reason behind the slow but steady return of these birds of prey to the Indian skies is **the ban on the drug diclofenac, once used excessively for livestock (that the vultures feed on).**

- As part of countrywide conservation efforts, **the Bombay Natural History Society has created vulture breeding centres in Haryana, West Bengal, Assam and Madhya Pradesh.**

- The BNHS has also created **vulture safe zones, in areas covering around 30,000 sq km each, in Majauli island, Assam, Terai region and Bundelkhand in MP**. In these zones, experts ensure ample food and habitat is available to the birds.

Declining population India has nine species of vultures, six of which are found in Assam

Vultures of the genus 'Gyps'
- Oriental white-backed (Assam, critically endangered)
- Long-billed (critically endangered)
- Slender-billed (Assam, critically endangered)
- Himalayan griffon (Assam, winter visitor from Himalayas)
- Eurasian griffon (Assam, winter visitor from Himalayas)

Single representative species
- Egyptian
- Bearded
- Cinereous (Assam)
- King (Assam, critically endangered)

BIRD'S EYE VIEW

9 RECORDED SPECIES: Oriental white-backed, long-billed, slender-billed, Himalayan, red-headed, Egyptian, bearded, cinereous and the Eurasian Griffon.

(4 CRITICALLY ENDANGERED, 1 ENDANGERED, 3 NEAR THREATENED)

THE CRISIS: A massive dip in vulture populations came into limelight in the mid-90s, and in 2004 the cause of the crash was established as diclofenac, a veterinary nonsteroidal anti-inflammatory drug.

WHAT NEXT AFTER 2006 PROJECT:
- Testing of nonsteroidal anti-inflammatory drugs on vultures, development of new NSAIDs
- Covering two more species in the breeding programme that earlier focussed on 3 critically endangered species
- Additional conservation breeding centres and four rescue centres planned across India
- Nationwide vulture survey once in four years

NSAIDS as a major threat to vultures in India

- The rampant use of the three non-steroidal anti-inflammatory drugs (NSAIDS) threatens to undo the Centre's two decades of work to arrest the dwindling vulture population in the wild.

- The three drugs—**aeclofenac, ketoprofen and nimesulide**—were introduced as **alternatives to diclofenac**, that India banned in 2006 for animal use because it caused widespread vulture deaths.

- The country's vulture population crashed from over **40,000 in 2003 to 18,645 in 2015**, as per the last vulture census conducted by intergovernmental body Bird Life International.

- India's **vulture conservation action plan for 2020-25** recommends a **ban on the veterinary use** of the three drugs.

- India is also a **signatory to the Convention on Migratory Species' Multi-species Action Plan to Conserve African-Eurasian Vultures,** which recognises NSAIDS as a major threat to vultures in India.

- The vulture action plan recommends **meloxicam over diclofenac. Tolfenamic acid** is the other safe option.

Diclofenac

- **Diclofenac, a drug used to treat cattle, was linked to kidney failure in vultures** and a decline in the bird's population.

- Though the drug was **banned in 2006**, it is reportedly still available for use.

- Diclofenac, that are potentially toxic to vultures being used by vets for treating cattle. The drugs make their way into the vulture's system as they feed on carcasses.

- Three of India's vulture species of the genus 'Gyps'— the long-billed (Gyps indicus) and the slender-billed (G. tenuirostris) had declined by 97%, while in the white-rumped (G. bengalensis) declined nearly 99% between 1992 and 2007.

'Action Plan for Vulture Conservation 2020-2025'

- It proposes to establish Vulture Conservation Breeding Centres in Uttar Pradesh, Tripura, Maharashtra, Karnataka and Tamil Nadu.

- There would also be a conservation breeding programme for the Red Headed vulture and Egyptian vulture, and at least one "Vulture Safe Zone" in every State for the conservation of the remnant populations.

- There would be four rescue centres in different geographical areas:
  - Pinjore in north India,
  - Bhopal in central India,
  - Guwahati in northeast India and
  - Hyderabad in south India, as well as regular surveys to track population numbers, the plan envisages.

Why vultures are important to protect nature?

- **Vultures, as carcass feeders**, **hold the key for a natural mechanism of infection control.**
- **V**ultures are the scavengers who do the **work of cleaning up, and keeping the ecosystem healthy.** The beauty is, **despite feeding on infected carcass, vultures do not get infected.**
- The acids in their stomach are potent enough to kill the pathogen. Thus, the **chain of infection is broken.** It invisibly controls the spread of harmful pathogens causing deadly anthrax, cholera, foot and mouth disease, rabies and distemper.
- The birds also **prevent the contamination of water sources**, especially in the wild.
  - o When animals die near watering hole, there is an imminent danger of contamination resulting in a quick spread of infections and mass death.
  - o But vultures devour the carcasses in totality thereby preventing a tragic mishap.

LANDFILL FIRES AND MITIGATION

GS-III ENVIRONMENT & ECOLOGY

Context

- The Kochi landfill site around Brahmapuram that caught fire was a stark reminder that **Indian cities need to be prepared for more such incidents as summer approaches.**

Details

Landfill Sites:

- Landfilling is the oldest and most common form of waste disposal.
- **A landfill site is a site for the disposal of waste materials.**
- Waste Management System includes Collection, Segregation, Transportation, Processing and Disposal of waste.
- Waste is classified into Several Categories based on Source and type of waste. These include;
  - o Domestic waste
  - o Municipal waste
  - o Commercial waste
  - o Institutional waste
  - o Construction and Demolition waste
  - o Hazardous waste and Sewage waste

Concerns:

- Absence of Segregation of waste at source.
- Landfill often Catches fire due to the release of Methane by Waste.
- Due to a lack of proper treatment facilities, by-products released during decomposition seep into Groundwater and pollute it.
- It is unfair to Citizens of that area to export the City's garbage to their locality.
- Asthma, Tuberculosis, and Skin diseases are Some Common Health Problems among the rag Pickers
- Dumping is done in landfills without following scientific methods of disposal.
- Improper waste management causes environmental hazards like climate change, pollution, and the spread of odours and diseases.
- Affect human and animal health and result in economic, environmental and biological losses.
- Lack of funds for local bodies.
- Lack of technical expertise.

Why do landfills catch fire?

- India's municipalities have been collecting more than 95% of the waste generated in cities but the **efficiency of waste-processing is 30-40% at best.**
- Indian municipal solid waste consists of about 60% biodegradable material, 25% non-biodegradable material and 15% inert materials, like silt and stone.
- Municipalities are expected to process the wet and dry waste separately and to have the recovered by-products recycled.
- Unfortunately, the **rate of processing in India's cities is far lower than the rate of waste generation, so unprocessed waste remains in open landfills for long periods.**
- This **openly disposed waste includes flammable material like low-quality plastics, which have a relatively higher calorific value of about 2,500-3,000 kcal/kg (compared to around 8,000 kcal/kg for coal), and rags and clothes.**
- In summer, the biodegradable fraction composts much faster, increasing the temperature of the heap to beyond 70-80° C.
- **Higher temperature + flammable material = a chance for the landfill to catch fire. Some fires have been known to go on for months.**

Solutions

Long term measures:

- **Completely cap the material using soil and close landfills in a scientific manner.**
  o This solution is unsuitable in the Indian context as the land can't be used again for other purposes.
  o Closed landfills have specific standard operating procedures, including managing the methane emissions.
- **Clear the piles of waste through bioremediation**
  o Excavate old waste and use automated sieving machines to segregate the flammable refuse-derived fuel (RDF), such as plastics, rags, clothes, etc., from biodegradable material.
  o The recovered RDF can be sent to cement kilns as fuel, while the bio-soil can be distributed to farmers to enrich soil.
  o The inert fraction will have to be landfilled.
  o However, implementing a bioremediation project usually takes up to two or three years, necessitating a short-term solution for landfill fires in the summer.

Immediate measures:

- The first immediate action is to **divide a site into blocks depending on the nature of the waste**.
  o At each site, blocks with fresh waste should be separated from blocks with flammable material.
  o Blocks that have been capped using soil are less likely to catch fire, so portions like these should also be separated out.
  o Ideally, the different blocks should be separated using a drain or soil bund and a layer of soil should cap each block. This reduces the chance of fires spreading across blocks within the same landfill.
- Next, **the most vulnerable part of the landfill – the portion with lots of plastics and cloth – should be capped with soil.**
- Once a site has been divided into blocks, the **municipality or the landfill operator should classify the incoming waste on arrival to the site**, and dispose in designated blocks rather than dumping mixed fractions.
- **Already segregated and baled non-recyclable and non-biodegradable waste should be sent to cement kilns instead of being allowed to accumulate at the site**.
- Dry grass material and dry trees from the site should also be cleared immediately and disposed of separately.
- In addition, the following precautionary measures will help prevent untoward incidents:
  o Sites should be equipped with water tankers with sprinklers for immediate action.
  o The municipality should work with the nearest fire department and have a plan of action in advance.
  o Waste-processing workers (plant operators, segregators, etc.) should have basic fire-safety and response training.
  o People around landfill sites should also be trained and equipped to safeguard themselves during fires.
  o The municipality should have routine round-the-clock video surveillance of the most flammable portion of the landfill.
  o Flammable material like chemical waste, match sticks, and lighters should not enter the site.
  o Machines at the site, like sieves and balers, should be cleaned and moved away from the flammable material.
  o On-site staff and security personnel should be housed away from the flammable portion.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE ⬦ *GS-III ENVIRONMENT & ECOLOGY*

Context

- The Intergovernmental Panel on Climate Change (IPCC) has just launched its latest report on the climate crisis.

Details

- **Synthesis Report AR6: Climate Change 2023** Despite progress in climate mitigation policies and legislation since the previous report in 2014, "warming is likely to exceed 1.5 °C in the 21st century".
- The AR6 Synthesis Report: Climate Change 2023 concludes a five-year report on global temperature rise, greenhouse gas emissions and climate impacts.
- Since the Fifth Assessment Report cycle ended in 2014, **more attention has been paid to the climate crisis and efforts to reduce its impact, with the annual Conference of the Parties (COP) driving this progress.**
- This report is the latest report from the IPCC's 6th Assessment Cycle, published between 2018 and 2023, which includes global warming of 1.5°C, showing unprecedented damage from anthropogenic greenhouse gases.
- This brief report **highlights the urgency of the climate crisis, its root causes, the current devastating effects** - especially the undeniable scientific consensus in many climate-vulnerable regions, and the irreversible temporary damage even if warming exceeds 1.5°C.
- The goal is to provide policy with a high level, up-to-date understanding of climate change, its impact and future risks, and provide solutions and options to address the problem.
- The next cycle, the seventh assessment report, is not expected until at least 2027, which sets the stage for a seven-year milestone until 2030.

Key findings

- **The new report, written by 39 scientists, is divided into three sections arranged by timeline:**
    1. Current status and trends, looking back through history to the present;
    2. Long-term climate projects and development prospects for 2100 and beyond;
    3. Future Responses to Climate Change looks at the current international policy timeline between now and 2030
- Humans' ability to survive on our planet depends on what we do in the next seven years. There is no time to lose in the goal of keeping the global average temperature below 1.5°C.
- **Limiting warming to "below 2 ° C" by 2030, according to the goals of the Paris Agreement, will be difficult to achieve, but avoiding 1.5 ° C is still possible.**
- The report also outlines the economic need for action to ensure that **"the global economic benefits of limiting global warming to 2°C outweigh the costs of mitigation in most of the literature assessed."**
- Human-caused climate change has affected climate and extreme weather in every region of the world - causing loss and damage to nature and people.

PREVIOUS IPCC ASSESSMENT REPORTS: HIGHLIGHTS

FIRST REPORT, 1990
- Emissions resulting from human activities are increasing atmospheric concentrations of greenhouse gases
- Global temperatures have risen by 0.3°–0.6°C in 100 years. In business-as-usual scenario, likely to increase by 2°C compared to pre-industrial levels by 2025, and 4°C by 2100
- Sea-level likely to rise 65 cm by 2100
- Report formed basis for negotiation of UN Framework Convention on Climate Change in 1992

SECOND REPORT, 1995
- Revises projected rise in global temperatures to 3°C by 2100, and sea-level rise to 50 cm
- The scientific underpinning for Kyoto Protocol in 1997

THIRD REPORT, 2001
- Revises predicted temperature rise to 1.4°–5.8°C by 2100 compared to 1990
- Rainfall to increase; sea-level likely to rise by 80 cm from 1990 by 2100.
- Frequency, intensity and duration of extreme weather events to increase
- Presents new and stronger evidence

to suggest most of warming attributable to human activities

FOURTH REPORT, 2007
- Greenhouse gas emissions rose by 70% between 1970 and 2004
- Atmospheric concentrations of CO_2 in 2005 (379 ppm) the highest in 650,000 years
- In worst-case scenario, global temperatures could rise 4.5°C by 2100 from pre-industrial levels; sea-levels could be 60 cm higher than in 1990
- Wins 2007 Peace Nobel for IPCC
- Report is the scientific input for the 2009 Copenhagen climate meeting

FIFTH REPORT, 2014
- Temperature rise by 2100 could be 4.8°C from pre-industrial times
- Atmospheric concentrations of CO_2, CH_4 and N_2O "unprecedented" in last 800,000 years
- More frequent and longer heat waves "virtually certain"
- "Large fraction of species" face extinction
- Forms scientific basis for negotiations of Paris Agreement in 2015

- Greenhouse gas emissions will soon increase global warming and reach 1.5°C between 2030 and 2035.
- Current warming is around 1.1°C, and current climate policies are expected to increase global warming by 3.2°C by 2100.
- **The IPCC is "strongly convinced" that the risks and adverse effects of climate change will increase with global warming.**
- To keep within the limit of 1.5 ° C, **emissions must be reduced by at least 43% by 2030 and at least 60% by 2035 compared to 2019. Ten years are important to achieve this.**

● WESTERN GHATS / GS-III ENVIRONMENT & ECOLOGY

Context
- The Supreme Court directed the Environment Ministry to file its counter-affidavit to a petition filed by a minor seeking judicial intervention to protect the Western Ghats from destruction.

Details
- Several environmental activists and NGOs from across six Western Ghats States have joined hands with the minor.
- They aim to seek judicial intervention to **re-instate the recommendations of the Dr. Madhav Gadgil-headed Western Ghats Ecology Expert Panel's report.**

About Western Ghats
- It is an extensive region spanning over six states (Kerala, Karnataka, Goa, Maharashtra, Gujarat and Tamil Nadu).
- It is a UNESCO World Heritage site.
- It is one of the eight "hottest hot-spots" of biological diversity in the world.
- According to UNESCO, the Western Ghats are older than the Himalayas.
- They influence Indian monsoon weather patterns by intercepting the rain-laden monsoon winds that sweep in from the south-west during late summer.
- The Western Ghats form one of the four watersheds of India, feeding the perennial rivers of India.
- The major river systems originating in the Western Ghats are the Godavari, Kaveri, Krishna, Thamiraparani and Tungabhadra rivers.
- The Western Ghats are home to four tropical and subtropical moist broadleaf forest ecoregions – the North Western Ghats moist deciduous forests, North Western Ghats montane rain forests, South Western Ghats moist deciduous forests, and South Western Ghats montane rain forests.

- The total land area is of 1,60,000 sq. km.
- A population of 50 million people was directly dependent on the Western Ghats and its ecology, and another 200 million people were indirectly dependent.
- The future of entire southern India was intimately linked with the healthy survival of the Western Ghats.

Gadgil and Kasturirangan Reports
Gadgil Committee:
- Also known as Western Ghats Ecologically Expert Panel
- It defined the boundaries of the Western Ghats for the purposes of ecological management.
- The Madhav Gadgil Report had classified the whole of the Western Ghats, spread across six states and covering 44 districts and 142 talukas, as an Eco-Sensitive Zone (ESZ).
- It proposed that the entire area be designated as ecologically sensitive area (ESA).
- It proposed a Western Ghats Ecology Authority to regulate these activities in the area.

Kasturirangan Committee:
- Also known as High-Level Working Group
- It was setup as none of the six concerned states agreed with the recommendations of the Gadgil Committee.
- It ―examined the Gadgil Committee report and bring just 37% of the Western Ghats under the Ecologically Sensitive Area (ESA) zones ― down from the 64% suggested by the Gadgil report.
- It proposes **37 per cent of the total area of Western Ghats**, which is roughly 60,000 square kilometres, to be declared as **eco-sensitive area (ESA)**.
- It recommended a **blanket ban on mining, quarrying, setting up of red category industries and thermal power projects.**
- It also stated that the impact of infrastructural projects on the forest and wildlife should be studied before permission is given for these activities.
- It also stated that the **UNESCO Heritage tag is an opportunity to build global and domestic recognition of the enormous natural wealth** that exists in the Western Ghats.

- The 39 sites are located across the Western Ghats and distributed across the states (Kerala 19), Karnataka (10), Tamil Nadu (6) and Maharashtra (4).
- The boundary of the sites, are in most cases, boundaries of the legally demarcated national parks, wildlife sanctuaries, tiger reserves and forest divisions and therefore, already accorded with high level of protection.
- The Eco-Sensitive Area mapping and demarcation done by the committee also indicates that all sites are within this area.
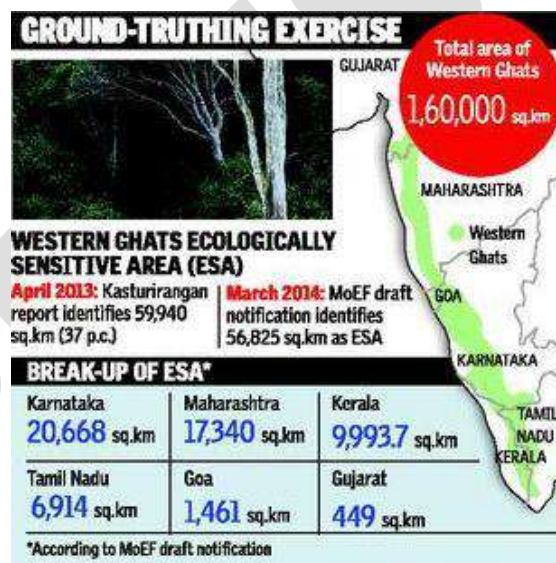
Why have the successive governments rejected the report?
- The governments believe that **implementation of the report will halt the developmental activities in the region.**
- The Kasturirangan report has been prepared **based on the satellite images, but the ground reality is different**. People of the region have adopted agriculture and horticultural activities in an eco-friendly manner.
- Priority has been accorded for environment protection under the Forest Protection Act.

Why implementation of the report is a must?
- Considering the changes in climate which would affect the livelihood of all people and hurt the nation's economy, it is prudent to conserve the fragile ecosystems that costs less compared to the situation prone to calamities (with changes in the climate) than spending money / resources for restoration / rejuvenation."

BIOTRANSFORMATION TECHNOLOGY — *GS-III ENVIRONMENT & ECOLOGY*

Context
- Imperial College in London, UK, and a Britain-based startup, Polymateria have co-developed Biotransformation technology that can **alter the state of plastics and make them biodegradable without leaving behind any microplastics.**

Details
Need for the technology:
- Around the world, **one million plastic bottles are purchased every minute**, while up to five trillion plastic bags are used

worldwide every year, the United Nations Environment Program (UNEP) said.

- At a time when the **world is producing around 400 million tonnes of plastic waste every year**, such technologies can go a long way in providing an environment-friendly alternative to the dangerous plastic.
- **India is generating 3.5 billion kgs of plastic waste annually** and that the per capita plastic waste generation has also doubled in the past five years. Of this, a third comes from packaging waste.

Working of the technology:

- Biotransformation technology is a **novel approach to ensure plastics that escape refuse streams are processed efficiently and broken down.**
  o The term refuses stream refers to the flow of solid waste materials that are generated from various sources.
- Once the lifespan of plastic expires and they are exposed to the surrounding environment, they undergo a **self-destructive process and biotransform into wax that is bioavailable.**
- Microorganisms then consume this wax, leading to the conversion of waste into water, carbon dioxide, and biomass.
- Technology begins to transform plastic into a wax over a period of 2 to 4 months, which may vary based on the climate.

Conditions for the process:

- The conditions for this process may **vary based on the type of microorganisms involved in the cycle**, ensuring a safe return to the environment.
- Trials show that **the technology works in tropical, arid and temperate conditions, which is where roughly 90% of the world's population lives**.

Additional cost of using the technology:

- The **increase in cost is relatively small** when compared to conventional plastic that does not contain Polymateria's technology.
- In comparison, other alternative biodegradable solutions such as PLA, PHA can be several times the price of a regular polymer.

Benefits:

- The technology can be used in many industries but will be **particularly beneficial for the food and healthcare industry** as they generate a significant proportion of plastic waste.

Steps taken by Indian government

- The Indian government introduced a **plastic waste management gazette** to help tackle the ever-growing plastic pollution caused by single-use plastics.
- Last year, the **Indian government imposed a ban on single-use plastics to bring a stop to its use in the country.**
- The **National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management** brings all stakeholders together to track the progress made in eliminating single-use plastic and effectively managing such waste.
- An **Extended Producer Responsibility (EPR) portal** helps in improving accountability traceability, and facilitating ease of compliance reporting in relation to EPR obligations of the producers, importers and brand-owners.
- India has also developed a **mobile app to report single use plastics grievances to check sale, usage or manufacturing of single use plastics in their area.**

Alternatives

- A **switch to jute or paper-based packaging could potentially cut down plastic waste**.
- This could also build sustainability within the paper industry, and save on the import bill on ethylene solutions.
- The wooden packaging is yet another alternative, but that will make the packaging bulkier and increase cost.

GREAT INDIAN BUSTARDS   *GS-III ENVIRONMENT & ECOLOGY*

Context

- The Environment Ministry in a reply to the Parliament said that is taking various measures for conservation and protection of Great Indian Bustard in the country, including in Rajasthan.

Details

Great Indian Bustard (GIB):

- GIB is one of the most **critically threatened species** in India, with less than 150 birds left in the wild.
- GIBs are **one of the heaviest flying birds** in India.
- Experts say only two districts in Rajasthan — **Jaisalmer and Barmer** — have a breeding GIB population in the wild.
- The bird can also be found in very small numbers in **Gujarat, Madhya Pradesh, Karnataka, Maharashtra and Andhra Pradesh**.

Steps taken by the Government for protection of Great Indian Bustards in the country

Status:

- The Great Indian Bustard is **listed in Schedule-I of the Wild Life (Protection) Act, 1972,** thereby, according it highest degree of legal protection from hunting.
- The Great Indian Bustard has been **included in the Appendix I of Convention on Migratory Species (CMS)** of the basis of proposal submitted by India.
- It was also the **mascot of the prestigious 13th CMS Conference of Parties held in Gandhinagar** giving wider publicity for the conservation of the species.

Sites:

- A site for establishment of a Conservation Breeding Centre for the Great Indian Bustard has been identified at Kota District, Rajasthan, under the project '**Habitat Improvement and Conservation Breeding of Great Indian Bustard-an integrated approach'**.
- A satellite **conservation breeding facility** with incubator, hatcher, chick rearing and housing for captive birds has been set up at Sam, **Jaisalmer, Rajasthan**.
- Important habitats of Great Indian Bustards are designated as National Parks/Sanctuaries for their better protection.

Schemes/policies:

- The species has been identified for conservation efforts under the component **'Species Recovery Programme' of the Centrally Sponsored Scheme (CSS)-Development of Wildlife Habitat**.
- Ministry has also constituted a Task Force for suggesting Eco- friendly measures **to mitigate impacts of power transmission lines and other power transmission infrastructures** on wildlife including the Great Indian Bustard.

Financial Support:

- The Ministry with financial support from National Authority for **Compensatory Afforestation Funds has sanctioned an outlay of Rs. 33.85 crores** for the duration of five years for the programme '**Habitat Improvement and Conservation Breeding of Great Indian Bustard-an integrated approach'** to build up captive population of Great Indian Bustard.
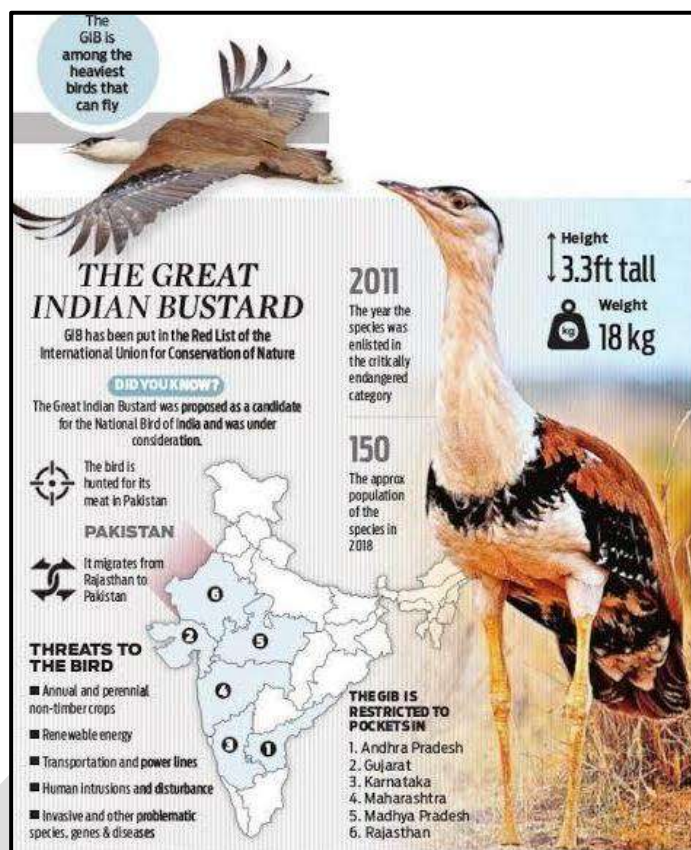
WASTE-TO-ENERGY PLANTS

GS-III ENVIRONMENT & ECOLOGY

Context

- The Kerala government recently announced the State's first waste-to-energy project in Kozhikode.

Details

- The proposed facility is expected to be built in two years and produce approximately 6 MW of energy.
- **There are about 100 such projects across the country, but only a handful of them are operational due to various production and operational challenges.**

What do these plants do?

- Waste-to-energy projects **use non-recyclable solid waste to generate electricity.**
- This process **increases the country's power generation capacity and eases the burden of solid waste management (SWM).**

About Waste-to-Energy (WtE)

- Waste-to-energy (WtE) or energy-from-waste (EfW) is **the process of generating energy in the form of electricity and/or heat from the primary treatment of waste, or the processing of waste into a fuel source**.
- WtE is **a form of energy recovery**.

Technologies

- **Biomethanation**: is anaerobic digestion of organic materials which is converted into biogas.
- **Incineration technology**: is complete combustion of waste with the recovery of heat to produce steam that in turn

produces power through steam turbines.

- **Gasification**: is a process that uses high temperatures (500-1800° C) in the presence of limited amounts of oxygen to decompose materials to produce synthetic gas (a mixture of carbon monoxide (CO) and hydrogen (H2)).
- **Pyrolysis:** uses heat to break down combustible materials in the absence of oxygen, producing a mixture of combustible gases, liquids and solid residues.
- **Fermentation and distillation:** Biomass can be fermented and distilled to create ethanol. This can then be used as an alternative fuel for engines or other applications. As with other WtE methods, this can only be used for organic waste and other similar waste streams.
- **Anaerobic digestion**: This is a process in which microorganisms break down biomass in an oxygen-free environment. It produces biogas high in methane which can then be used as a fuel source to produce electricity and other applications.
- **Plasma gasification:** utilizes a plasma torch at extremely high temperatures in a single reactor to turn feedstock into syngas.
- **Hydrothermal Carbonization (HTC)**: is a thermochemical process that turns organic waste into structured carbons similar to fossil fuels.
- **Dendro liquid energy (DLE):** is probably the most promising and up-and-coming near-zero emissions waste-to-energy technology that treats waste biologically.
- **Recycling:** one can convert materials that would have otherwise been thrown in a landfill into reusable materials.
- **Composting:** allows biological waste to naturally decompose into fertilizer for plants, due to the presence of microorganisms and oxygen.

Need

- In general, solid waste in India is biodegradable organic waste that can be converted into organic compost or biogas; 25-30% non-biodegradable dry waste; and about 15% grass, stone and waste waste.
- Only 2-3% of non-biodegradable solid waste, including hard plastic, metal and e-waste, is recycled.
- The rest consists of low-grade plastic, clothing and non-recyclable textiles.
- **This non-recyclable dry waste portion is the most challenging part of the current SWM system**; the presence of this material also reduces the efficiency of processing dry and other wet waste.
- Plants use this part. Waste is burned to produce heat that is converted into electricity.

Reasons for failure

- Although fossil energy plants seem like a simple solution, there are some challenges for their implementation.
- **The first is the low-calorie value of solid waste in India due to improper segregation**.
  o The calorific value of mixed Indian waste is about 1500 kcal/kg, making it unsuitable for power generation.
  o The calorific value of coal is about 8000 kcal/kg.
  o Biodegradable waste has a high moisture content and cannot be used to generate electricity.
  o The calorific value of separated dry waste and dry unprocessed waste is higher, 2800-3000 kcal/kg, which is enough for power plants.
  o However, segregation (preferably at the source, if not at the processing plant) must be arranged for incoming waste to have this calorific value.
- **The second is the high cost of energy production.**
  o The cost of generating energy from waste is around ₹ 7-8/unit, while the cost boards incur in the state to purchase electricity from coal, hydro and solar power plants is around ₹ 3-4/unit.
  o As a result, many energy-power projects fail due to wrong estimates, high expectations, wrong characterization studies and other conditions on the ground.

How can these issues be resolved?

- Working with the waste-to-energy plant depends on parameters such as collection efficiency, waste segregation, humidity and operational efficiency of existing waste treatment plants.
- If this plant has operational problems (as it usually does), the nature of the waste will have a high moisture content and low calorific value, which will harm electricity production.
- Building such projects is complex and requires the full support of municipalities, the state and the public.
- To overcome various challenges, the **municipality must ensure that only non-biodegradable dry waste is sent to the plant and manage other waste separately.**
- There should be a **tripartite agreement** between the municipality, the plant operator, and the power distribution agency.
- It is also crucial to **conduct field studies and learn from the experience of other projects**.

FOREST CERTIFICATION

GS-III ENVIRONMENT & ECOLOGY

Context

- The certification industry offers a multi-layer audit system that seeks to authenticate the origin, legality, and sustainability of forest-based products

Need for certification

- Large-scale destruction of forests has always been a concern for the environment, but with climate change, deforestation has become a critically sensitive issue globally in recent years.
- Forests absorb large amounts of carbon dioxide that is emitted in various economic activities, keeping a check on global warming.
- At the Glasgow climate meeting in 2021, more than 100 countries took a pledge to stop, and start reversing, deforestation by 2030.
- **Several countries and corporates, keen to present an environment-friendly image, now try to ensure that they avoid consumption of any product that might be the result of deforestation or illegal logging.**
  - o And Europe and the United States have passed laws that regulate the entry and sale of forest-based products in their markets.
- **This is where the certification industry comes in — offering a multi-layer audit system that seeks to authenticate the origin, legality, and sustainability of forest-based products such as timber, furniture, handicraft, paper and pulp, rubber, and many more.**

Harvesting Forests

- Stopping deforestation does not mean forests cannot be harvested in a sustainable manner for the products.
- In fact, **periodic harvesting of trees is necessary and healthy for forests.**
- Trees have a life span, beyond which they die and decay.
- Also, after a certain age, the capacity of trees to absorb carbon dioxide gets saturated. Younger and fresher trees are more efficient at capturing carbon dioxide. The problem arises only when trees are felled indiscriminately, and the cutting of forests outpaces their natural regeneration.

Global Certification

- The approximately three-decade-old global certification industry began as a way to establish, through independent third-party audits, whether forests were being managed in a sustainable manner.
- Over the years, a range of certifications have come to be offered for various activities in the forestry sector.
- There are two major international standards (there are a few other less widely accepted ones as well) for sustainable management of forests and forest-based products.
- **One has been developed by Forest Stewardship Council, or FSC; the other by Programme for Endorsement of Forest Certifications, or PEFC.**
- FSC certification is more popular and in demand, and also more expensive.
- Organisations like FSC or PEFC are only the developers and owners of standards — like, for example, the International Organisation of Standardisation (ISO) or Bureau of International Standards (BIS).
- **They are not involved in the evaluation and auditing of the processes being followed by the forest managers or manufacturers or traders of forest-based products. That is the job of certification bodies authorised by FSC or PEFC.**
- The certification bodies often subcontract their work to smaller organisations.
- PEFC does not insist on the use of its own standards. Instead, like its name suggests, it endorses the 'national' standards of any country if they are aligned with its own.
- Two main types of certification are on offer: forest management (FM) and Chain of Custody (CoC). CoC certification is meant to guarantee the traceability of a forest product like timber throughout the supply chain from origin to market.

Forest certification in India

- The forest certification industry has been operating in India for the last 15 years.
- **Currently, forests in only one state — Uttar Pradesh — are certified. Forty one divisions of the UP Forest Corporation (UPFC) are PEFC-certified, meaning they are being managed according to standards endorsed by PEFC.**
  - o These standards have been developed by the New Delhi-based nonprofit Network for Certification and Conservation of Forests (NCCF).
- **The Bhamragad forest division in Maharashtra was the first to obtain FSC certification for forest management.** Later, two divisions in Madhya Pradesh and one in Tripura also obtained FSC certification. UPFC too had FSC certification earlier.

However, all of these expired over time. Only UPFC extended its certification — but with PEFC.

- Many agroforestry projects, such as those run by ITC, and several paper mills too have forest management certification. The forests here are meant for captive use of the industry.
- There are a large number of CoC certifications, but the dropout rate is 40 per cent.

India-specific standards

- India allows the export of only processed wood, not timber.
- In fact, the timber harvested from Indian forests is not enough to meet the domestic demand for housing, furniture, and other products.
- The demand for wood in India is 150-170 million cubic metres annually, including 90-100 million cubic metres of raw wood. The rest goes mainly towards meeting the demand for paper and pulp.
- India's forests contribute just about five million cubic metres of wood every year.
- Almost 85 per cent of the demand for wood and wood products is met by trees outside forests (ToF). About 10 per cent is imported. India's wood import bill is Rs 50,000-60,000 crore per year.
- **Since ToF are so important, new certification standards are being developed for their sustainable management. PEFC already has certification for TOF and last year, FSC came up with India-specific standards that included certification for ToF. Environment Minister Bhupender Yadav launched the FSC's India standards in June 2022.**

The Govt's own standards

- Based on the recommendations of an expert committee in 2005, the Environment Ministry had asked relevant institutions like Indian Institute of Forest Management to draw up national forest standards.
- When the NCCF came into being in 2015, offering PEFC certification in India, the Environment Ministry nominated an officer on the governing board, lending it official legitimacy. But the nomination was later withdrawn.
- **Last year, the Ministry associated itself with FSC, by launching its new India standards.**
- The role of private certification agencies, especially with regard to forest management certification, has come under sustained criticism.
- In response to this criticism, and also to the increasing complaints about corruption in the private certification space, the Ministry has restarted efforts to develop official national forest standards.
  - The government says the "indigenous system of certifications" will be simple, transparent, and easy to adopt, even by small farmers and tree growers.
  - The benchmarks will adhere to internationally accepted norms, but will take into account India's national circumstances.
  - The purpose is to make available sustainably grown and managed forest products in the domestic market.

BAKHMUT

Context

- Russia and Ukraine are still battling for the small city of Bakhmut.

Details

- Bakhmu formerly known as Artemivsk is a city in eastern Ukraine. It serves as the administrative center of Bakhmut Raion**in Donetsk Oblast.**
- It is **located on the Bakhmutka River**, about 89 kilometres north of Donetsk.
- Bakhmut was the capital of Slavo-Serbia (1753–1764).
- From 1920–1924, the city was an administrative centre of Donets Governorate of the Ukrainian SSR.
- During the 2022 Russian invasion of Ukraine, Bakhmut was besieged by Russian forces and largely destroyed, with most of its population fleeing.
- As of March 2023, Ukrainian forces remain in partial control of the city, which is an epicenter of fierce fighting, as Russian forces battle to take control.

KERMADEC ISLANDS

Context

- An earthquake of magnitude 6.9 struck the Kermadec Islands region in New Zealand.

About

- The **Kermadec Islands are** a subtropical island arc in the South Pacific Ocean 800–1,000 km northeast of New Zealand's North Island, and a similar distance southwest of Tonga.
- The islands are **part of New Zealand.**
- The climate of the islands is **subtropical.**
- The islands are a volcanic island arc, formed at the convergent boundary where the Pacific Plate subducts under the Indo-Australian Plate.
- It is a **tropical and subtropical moist broadleaf forests ecoregion, part of the Oceanian realm.**
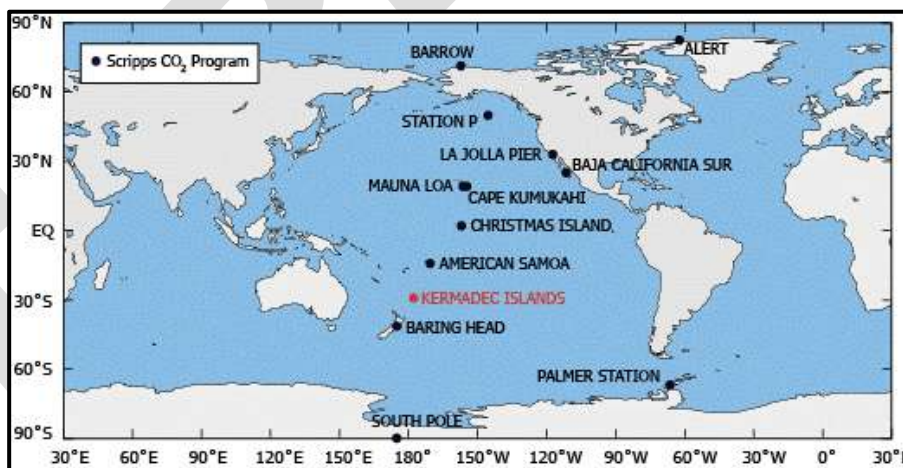
MACQUARIE ISLAND

Context

- Macquarie Island is the only piece of land on the planet formed completely from the ocean floor.

Details

- **Macquarie Island is** an island in the southwestern Pacific Ocean, about halfway between New Zealand and Antarctica.
- Regionally part of Oceania and politically a part of Tasmania, Australia, since 1900, it became a Tasmanian State Reserve in 1978 and was inscribed as a **UNESCO World Heritage Site in 1997.**
- The island is home to the entire royal penguin population during their annual nesting season.
- Ecologically, the island is part of the Antipodes Subantarctic Islands

tundra ecoregion.

- Macquarie Island is an exposed portion of the Macquarie Ridge and is **located where the Australian Plate meets the Pacific Plate.**
- The island lies close to the edge of the submerged continent of Zealandia but is not regarded as a part of it, because the Macquarie Ridge is oceanic crust rather than continental crust.
- It is the only place on Earth where rocks from the Earth's mantle(6 km below the ocean floor) are being actively exposed above sea-level.
- These unique exposures include excellent examples of pillow basalts and other extrusive rocks. It also is the only oceanic environment with an exposed ophiolite Due to these unique geological exposures, it was made a UNESCO World Heritage Site.

SOLOMON ISLANDS   *PLACES IN NEWS*

Context

- A state-backed Chinese company has won a contract to develop a key port in the Solomon Islands.

About

- Solomon Islands is an island nation that lies **east of Papua New Guinea** and **northwest of Vanuatu.**
- The country's islands lie between **latitudes 5° and 13°S.** It consists of six **major islands and over 900 smaller islands.**
- Its capital, Honiara, is located on the largest island, Guadalcanal.
- The Solomon Islands archipelago, includes **Choiseul, the Shortland Islands, the New Georgia Islands, Santa Isabel, the Russell Islands, the Florida Islands etc.** The islands' **ocean-equatorial climate is extremely humid throughout the year.**
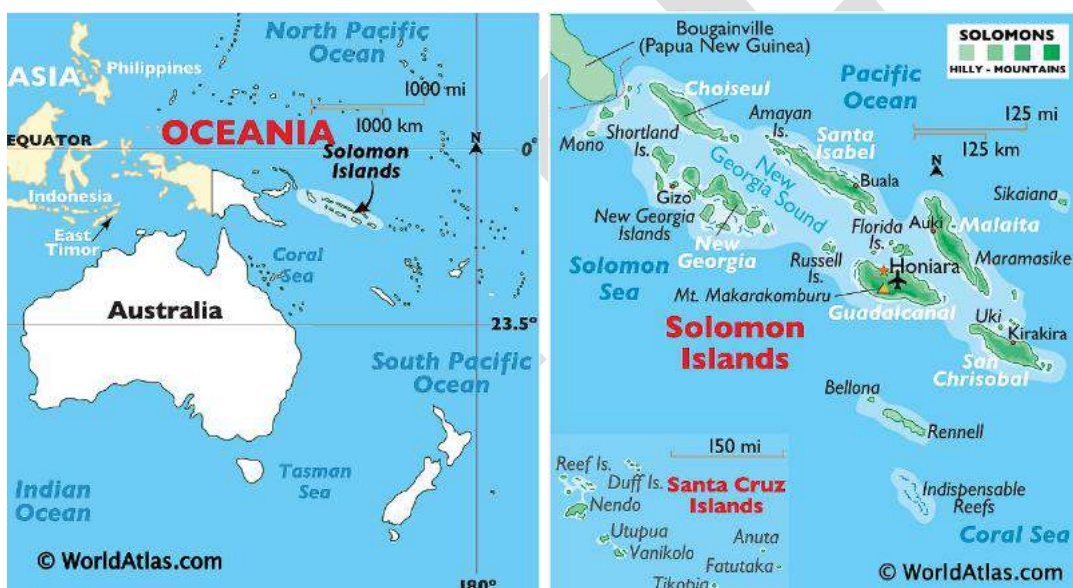
SHORT NEWS ARTICLES

GS-I
CULTURE & HISTORY

Nanakshahi Sammat

Context:

- The Prime Minister, Shri Narendra Modi has **greeted Sikh community around the world on the commencement of NanakshahiSammat 555.**

Details:

- The Nanakshahi calendar is a **tropical solar calendar used in Sikhism**.
- It is **based on the "BarahMaha"** (Twelve Months), a composition composed by the Sikh gurus reflecting the changes in nature conveyed in the twelve-month cycle of the year.
- The year **begins with the month of Chet**.
- The **reference epoch of the Nanakshahi calendar is the birth of Guru Nanak Dev**, corresponding to the year 1469 CE.

History:

- Sikhs have traditionally recognised two eras and luni-solar calendars: the Nanakshahi and Khalsa.
- Traditionally, both these calendars closely followed the Bikrami calendar with the Nanakshahi year beginning on full moon and the Khalsa year commencing with Vaisakhi.

Features of the Nanakshahi calendar:

- **Uses the accurate Tropical year** (365 Days, 5 Hours, 48 Minutes, 45 Seconds) rather than the Sidereal year
- Called **Nanakshahi after Guru Nanak** (Founder of Sikhism)
- **Year 1 is the Year of Guru Nanak's Birth** (1469 CE). As an example, March 23, 2023 CE is Nanakshahi 555.
- **Is Based on Gurbani –** Month Names are taken from Guru Granth Sahib
- Contains 5 Months of 31 days followed by 7 Months of 30 days
- Leap year every 4 Years in which the last month (Phagun) has an extra day
- Approved by Akal Takht in 2003

Vedic Heritage Portal

Context

- Union Home Minister said the government was securing the knowledge in India's ancient scriptures and manuscripts for the future through technology.

Details:

About the portal:

- It has been **created by the Indira Gandhi National Centre for the Arts** (IGNCA).
- The portal is a **one-stop solution for common users and researchers seeking any information regarding Vedic heritage.**
- It gives detailed information about oral traditions, textual tradition in form of published books/manuscripts, or implements
- The **audio visual recording of four vedas have been uploaded** on the Vedic Heritage portal.
- This portal has over 18 thousand mantras of the four vedas with a duration of over 550 hours.

Objectives of the portal:

- With the help of this, the younger generation would be able to carry forward the knowledge and tradition of the Vedas and the Upanishads.
- The portal **aims to communicate message enshrined in the Vedas**.
- It will help common people to have a general understanding about the Vedas.

Mahim Fort

Context:

- The Brihanmumbai Municipal Corporation (BMC) demolished more than 250 slums that had encroached inside the centuries-old Mahim Fort, in a bid to make it suitable for redevelopment.

Details:

About the fort:

Location:

- The Mahim Fort is a **fort in Mahim in Mumbai**.
- Strategically located in Mahim Bay, the fort overlooks Worli to the south, Bandra to the north, and Mahim to the east.

History:

- The Mahim fort is said to be **constructed by the descendants of King Bhimdeva**.
- He **established his capital at Mahikavati (**Mahim) during the 13th century and the origin of this fort dates back between 1140 and 1241.
- In 1516, Portuguese commander Dom Joao de Monoy entered the Mahim Creek and defeated the commander of Mahim fort.
- The fort was the **site of frequent skirmishes between the Portuguese and the Ali Shah**, a Gujarati ruler.
- In 1661, the **Portuguese ceded the island of Mahim as dowry to Charles II of England**.
- After the English gained control of the fort, it was **strengthened by Sir Thomas Grantham in 1684**, and became a **strategic watchtower against possible Portuguese attacks**, and later from the Marathas.
- In 1772, the Portuguese attempted to attack this fort, but they were repelled by the British with cannonballs.

Present status:

- This fort is **enlisted as a Heritage Structure** by the state government.
- However, the **fort is currently in disrepair**, suffering from administrative neglect, encroachment of slums, and exposure to tidal erosion.

GEOGRAPHY

Earthquake in Afghanistan

In News

- Northern India felt strong tremors of an earthquake that occurred in north-eastern Afghanistan, about 1,000 km north of New Delhi.

Read All About Earthquake in detail: https://iasgyan.in/daily-current-affairs/earthquake-39

Details

- The US Geological Survey (USGS) measured the earthquake to be 6.5 in magnitude, and located about 300 km northwest of Kabul, towards the border with Tajikistan.
- The epicenter of the earthquake was 133 kilometres from Fayzabad in Afghanistan.
- The Hindu Kush region in Afghanistan experiences unique tectonic forces and is a site of frequent earthquakes.

Reason:

- On one side it feels the forces of the Indian tectonic plate getting under the Himalayas, a phenomenon that is occurring throughout the Himalayan ranges.
- From the other side, the Eurasian plate is subducting into the Pamir Mountain ranges. In addition, there are local fault lines as well.

GS-II
POLITY

Supplementary Demands for Grants

Context:

- The Government has asked Parliament for a final instalment of supplementary demands for grants for 2022–2023, amounting to a net commitment of funds of almost 1.5 lakh crore, principally to cover fertiliser subsidies, defence pensions, and GST compensation.

Types of Grants

- **Supplementary Grant:**
  - It is granted when the amount authorised by the Parliament through the appropriation act for a particular service for the current financial year is found to be insufficient for that year.
  - The Public Accounts Committee examines these excesses and gives recommendations to the Parliament.
- **Additional Grant:**

o It is granted when a need has arisen during the current financial year for additional expenditure upon some new service not contemplated in the budget for that year.

- **Excess Grant:**
  o It is granted when money has been spent on any service during a financial year over the amount granted for that service in the budget for that year.
  o It is voted by the Lok Sabha after the financial year.
  o Before the demands for excess grants are submitted to the Lok Sabha for voting, they must be approved by the Public Accounts Committee of Parliament.
- **Vote of Credit:**
  o It is granted for meeting an unexpected demand upon the resources of India when on account of the magnitude or the indefinite character of the service, the demand cannot be stated with the details ordinarily given in a budget.
  o Hence, it is like a blank cheque given to the Executive by the Lok Sabha.
- **Exceptional Grant:**
  o It is granted for a special purpose and forms no part of the current service of any financial year.
- **Token Grant:**
  o It is granted when funds to meet the proposed expenditure on a new service can be made available by re-appropriation.
  o A demand for the grant of a token sum (of Re 1) is submitted to the vote of the Lok Sabha and if assented to, funds are made available.
  o Reappropriation involves the transfer of funds from one head to another.
  o It does not involve any additional expenditure.
- **Procedures:**
  o Supplementary, additional, excess and exceptional grants and vote of credit are regulated by the same procedure applicable in the case of a regular budget.

Online Safety Bill

Context:

- WhatsApp's CEO recently declared, while on a visit to the U.K., that the company would not abide by the planned Online Safety Bill (OSB), which would effectively restrict End-to-End (E2E) encryption.
- **About British Online Safety Bill (OSB)**
- It is a **proposed British legislation that would impose "Duty of Care" requirements on internet platforms to increase online safety.**
- The regulator may send notices to the majority of internet service providers, including private messaging applications, under Section 110 of the OSB to find and remove content that promotes terrorism and child sex exploitation and abuse.
- The OSB does not require that E2E encryption be removed, but it would require messaging apps to analyse all communications for such content and identify them, which would effectively mean breaking encryption.

End-to-End Encryption (E2E)

- **With E2E encryption, data can be secured on the sending device**, sent securely over the internet or any other communication channel, and then only the intended recipient can decrypt it.
- The only person who can decrypt the message is the intended recipient using a special decryption key that can only be accessed by the recipient's device. This implies that nobody else, not even the service provider, has access to the information being transferred in a message or file.
- Since **E2E encryption offers a high level of protection** against unauthorised access, interception, or snooping by hackers, governments, or service providers, it is used to ensure privacy and security in a variety of communication platforms, including messaging apps, email services, and file-sharing services.
- Advocates for privacy and free expression consider the OSB to be an excessive step that permits mass surveillance and an interception.

Legal Framework for Encryption in India

- The **Indian government mandated that messaging platforms with more than five million users in India "enable the identification of the first originator**" of a message, or what is commonly known as traceability, through the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.
  ○ WhatsApp didn't make a market exit threat in India. Instead, it filed a lawsuit against the Indian government over the traceability requirement. This is primarily due to **India's 487.5 million WhatsApp users, which account for 22% of the platform's 2.24 billion monthly active users**. In India, WhatsApp penetration is above 97%, but in the UK, it is only approximately 75%.
- The **Information Technology Act of 2000, which governs electronic and wireless communication, contains no significant provisions or guidelines on encryption.**

- There is no specific encryption legislation in India. Although some industry regulations, such as those that control the banking, finance, and telecommunications sectors, include mandates for the use of basic encryption standards in securing transactions.

Bar Council of India

Context:

- The Bar Council of India (BCI) has allowed foreign attorneys and law firms to practise law in India.

More about the Decision

- The Bar Council of India (BCI) a statutory body governing legal practice in India, has framed the 'Bar Council of India Rules for Registration of Foreign Lawyers and Foreign Law Firms in India, 2021'.
- **Objectives:** The objective is to make it feasible for foreign attorneys and law firms to "perform foreign law, diverse international law, and international arbitration proceedings in India on the concept of reciprocity in a well-defined, regulated, and controlled manner".
- According to the Regulations, foreign legal firms and attorneys are not permitted to practise in India unless they are registered with the BCI.
- **Exception:** If a foreign lawyer or foreign law firm were to practise law in India to provide legal counsel to a client regarding foreign law or international legal matters, this rule would not apply.
    o However in this situation, the attorney or company is not permitted to have a branch in India, and the total number of days they can practice in a calendar year is limited to 60.
- **Conditions to practice in India:** They must possess a certificate stating that they are qualified to practice law in their nation, issued by the appropriate authorities, as one of their primary qualifications.
    o Foreign attorneys and firms are required to provide an undertaking that they "shall not practice Indian law in any manner or before any court of law, tribunal, board or other authority legally entitled to record evidence on oath" as one of the requirements for being allowed to practice.

Significance of the decision

- According to the BCI, the decision would **assist Indian lawyers,** whose standards of legal expertise are on par with those around the world.
- **According to the notification,** "The legal profession in India is not likely to experience any disadvantage in case law practise is opened up to foreign lawyers in a limited, well-controlled, and regulated manner on the principle of reciprocity as it would be beneficial for lawyers from India and abroad, and these Rules are an attempt by Bar Council of India in this direction.
- The Rules will make India a centre for international commercial arbitration and assist in addressing concerns raised regarding the flow of foreign direct investment into the nation.

Bar Council of India

- Under the Advocates Act of 1961, the Bar Council of India was established as a statutory organisation to oversee and represent the Indian bar.
- It carries out the regulatory duty by establishing norms for proper conduct and decorum by having disciplinary authority over the bar.
- It also establishes requirements for legal education and recognises universities whose law degrees will be accepted as criteria for enrollment as an advocate.
- It carries out some representational duties by defending the privileges, rights, and interests of advocates and by raising money to support the organisation of welfare programmes for them.

Consumer Courts

Context

- The Supreme Court used its extraordinary powers to reduce the mandatory professional experience required to preside over consumer courts from 20 to 10 years.

Details

- According to the Supreme Court, a person with a bachelor's degree from a recognized university, who is a person of ability, integrity, and standing, and who also possesses special knowledge and professional experience of at least 10 years in consumer affairs, law, public affairs, administration, economics, commerce, industry, finance, management, engineering, technology, public health, or medicine, shall be treated as qualified for appointment as the president and members of the State Commission.
- The **Union Government has passed the Consumer Protection Act, of 2019, to ensure consumer protection and to reduce the pendency rate.**

Consumer Protection Act, 2019

- The Act defined **a consumer as a person who buys any goods or avails of service for final use.**
    o It does not include a person who buys a good for resale or a good or service for commercial purposes.

- It covers transactions through all modes including offline, and online.
- The Act **clearly defined 6 Rights of consumers:**
  o Right to be protected against the marketing of goods and services which are hazardous to life and property.
  o Right to be informed about the quality, quantity, potency, purity, standard and price of goods or services.
  o Right to Choice among a variety of goods or services at competitive prices.
  o Right to be heard
  o Right to seek Redressal against unfair or restrictive trade practices.
  o Right to Consumer Awareness
- Central Consumer Protection Authority (CCPA) promotes**, protects and enforces the rights of consumers**.
  o It functions under the guidelines of The Minister of Consumer Affairs, Food and Public Distribution
  o It regulates matters linked to the violation of consumer rights, unfair trade practices, and misleading advertisements.
  o The CCPA has an investigation wing; they may conduct an inquiry or investigation into the case of violations of rules.
- **Central Consumer Protection Authority (CCPA) functions**;
  o Inquiring into violations of consumer rights, investigating and taking appropriate action.
  o It could pass orders to recall goods or withdraw hazardous services, and refund the price paid.
  o It Issues directions to the concerned trader/ manufacturer/ endorser/ advertiser/ publisher to either discontinue a false or misleading advertisement.
  o It imposes penalties on a manufacturer or an endorser of up to Rs 10 lakh and imprisonment for up to two years for a false or misleading advertisement. In case of a subsequent offence, the fine may extend to Rs 50 lakh and imprisonment of up to five years.
  o It Issues safety notices to consumers against unsafe goods and services.
- **Consumer Disputes Redressal Commissions (CDRCs) at the District, State, and national levels.**
  o Appeals from the State CDRC will be heard by the National CDRC.
  o The final appeal to the Supreme Court.
  o The District CDRC will entertain complaints where the value of goods and services does not exceed Rs 1 crore.
  o The State CDRC will entertain complaints when the value is more than Rs 1 crore but does not exceed Rs 10 crore.
  o Complaints with a value of goods and services over Rs 10 crore will be entertained by the National CDRC.

National Assessment and Accreditation Council

Context:
- The National Assessment and Accreditation Council (NAAC) chairperson resigned after the controversy over the university grading system.

Details
- Days after complaining in a letter to the University Grants Commission (UGC) that universities were receiving "doubtful grades" through unethical means, the chairman of the National Assessment and Accreditation Council (NAAC) submitted his resignation.

National Assessment and Accreditation Council (NAAC)
- The NAAC is an **autonomous body under the University Grants Commission (UGC).**
- Its core function is to **assess and certify Higher-level Educational Institutions (HEIs) with grading.**
- It evaluates through a multi-layered process; whether a higher education institution meets the standards of quality set by the **evaluator in terms of curriculum, faculty, infrastructure, research, and other parameters.**
  o The ratings of institutions range from A++ to C.
  o If an institution is graded D, it means it is not accredited.
- **Accreditation process**
  o An applicant institution has to submit a self-study report of information related to quantitative and qualitative metrics.
  o The **submitted data is then validated by NAAC expert teams, followed by team visits to the institutions.**
- **After the recent controversy over "bribery for rating", the NAAC plans to shift from an "input-based approach" to an "outcome-based approach".**
- The **fear of obtaining a poor grade or no accreditation at all holds back higher education institutes from voluntarily applying for evaluation**. This is even after the UGC (Mandatory Assessment and Accreditation of Higher Educational Institutions) Regulations, 2012 made accreditation mandatory.

University Grants Commission (UGC)
- University Grants Commission is a **statutory body under the University Grants Commission Act, of 1956.**
- UGC is charged with **the task of coordinating and maintaining standards of higher education in India.**
- It provides recognition to universities and also allocates funds to universities and colleges.
- UGC headquarters are in New Delhi, and it also has 6 regional centres.

- All grants to universities and higher learning institutions are handled by the UGC.
- In 2015-16, the Union government initiated a National Institutional Ranking Framework under UGC to rank all educational institutes.
- UGC also **conducts the National Eligibility Test (NET) for the appointments of teachers in colleges and universities.**

Court Martials in Armed Forces

Context:

- An Army court has recommended a life sentence for a Captain involved in the scripted killings of three persons at Amshipora in Jammu and Kashmir's Shopian district in 2020. If the Northern Army Commander has given his approval, the judgement will be considered final.

Details

- The captain was court-martialed after a Court of Investigation (CoI) and further summary of the evidence concluded that the soldiers under the captain's command had breached their authority under the Armed Forces (Special Powers) Act.

Process of Court Martial

- The Army first creates a **Court of Inquiry (CoI) to investigate allegations made against its soldiers**. This stage is similar to when the police register a First Information Report (FIR).
- The case is investigated by a Court of Inquiry, but it is unable to impose a penalty. Similar to how a police officer would question witnesses under Section 161 of the Code of Criminal Procedure, the CoI records the statements of witnesses (CrPC).
- A **preliminary charge sheet is created by the commanding officer** of the accused officer based on the CoI's findings.
   o Following that, the hearing of the charges is held (just like the initial summoning of an accused by the magistrate in a case involving civilians). After that, the evidence summary is written down.
- Once the above process has been completed, a General Court Martial (GCM) is ordered, identical to the conduct of a trial by a judicial court for civilian matters.

Available legal options

- The accused can submit either a pre-confirmation petition or a post-confirmation petition under section 164 of the Army Act of 1950.
   o An application for pre-confirmation will be sent to the Army Commander, who may consider it.
   o While a post-confirmation petition must be submitted to the government because, following the Army commander's confirmation of the punishment, the officer is cashiered—his ranks are taken away and he is discharged from duty.
- The **accused may turn to the Armed Forces Tribunal to request a sentence suspension when all other options have been exhausted**. For example, in the 2010 Machil fake encounter case, the Tribunal in 2017 delayed the life sentences given to five Army men, including two officers.

Role of Whip

Context:

- The Supreme Court said that the "whip" binds Members of a House, and if any MLAs within a political party that is part of a ruling coalition indicate they do not wish to support the alliance, the MLAs will be disqualified.

Whip

- The **office of 'whip' is mentioned neither in the Indian Constitution nor in the Rules of the House nor in a Parliamentary Statute**.
   o It is based on the conventions of the parliamentary government.
- Every political party, whether ruling or Opposition has its whip in the Parliament.
   o He is appointed by the political party to serve as an assistant floor leader.
- He is **charged with the responsibility of ensuring the attendance of his party members** in large numbers and securing their support in favour of or against a particular issue.
   o He regulates and monitors their behaviour in the Parliament.
   o The members are supposed to follow the directives given by the whip. Otherwise, disciplinary action can be taken.

Types of Whips

- **The One-line whip** is issued to inform the members about a vote. It allows a member to abstain in case they decide not to follow the party line.
- **The Two-line whip** is issued to direct the members to be present in the House at the time of voting. No special instructions are given on the pattern of voting.
- **The Three-line whip** is issued to members directing them to vote as per the party line. It is the strictest of all the whips.

Functions of Whip

- He maintains order among party representatives in the House.
- He is tasked with making sure that his party's members show up in big numbers and win their support for or opposition to a

certain cause.

- He observes the indications of discontent among Parliamentarians and alerts the appropriate party leaders.
- He serves as the party's unifying force and is in charge of preserving the internal party structure in the Parliament.
- He is essential to the effective and efficient running of the business on the House floor.

Violation of whip

- If an MP violates his party's whip, he faces dismissal from the House under the Anti-Defection Act.

GOVERNANCE

MSME Competitive (Lean) Scheme

Context:

- The Union Minister for MSME (Ministry of Micro, Small and Medium Enterprises) launched the MSME Competitive (LEAN) Scheme.

Details

- According to the Minister, **LEAN aims to give India's MSMEs a road map to global competitiveness and has the potential to grow into a national movement.**
- He mentioned that LEAN would work to transform manufacturing into top producers in addition to attempting to increase quality, productivity, and performance.

MSME Competitive (LEAN) Scheme

- This Initiative is an extensive effort to raise MSMEs' understanding of LEAN Manufacturing techniques, motivate and reward them for achieving LEAN levels, and inspire them to become MSME Champions.
- **Objective:** The primary **objective of the Lean Manufacturing Competitiveness Scheme (LMCS) is to increase manufacturing competitiveness in the MSME Sector.** To find and get rid of waste and streamline a system, lean manufacturing uses lean techniques.
- As part of the programme, MSMEs will adopt LEAN manufacturing tools such as 5S, Kaizen, KANBAN, Visual Workplace, Poka Yoka, etc. under the skilful direction of trained and competent LEAN Consultants to achieve LEAN levels such as Basic, Intermediate, and Advanced.
  - o By adopting a LEAN approach, MSMEs can significantly lower waste, boost productivity, enhance quality, work safely, grow their markets, and eventually become competitive and profitable.

- Under the scheme, **Government would cover 90% of implementation costs for coaching and consulting fees to support MSME**s. For MSMEs located in the Northeast, owned by Women/SC/ST, and a part of SFURTI clusters, an additional 5% contribution will be made.
- A special feature is available to help Industry Organizations to urge their supply chain vendors to take part in this scheme.
- **A Special Purpose Vehicle (SPV) will be formed in each cluster**. It is expected that once MSMEs are introduced to the benefits and savings that accrue from LM techniques, they would themselves continue the Scheme from the second year onwards at their own expense.

Lean Manufacturing

- The production method known as LEAN, sometimes referred to as lean manufacturing or lean production, views resource use for any purpose other than the creation of value for the end user as wasteful and therefore to be avoided.
- **Lean manufacturing refers to a set of principles that lean thinkers utilise to reduce waste through kaizen and increase production, quality, and lead time**. Lean Manufacturing principles include;
  - o **Value Identification:** Determine what value means from the viewpoint of the client. Understanding the demands and price range of the customer is a crucial part of this.
  - o **Create a value stream map:** The series of steps needed to produce a good or service should be mapped out as a value stream. This aids in locating inefficient and wasteful regions.
  - o **Generate Flow:** Ensure that work moves through the value stream in a seamless, uninterrupted manner. To do this, the process's bottlenecks and interruptions must be removed.

- o **Adopt a pull system:** A pull system generates goods only as needed, in response to demand from customers. Inventory and waste are reduced as a result.
- o **Aim for Perfection:** By locating and eliminating waste, streamlining procedures, and ensuring quality, aim for perfection constantly.

Survey on Coding Skills

Context:
- According to a National Sample Survey Office study, South India has a higher proportion of young men and women who can build computer code using specialised languages than other parts of the country.

More about the survey
- According to the **"multiple indicator survey" carried out by the National Sample Survey Office (NSSO**), South India has a higher proportion of young men and women who are skilled in writing computer programmes in specialised languages, or code, than other regions of the nation.
  - o The Survey took place between January 2020 and August 2021.
- **The objective of the Survey:** The goal of the survey is to monitor India's advancement towards several Sustainable Development Goals (SDGs).
- **Methods used for the Survey:** The survey evaluated programming abilities at nine levels, from "copy or move a file or folder" to "create a computer programme using a specialised programming language." The data is based on each question's self-reported responses.
- **Important findings of the survey**
  - o **Kerala has the greatest percentage of programmers among Indians** aged 15 to 29 (9.8%), followed by Sikkim (6.8%), Tamil Nadu (6.3%), Karnataka (6.2%), Telangana (5.7%), and Andhra Pradesh (4.2%).
  - o States towards the bottom of the list were Meghalaya (0.2%), Bihar (0.5%), Chhattisgarh (0.7%), and Assam (0.7%).
  - o In India, 1.4% of those over the age of 15 and 2.4% of those between the ages of 15 and 29 claimed to be skilled coders.
  - o The percentage was higher in urban areas (5.2%) compared to rural areas (1.3%), and it was also higher among men (3%) than among women (1.8%).
- Due to high rates of literacy, the presence of IT hubs like Bengaluru and Hyderabad, and the availability of qualified young professionals, Kerala, Karnataka, Tamil Nadu, and Telangana are near the top of the ranking.

National Statistical Office (NSO)
- The National Sample Survey Office (NSSO) and the Central Statistical Office (CSO) make up the National Statistical Office (NSO).
- It acts as a catalyst for the nation's planned development of the statistical system. In addition to publishing significant indicators, it establishes and upholds norms and standards in the field of statistics.

Adopt a Heritage Scheme

Context:
- Agreements for the adoption and maintenance of State-owned archaeological sites or monuments may be made between private businesses, corporations, and government agencies under Adopt a Heritage scheme.

About Adopt a Heritage Scheme
- The **project Adopt a Heritage: 'Apni Dharohar Apni Pehchaan'** was launched by the Hon'ble President of India on 27th September 2017 on the occasion of World Tourism Day.
- **Who is eligible for adopting a heritage site/monument under the project?** Private and Public Sector Companies, Trusts, NGOs and Individuals are eligible for adopting heritage site (s)/ monument (s) under this project. However, the finalization of this interest will depend on their evaluation of their proposal and other criteria provided under the project guidelines.
- The **Ministry of Tourism in close collaboration** with the Ministry of Culture, Archeological Survey of India (ASI), State/ UT Governments and the Private/ Public sector companies/ Trusts/ NGOs/ Individuals, etc. envisages developing, upgrading and maintaining amenities at heritage sites, monuments and tourist sites.
- This is to make the facilities/amenities tourist-friendly and increase the site's tourism potential by enhancing the tourist experience in a planned and phased manner.
- **Public / Private sector companies etc. can partner** in the project by putting forth a proposal for adopting heritage/ natural / tourist sites as per their interest and viability under the criteria provided in the project guidelines.
- **Companies may utilise their CSR funding under the "Adopt a Heritage" programme** to build and maintain ticket booths, restaurants, museums, interpretive centres, restrooms, and footpaths at particular locations. They might install guided tours, host cultural events, fix light and sound show equipment, and brilliantly illuminate landmarks.

The objectives of the project are:
- Developing basic tourism infrastructure in and around heritage sites, monuments, natural sites and tourist sites.

- Develop facilities and amenities to improve the tourist experience at heritage sites, monuments, natural sites and tourist sites.
- Promote the cultural and heritage value of the country and develop avenues to create awareness about the heritage/natural/tourist sites in the country
- Develop and promote sustainable tourism infrastructure and ensure proper Operations and Maintenance therein.
- Develop employment opportunities and support the livelihoods of local communities at the heritage, natural and tourist sites.

Who is Monument Mitra?

- Successful bidders selected for adopting heritage, natural and tourist sites/monuments by the Oversight and Vision Committee shall be called Monument Mitras.
- A Memorandum of Understanding (MoU) will be signed between Monument Mitra, the Ministry of Tourism, the Ministry of Culture, the Archaeological Survey of India and any other concerned stakeholder as applicable for the site.

Affinity Test and Caste Claims

Context:

- The Supreme Court has ruled that an affinity test cannot be used to decide a caste claim.

Details

- A three-judge Supreme Court Bench ruled that an affinity test is not required in every case to determine the legitimacy of a caste or tribal claim.

Affinity Test

- An **affinity test requires authorities to investigate and prepare a report on caste/tribe claims** based on the peculiar anthropological and ethnological traits, deities, rituals, customs, mode of marriage, death ceremonies, methods of burying dead bodies, and so on of the particular caste or tribe, as well as the applicants' knowledge of them.

Supreme Court view

- The court, however, stated that an "**affinity test can never be decisive" in proving a caste/tribe claim".**
- According to the court, an applicant might have an "excellent understanding" of these characteristics without belonging to a certain caste or tribe.
- The court reasoned that if the "candidate has lived in larger metropolitan regions with his family for decades or if his family has lived in such urban areas for decades."
  - In certain circumstances, even the candidates' parents may be ignorant of inherent tribal or caste features "since they have been living in larger metropolitan regions for numerous years."

Caste Claim

- **Anybody claiming to be a member of a Scheduled Caste, Scheduled Tribe, or Other Backward Class must present a certificate to the Appointing Authority/Selection Committee/Board, etc**. to be eligible for reservation and numerous relaxations and concessions.
- The Caste/Tribe/Community certificate issued by the appointing authority in the required form for SCs/STs and OBCs is only recognised as proof of a candidate's claim to be a member of a Scheduled Caste, Scheduled Tribe, or Other Backward Class.

INTERNATIONAL RELATIONS

International Criminal Court

Context:

- The **International Criminal Court recently issued a warrant for arrest against Russian President** Vladimir Putin. The reason is his alleged involvement in the abduction of children from Ukraine.

Details:

International Criminal Court:

History:

- It was created two decades ago as a **standing body under the Rome Statute of 1998**. The Rome Statute entered into force in 2002
- UNSC had earlier established ad hoc tribunals. Their role was to address atrocities in places such as Yugoslavia and Rwanda.
- Many democracies have joined the ICC, including close US allies like Britain. But the **US has not joined**
- **Russia is also not a member**

About:

- The ICC is an independent international organization and is not part of the UN system
- It is the **first permanent treaty-based court established to help end impunity for the most serious crimes of concern to the**

international community.

Role:

- To investigate war crimes, genocide and crimes against humanity

Location:

- The court is based in **The Hague**, Netherlands.

Powers in the present case:

- The **court does not have the power to arrest sitting heads of state or bring them to trial**
- She must rely on other leaders and governments to act as her sheriffs around the world.
- A suspect who manages to evade arrest may never have a confirmation hearing.

Financing:

- Although the court's expenses are financed primarily by states that are parties to the Rome Statute, it **also receives voluntary contributions from governments, international organizations, individuals, corporations and other entities.**

Jurisdiction:

- The ICC **has jurisdiction over the most serious crimes of concern to the international community as a whole, namely genocide, crimes against humanity and war crimes if committed after 1 July 2002**, as well as the crime of aggression, since 17 July 2018.
- The court is meant to complement, not replace, national criminal justice systems.
- It can only prosecute cases when national court systems do not conduct proceedings, or when they claim to do so but are in fact unwilling or unable to actually conduct such proceedings. This basic principle is known as the principle of complementarity.

No Immunity:

- **Acting officially as head of state, member of government or parliament or as an elected representative or public official in no way exempts a person from prosecution or criminal liability**.
- ICC cannot prosecute persons who are below 18 when the crime was committed.

Vienna Convention on Diplomatic Relations

Context:

- After a group of people chanting pro-Khalistan slogans pulled down the Indian flag at the High Commission in London, the Indian government responded strongly by summoning Britain's top diplomat.
- A group of pro-Khalistan protesters attacked and vandalized the Indian consulate in San Francisco

Details:

- India demanded an explanation for the complete lack of British security which allowed these elements to enter the premises of the High Commission.
- Britain was remanded of its main obligations under the Vienna Convention.

What is the Vienna Convention?

- The term "Vienna Convention" may refer to a number of agreements signed in Vienna, many of which **concern the standardization or formalization of international diplomatic procedures.**
- In this context, the treaty referred to by the MEA is the **Vienna Convention on Diplomatic Relations (1961), which "provides a comprehensive basis for the establishment, maintenance and termination of diplomatic relations with the consent of independent Sovereign States".**

Details of the convention:

- It **codifies the long-standing tradition of diplomatic immunity**, in which diplomatic missions are granted privileges that allow diplomats to carry out their duties without fear of coercion or harassment from their home countries.
- It **affirms the concept of "inviolability" of diplomatic missions**, which is one of the constants of international diplomacy.
- The Vienna Convention on Diplomatic Relations **entered into force on April 24, 1964 and has been universally ratified, with the exception of Palau and South Sudan.**
- **The "receiving country" accepts the location of the diplomatic mission**.
- Article 22 of the Convention deals with obligations related to Mission houses.
- Part 2 of this article says that "**The receiving State has a special responsibility to protect the premises of the mission from any invasion or destruction and to take all necessary measures to prevent the disturbance of the peace or dignity of the**

WHAT THE VIENNA CONVENTION IS ABOUT

Here are the articles from Vienna Convention on Consular Relations 1963 that guarantee immunity to consular officials and diplomats, and also exempt them from certain local laws.

ARTICLE 40
PROTECTION OF CONSULAR OFFICERS
The receiving State shall treat consular officers with due respect and shall take all appropriate steps to prevent any attack on their person, freedom or dignity.

ARTICLE 41
PERSONAL INVIOLABILITY OF CONSULAR OFFICERS
1 Consular officers shall not be liable to arrest or detention pending trial, except in the case of a grave crime and pursuant to a decision by the competent judicial authority.
2 Except in the case specified in paragraph 1 of this article, consular officers shall not be committed to prison or be liable to any other form of restriction on their personal freedom save in execution of a judicial decision of final effect.
3 If criminal proceedings are instituted against a consular officer, he must appear before the competent authorities. Nevertheless, the proceedings shall be conducted with the

respect due to him by reason of his official position...

ARTICLE 43
IMMUNITY FROM JURISDICTION
1 Consular officers and consular employees shall not be amenable to the jurisdiction of the judicial or administrative authorities of the receiving State in respect of acts performed in the exercise of consular functions

ARTICLE 47
EXEMPTION FROM WORK PERMITS
1 Members of the consular post shall, with respect to services rendered for the sending State, be exempt from any obligations in regard to work permits imposed by the laws and regulations of the receiving State concerning the employment of foreign labour.
2 Members of the private staff of consular officers and of consular employees shall, if they do not carry on any other gainful occupation in the receiving State, be exempt from the obligations referred to in paragraph 1 of this article.

Source: The United Nations

mission".

- Essentially, the security of the High Commission or Embassy is the responsibility of the host country.

World Happiness Report 2023

Context:
- The UN Sustainable Development Solutions Network has released the World Happiness Report 2023.

Details

Major highlights of the report:
- **Finland was ranked first for the sixth year in a row**, followed by Denmark, Iceland, Israel, and the Netherlands.
- COVID-19 and other key problems had a considerable impact on the triannual review of 2020–2022 that became the 2023 World Happiness Report.
- **Afghanistan, which is governed by the Taliban, came in last place and has the lowest levels of happiness.**
- **India's ranking has improved** from 136 (in 2022) to 125 (in 2023), however, **it is still lower than its neighbours Bangladesh, Nepal, and China.**
- Russia and Ukraine have been at war for more than a year, but when it comes to happiness, the two nations—70th-ranked Russia and 92nd-ranked Ukraine—are ranked higher than India.

World Happiness Report:
- The World Happiness Report **includes articles and rankings of national happiness based on respondents' assessments of their own lives**, which the study also compares with numerous (quality of life) criteria.
- The **rankings are based on factors such as**; GDP per capita, social support, low levels of corruption, compassion in a community where people watch out for one another, and the freedom to make important life decisions.
- An international sample survey was used to compile the rankings of national happiness. **Respondents from samples across the country are asked to imagine a ladder with the best possible life represented by a 10 and the worst possible life represented by a 0**. On a scale of 0 to 10, they are then asked to score their current lifestyles.
- **In 2011, The United Nations General Assembly (UNGA) adopted resolution 65/309 Happiness:** towards Holistic Definition of Development urging member nations to assess their citizens' levels of happiness and use the results to shape public policy.
- **In 2012, the first UN High-Level Meeting "Wellbeing and Happiness: Defining a New Economic Paradigm" was held.**

> The Sustainable Development Solutions Network (SDSN) is a non-profit launched by the United Nations in 2012.

World Happiness Day:
- **World Happiness Day is celebrated on March 20**; to mark the occasion, the **UN Sustainable Development Solutions Network released the World Happiness Report.**

HEALTH

Erythritol

Context
- A new research by Cleveland Clinic, published in Nature Medicine, has shown that **Erythritol, a popular artificial sweetener, is associated with an increased risk of heart attack and stroke**.

Erythritol
- Erythritol is a **type of sugar alcohol** that is commonly used as a sugar substitute in foods and beverages.
- Unlike traditional sugars, it has no calories and does not raise blood sugar levels.
- It is also believed to have a **lower glycemic index** than other sweeteners, meaning it may not have as strong an impact on insulin levels.
- Erythritol is **60–70% as sweet as sucrose (table sugar).**
- Japanese companies pioneered the commercial development of erythritol as a sweetener in the 1990s.

Natural Occurrence and Production
- Erythritol occurs naturally in some fruit and fermented foods.
- It also occurs in human body fluids such as eye lens tissue, serum, plasma, fetal fluid, and urine.
- At the industrial level, it is produced from glucose by fermentation with a yeast, *Moniliella pollinis*.

Uses
- Beverage categories for its use are coffee and tea, liquid dietary supplements, juice blends, soft drinks, and flavored water product variations, with foods including confections, biscuits and cookies, tabletop sweeteners, and sugar-free chewing gum.

Research Findings

- Researchers studied over 4,000 people in the US and Europe and found that those with higher blood Erythritol levels were at elevated risk of experiencing a major adverse cardiac event such as heart attack, stroke or death.
- They also examined the effects of adding Erythritol to either whole blood or isolated platelets, which are cell fragments that clump together to stop bleeding and contribute to blood clots. Results revealed that **erythritol made platelets easier to get activated and form a clot.** Pre-clinical studies confirmed ingestion of erythritol heightened clot formation.

Final Thought

- Cardiovascular disease builds over time, and heart disease is the leading cause of death globally. The study above highlights the dangers of artificial sweeteners in increasing the risk of cardiovascular events by correlating them with metabolic studies of such chemicals in circulating blood.
- Sweeteners like erythritol have rapidly increased in popularity in recent years but there needs to be more in-depth research into their long-term effects.

World Bank's Support to India's Health Sector

Context

- The World Bank is lending up to $1 billion to help India with preparedness for future pandemics as well as to strengthen its health infrastructure.

Details

- Through this combined financing of $1 billion, the bank will support India's flagship **Pradhan Mantri-Ayushman Bharat Health Infrastructure Mission** (PM-ABHIM), launched in October 2021, to improve the public healthcare infrastructure across the country. In addition to the national-level interventions, one of the loans will prioritise health service delivery in seven States including Andhra Pradesh, Kerala, Meghalaya, Odisha, Punjab, Tamil Nadu, and Uttar Pradesh.
- The $500-million **Public Health Systems for Pandemic Preparedness Program (PHSPP)** will support the government's efforts to prepare India's surveillance system to detect and report epidemics of potential international concern.
- Another $500 million **Enhanced Health Service Delivery Program (EHSDP)** will support the government's efforts to strengthen service delivery through a redesigned primary healthcare model, which includes improved household access to primary healthcare facilities, stronger links between each household and its primary care facility through regular household visits and risk assessment of non-communicable diseases.
- Both the PHSPP and the EHSDP utilize the Program-for-Results financing instrument that focuses on the achievement of results rather than inputs. Both the PHSPP and EHSDP loans from the International Bank for Reconstruction and Development (IBRD) have a final maturity of 18.5 years including a grace period of five years, stated the World Bank.

India's Health Sector

- India's performance in health has improved over time. According to World Bank estimates, **India's life expectancy has increased from 58 in 1990 to 69.8 in 2020. This is higher than average for the country's income level.**
- The **under-five mortality rate (36 per 1,000 live births), infant mortality rate (30 per 1,000 live births), and maternal mortality ratio (103 per 100,000 live births) are all close to the average for India's income level**, reflecting significant achievements in access to skilled birth attendance, immunisations, and other priority services.
- Despite these advances in the health of the Indian population, COVID-19 has underscored the need for developing capacity for core public health functions, as well as for improving the quality and comprehensiveness of health service delivery.

Closing Remarks

- The two Programs leverage the unique strengths of both the Center and the States to support the development of more accessible, high-quality, and affordable health services.
- This strengthening of health systems, combined with attention to strong disease response, will improve preparedness and response to future disease outbreaks.

Marburg Virus Disease

Context

- The Marburg virus disease outbreak has killed five people in Tanzania.

Marburg Virus Disease

About

- Marburg virus disease is a highly virulent disease that causes haemorrhagic fever, with a fatality ratio of up to 88%. It is **in the same family as the virus that causes Ebola virus disease i.e family Filoviridae.**

Origin

- The virus was initially detected in 1967 after simultaneous outbreaks in Marburg and & Frankfurt in Germany; and in Belgrade, Serbia.

Cause

- In this there is severe illness of humans and non-human primates caused by either of the two Marburgviruses**: Marburg virus (MARV) and Ravn virus (RAVV). MVD is a viral hemorrhagic fever (VHF),**and the clinical symptoms are indistinguishable from Ebola virus disease (EVD).
- Marburgvirions contain non-infectious, linear nonsegmented, **single-stranded RNA genomes.**

Prevalance

- Marburg Viruses are **endemic in arid woodlands of equatorial Africa.**

Symptoms

- The common symptoms of **a virus are fever, headache, fatigue, abdominal pain and gingival haemorrhage.**

Transmission

- **Fruit bats of the Pteropodidae Family are the key carriers of the disease**. It typically infects humans following prolonged exposure to mines or caves inhabited by Rousettus bat colonies.
- The home range of the fruit bats includes India, parts of Africa and the Middle-East, South-East Asian countries and some parts of Australia.
- Human-to-human transmission takes place through **direct contact with the blood, secretions, organs or other bodily fluids of infected people**. Surfaces and materials contaminated with these fluids are other vital sources. Its incubation period ranges from two days to three weeks.

Vaccine and Treatment

- There are no **approved vaccines** or antiviral treatments for the virus yet.
- **Early supportive care with rehydration and symptomatic treatment improves** survival rates.

GS-III
ECONOMY

Patent Evergreening

Context

- The Indian Patents Office rejected an application of Johnson and Johnson (J&J) seeking an extension of its patent on anti-Tuberculosis (TB) drug Bedaquiline beyond July 2023, when it is set to expire.

Patent

- A patent is an <u>exclusive right granted by the Government to the inventor to exclude others to use, make and sell an invention is a specific period of time.</u>
- A patent is also **available for improvement in their previous Invention**.
- The patent has a **limited term of 20 years**, which is counted from the date of filing of the patent application.
- A patent is **a territorial right.** Thus, it can only be applied in the country where it has been granted.
- The **Patents Act 1970, came into force** based on the recommendations of **Ayyangar Committee headed by Rajagopala Iyengar.**
- Again, **The Patents Act, 1970** was amended by the **Patents (Amendment) Act, 2005** regarding extending product patents in all areas of technology **including food, medicine, chemicals and microorganisms.**

Read more: https://www.iasgyan.in/daily-current-affairs/patent

The case of Johnson and Johnson Patent Evergreening

- J&J had filed a patent <u>for Fumarate salt of bedaquiline in 2008.</u>
- Since 2008, J&J had indulged in 'evergreening' **— a strategy to extend the life of patents about to expire in order to retain revenues from them —** by making multiple claims in its applications for patent extensions.

Patent Evergreening

- As per the Indian Patents Act, 1970 a patent is granted on a product, a process, or an invention for a limited period of 20 years.
- After its lifespan expires, an invention no longer enjoys patent protection and **the invention becomes a part of the public domain.** This means **anyone can make, use, or sell the invention without the threat of an infringement suit.**
- To avoid these companies, go for patent evergreening.
- Ever-greening of patent, as the name suggests, is a corporate, legal, business, and technological strategy **for extending / elongating the term of a granted patent in a jurisdiction that is about to expire**, in order **to retain royalties from them, by taking out new patents.**
- When the term of the patent is about to end, companies **make trivial /insignificant variations to the existing patented invention and file for a new patent, thus extending their monopoly right beyond the limited period of 20 years**. This is known as the Ever-greening of a patent.

- Patents that are evergreened are typical in pharmaceutical patents. The evergreening of patents means securing wealth from high sales volume **for a long time.**

Extended Fund Facility

Context

- The International Monetary Fund (IMF) cleared a $3 billion Extended Fund Facility (EFF) for Sri Lanka, potentially unlocking more loans for the debt-ridden island nation that is struggling to recover from last year's economic meltdown.

What Is the Extended Fund Facility of the IMF?

- The EFF provides financial assistance to countries facing short-term balance of payments issues that require longer-term structural changes to address.
- The EFF programs typically have long-term engagement and allow for a longer-term repayment period, which aims to maintain policy space and enable the recipient government to implement structural reforms.
- The EFF arrangement comes with strict conditionalities for economic reform.
- The objectives of the EFF-supported program are to **restore macroeconomic stability and debt sustainability**, safeguard financial stability, and step-up structural reforms.

Domestic Systemically Important Banks (D-SIBS)

Context

- The failure of Silicon Valley Bank and Signature Bank in the US raises questions on the safety of depositors' wealth everywhere. Such failures are unlikely in the Indian system as RBI has classified SBI, ICICI Bank, and HDFC Bank as D-SIBs — these banks have to earmark additional capital and provisions to safeguard their operations.

What are D-SIBS?

- According to the RBI, D-SIBs **are financial institutions that are large enough that they cannot be allowed to fall. [Too Big to fail]**
- A failure of any of these banks can lead to systemic and significant disruption to essential economic services across the country and can cause an economic panic. As a result of their importance, **the government is expected to bail out these banks in times of economic distress to prevent widespread harm**. Additionally, D-SIBs follow a different set of regulations in relation to systemic risks and moral hazard issues.
- The system of D-SIBs was adopted in the **aftermath of the 2008 financial crisis** where the collapse of many systematically important banks across various regions further fuelled the financial downturn.

How are D-SIBs determined?

- Since 2015, the RBI has been releasing the list of all D-SIBs.
- They are classified into five buckets, according to their importance to the national economy.
- In order to be listed as a D-SIB, **a bank needs to have assets that exceed 2 percent of the national GDP.**
- The banks are then further classified on the level of their importance across the five buckets.

What regulations do these banks need to follow?

- Due to their economic and national importance, the **banks need to maintain a higher share of risk-weighted assets as tier-I equity.**
- SBI, since it is placed in bucket three of D-SIBs, has to maintain **Additional Common Equity Tier 1 (CET1)** at 0.60 percent of its Risk-Weighted Assets (RWAs). ICICI and HDFC on the other hand, have to maintain Additional CET1 at 0.20 percent of their RWA due to being in bucker one of D-SIBs.

Tier 1 Capital vs. Tier 2 Capital: An Overview

- A bank's capital consists of tier 1 capital and tier 2 capital,
- Tier 1 capital is a **bank's core capital and includes disclosed reserves**—that appears on the bank's financial statements—and equity capital. This money is the funds a bank uses to function on a regular basis and forms the basis of a financial institution's strength. Tier I capital is a bank's highest quality capital because **it is fully available to cover losses.**
- Tier 2 capital is a **bank's supplementary capital**. Undisclosed reserves, subordinated term debts, hybrid financial products, and other items make up these funds.
- A bank's total capital is calculated by adding its tier 1 and tier 2 capital together.

Tier 1 Capital Ratio

$$\text{Tier 1 Capital Ratio} = \frac{\text{Tier 1 Capital}}{\text{Risk-weighted Assets}}$$

Components of Tier 1 Capital
- Tier 1 Capital = Common Equity Tier 1 Capital + Additional Tier 1 Capital
  1. Common Equity Tier 1 (CET1) Capital – CET1 capital is the core equity capital of the bank and includes shareholders equity, retained earnings, and accumulated other comprehensive income of the bank.
  2. Additional Tier 1 (AT1) Capital – AT1 capital includes certain contingently convertible and perpetual debt of the bank since they provide going concern capital to the bank.
- Under Basel III, the **minimum tier 1 capital ratio is 10.5%,** which is calculated by dividing the bank's tier 1 capital by its total risk-weighted assets (RWA).
- In India, one of the key new rules brought in was that banks must maintain capital at a minimum ratio of 11.5 percent of their risk-weighted loans. Of this, 9.5 percent needs to be in Tier-1 capital and 2 percent in Tier-2. Tier-1 capital refers to equity and other forms of permanent capital that stays with the bank, as deposits and loans flow in and out.

Credit Suisse Group

Context
- The 167-year-old Credit Suisse, announced in its annual report that it had uncovered "material weaknesses" relating to its financial reporting.

About
- **Credit Suisse Group AG** is a global investment bank and financial services firm founded and based in Switzerland.
- Credit Suisse was **founded in 1856** to fund the development of Switzerland's rail system.
- **Headquartered in Zürich**, it maintains offices in all major financial centres around the world.
- It is one of the nine global **"bulge bracket" banks** providing services in investment banking, private banking, asset management, and shared services.
- It is known for strict bank–client confidentiality and banking secrecy.
- The Financial Stability Board considers it to be **a global systemically important bank**.
- Credit Suisse is also a primary dealer and Forex counterparty of the Fed.

BULGE BRACKET BANKS
- Bulge bracket banks are the **world's largest multi-national investment banks**, serving mostly large corporations, institutional investors and governments. There is no definitive list of bulge bracket banks.
- Bulge bracket banks usually provide both advisory and financing banking services, as well as the sales, market making, and research on a broad array of financial products including equities, credit, rates, commodities and their derivatives. They are also heavily involved in the invention of new financial products, such as mortgage-backed securities (MBS) in the 1980s, credit default swaps in the 1990s and collateralized debt obligations (CDO) in the 2000s and today, carbon emission trading and insurance-linked products.
- Bulge bracket firms are usually primary dealers in US treasury securities. Bulge bracket banks are also global in the sense that they have a strong presence in all four of the world's major regions: the Americas, Europe, the Middle East and Africa (EMEA) and Asia-Pacific (APAC).
- "Bulge Bracket" commonly **refers to Bank of America Merrill Lynch, Goldman Sachs, Barclays Capital, Credit Suisse, Deutsche Bank, JPMorgan Chase, Citigroup, Morgan Stanley, and UBS.**

PM Mitra Scheme

Context
- The Govt. of India announced the sites for setting up of 7 PM Mega Integrated Textile Regions and Apparel (PM MITRA) Parks for the Textile industry. The Parks will come up in Tamil Nadu, Telangana, Gujarat, Karnataka, Madhya Pradesh, Uttar Pradesh and Maharashtra.

What is PM-MITRA?
- In 2021, Ministry of Textiles (MoT) launched **PM Mega Integrated Textile Regions and Apparel Parks (MITRAs) Scheme** to **strengthen the Indian textile industry** by way of enabling scale of operations, reduce logistics cost by housing entire value chain at one location, attract investment, generate employment and augment export potential.
- PM MITRA is inspired by the 5F vision of the Prime Minister. The '5F' Formula encompasses - **Farm to fibre; fibre to factory; factory to fashion; fashion to foreign.**
- It aspires to fulfil the vision of building an **Aatmanirbhar Bharat** and to position India strongly on the Global textiles map.

Details
- PM MITRA Parks offer an opportunity to create an integrated textiles value chain right from spinning, weaving, processing/dyeing and printing to garment manufacturing at 1 location.

- An Integrated Textile Value chain at 1 location will reduce the logistics cost of the Industry.
- Intended to generate ~1 lakh direct and 2 lakh indirect employment per park.
- The scheme id developing an integrated large-scale and modern industrial infrastructure facility for the total value-chain of the textile industry for example, spinning, weaving, processing, garments, textile manufacturing, processing & printing machinery industry.
- These parks are envisaged to be located at sites which have inherent strengths for the textile industry to flourish and have the necessary linkages to succeed. The scheme envisages leveraging **Public Private Partnership model for fast-paced implementation in a time-bound manner.**

Significance of the Scheme

- PM MITRA Parks are a **major step forward in realising the Government's vision of making India a global hub for textile manufacturing and exports.** It is expected that these parks will enhance the competitiveness of the textiles industry by helping it achieve economies of scale as well as attract global players to manufacture in India.
- PM MITRA Parks will **help in creating world-class industrial infrastructure** that would attract large scale investment including foreign direct investment (FDI) and encourage innovation and job creation within the sector.
- PM MITRA Parks represent a unique model where the Centre and State Governments will work together to increase investment, promote innovation, create job opportunities and ultimately make India a global hub for textile manufacturing and exports.
- Nearly Rs. 70,000 crores investment and 20 lakhs employment generation is envisaged through these parks.

Global Arms Import

Context

- India remained the world's largest arms importer for the five-year period between 2018-22 according to the Swedish Think Tank Stockholm International Peace Research Institute (SIPRI).

Findings of the SIPRI Report

- India remained the **world's largest arms importer for the five-year period between 2018-22.**
- But its **arms imports dropped by 11% between 2013–17 and 2018–22.**
- Russia was the **largest supplier of arms to India in both 2013–17 and 2018–22**, but its share of total Indian arms imports fell from 64% to 45%.
- France emerged as the second largest supplier between 2018-22.
- Among the top 10 arms exporters for the period 2018-22, **India was the biggest arms export market to three countries — Russia, France and Israel** and the second largest export market to South Korea.
- India was also the **third largest market for South Africa which was ranked 21 in the list of arms exporters.**
- For the same period, India remained the **largest arms importer followed by Saudi Arabia**. Russia accounted for 45% is India's imports followed by France (29%) and the US (11%). At the same time, India was the third largest arms supplier to Myanmar after Russia and China accounting for 14% of its imports.

Note: India's tensions with Pakistan and China largely drive its demand for arms imports. With an 11% share of total global arms imports, India was the world's biggest importer of major arms in 2018–22, a position it has held for the period 1993–2022.

Russia as Arms Supplier under pressure

- The report noted that Russia's position as India's main arms supplier is under pressure due to strong competition from other supplier states, increased Indian arms production and, since 2022, the above-mentioned constraints on Russia's arms exports related to its invasion of Ukraine.
- India's arms imports from France, which included 62 combat aircraft and four submarines, increased by 489% between 2013–17 and 2018–22. France therefore displaced the USA to become the second largest supplier to India in 2018–22.
- Just under two thirds of Russian arms exports went to three states in 2018–22 — India (31%), China (23%) and Egypt (9.3%). India was also the largest recipient of Russian arms in 2013–17, but exports to India decreased by 37% between the two periods. In contrast, exports to China (+39%) and Egypt (+44%) increased within the same time frame.

About SIPRI

- **Stockholm International Peace Research Institute** (**SIPRI**) is an international institute **based in Stockholm.**
- It was **founded in 1966** and provides data, analysis, and recommendations for armed conflict, military expenditure and arms trade as well as disarmament and arms control. The research is **based on open sources** and is directed to decision-makers, researchers, media and the interested public.
- SIPRI's organizational purpose is **to conduct scientific research on issues of conflict and cooperation of importance for international peace and security**.
- The institute works in a global network, with partnerships and cooperation between other institutes and with individual scientists. SIPRI has close cooperation with many multilateral organizations, for example, the **United Nations and**

the European Union.

SCIENCE & TECHNOLOGY

Real-Time Train Information System (RTIS) Project

Context

- The Indian Railways has commenced a project which will now enable real-time tracking of train movements with the assistance of satellite imagery under the Real Time Train Information System (RTIS) project.

Details

- Centre for Railway Information Systems (CRIS), has collaborated with Indian Space Research Organization (ISRO) for live tracking to help Railways run trains efficiently.
- ISRO has developed its own regional navigation satellite system called Navigation with **Indian Constellation (NavIC) and Bhuvan,** a web-based utility that allows users to explore a set of map-based content being deployed for tracking. **CRIS has taken bandwidth from ISRO and integrated its systems with NavIC and Bhuvan.**<u>Every locomotive is fitted with a device and SIM, which communicates the train's real position to the satellite and feedback is received. The movement is updated every three seconds.</u>

Significance

- Real time tracking of trains is <u>**useful during accidents, floods and landslides, when there is a need to pin down the train's exact location for rendering help.**</u>

Megha-Tropiques-1 (MT-1) Satellite

Context

- The ISRO successfully carried out a controlled re-entry experiment of the decommissioned orbiting Megha-Tropiques-1 (MT-1) satellite.

About Megha-Tropiques

- **Megha-Tropiques** was a <u>satellite</u> mission to study the <u>water cycle</u> in the tropical atmosphere in the context of climate change.
- A collaborative effort between Indian Space Research Organisation (<u>ISRO</u>) and French Centre National d'Etudes Spatiales (<u>CNES</u>), Megha-Tropiques was successfully deployed into orbit by a <u>PSLV</u> rocket **in 2011.**
- **Earth Observation satellite Megha-Tropiques** was designed **to understand tropical meteorological and climatic processes**, by obtaining reliable statistics on the water and energy budget of the tropical atmosphere.
- Megha-Tropiques **also sought to describe the evolution of major tropical weather systems.** The focus was the repetitive measurement of the tropics.
- Megha-Tropiques instruments allowed simultaneous observation of three interrelated components of the atmospheric engine: <u>**water vapor, condensed water (clouds and precipitations), and radiative fluxes, facilitating the repetitive sampling of the inter-tropical zone over long periods of time**</u>.
- With its circular orbit inclined 20 deg to the equator, the Megha-Tropiques is a **unique satellite for climate research** that should also aid scientists seeking to refine prediction models. **Orbit Type**: SSPO (Sun Synchronous Polar Orbit).

Megha-Tropiques carries the following four payloads:

- **Microwave Analysis and Detection of Rain and Atmospheric Structures (MADRAS),** an Imaging Radiometer developed jointly by CNES and ISRO.
- **Sounder for Probing Vertical Profiles of Humidity (SAPHIR),** from CNES.
- **Scanner for Radiation Budget (ScaRaB),** from CNES.
- **Radio Occultation Sensor for Vertical Profiling of Temperature and Humidity (ROSA),** procured from Italy.

Time Zone for the Moon

Context

- With more lunar missions than ever on the horizon, the European Space Agency wants to give the moon its own time zone.

What time is it on the moon?

- Since the dawn of the Space Age, the answer has been: It depends. For decades, lunar missions have **operated on the time of the country that launched them.** But with several lunar explorations heading for the launchpad, the European Space Agency has deemed the current system unsustainable.
- The solution, is **a lunar time zone.**

Why do we need a time zone for the moon?

- The main objective of establishing a universal timekeeping system for the moon, **is to streamline contact among the various**

countries and entities, public and private, that are coordinating trips to and around the moon.

What could be the methods for establishing a 'moon time zone'?

- Time on Earth is precisely tracked by atomic clocks, but synchronizing time on the moon is tricky because clocks run faster there, gaining around 56 microseconds, or millionths of a second, per day.
- Once a new lunar time zone is established, the methods used to create it will be useful for future space exploration. Astronauts could go to Mars in the next two to three decades, and will face similar logistical hurdles that a Martian time zone could address.

Fluorescent Microscope

Context

- Scientists have devised Foldscopes and 'Glowscope' to bring Fluorescent Microscopy to schools.

About

- A **fluorescence microscope** is an <u>optical microscope</u> that uses <u>fluorescence</u> instead of, or in addition to, <u>scattering</u>, <u>reflection</u>, and <u>attenuation</u> or <u>absorption</u>, to study the properties of organic or <u>inorganic</u> substances.
- "Fluorescence microscope" refers to any microscope **that uses fluorescence to generate an image.**

Basic Principle and Working

- An optical microscope views an object by studying how it absorbs, reflects or scatters visible light.
- A fluorescence microscope views an object by studying how it reemits light that it has absorbed, i.e. how it fluoresces. This is its basic principle.
- The object is illuminated with light of a specific wavelength. **Particles in the object absorb this light and reemit it at a higher wavelength** (i.e. different colour). These particles are called **fluorophores; the object is infused with them before being placed under the microscope.**
- When the fluorophores fluoresce, a fluorescent microscope can track them as they move inside the object, revealing the object's internal shape and other characteristics.
- For example, a fluorophore called the Hoechst stain binds to DNA and is excited by ultraviolet light. So, a tissue sample collected from a person could be injected with the **Hoechst stain** and placed under a fluorescent microscope. When the sample is illuminated by ultraviolet light, the stain absorbs the light and reemits it at a higher wavelength. The microscope will point out where this is happening: in the nuclei of cells, where DNA is located. This way, the nuclei in the tissue can be labelled for further study.
- Fluorescence microscopy has become an essential tool in cell biology. This technique **allows researchers to visualize the dynamics of tissue, cells, individual organelles, and macromolecular assemblies inside the cell**.

> **GLOWSCOPES AND FOLDSCOPES**
> - Glowscopes do not use scientific components. Instead, they repurpose hunting/fishing flashlights, theater stage-lighting filters, and smartphone camera clip-on lenses used for amateur photography. They are great for some purposes but have limitations.
> - A Foldscope is an optical microscope that can be assembled from simple components, including a sheet of paper and a lens.
> - Foldscope can visualize tiny things like bacteria and microorganisms as well as larger samples like insects, plants, fabrics, and tissues. Foldscope can also attach to mobile phones for imaging.

Terran 1 Rocket

Context

- Launch of world's first 3D-printed rocket, Terran 1, was cancelled at last second.

Details

- Terran 1 is an **expendable two-stage small-lift launch vehicle developed by Relativity Space since 2017.**
- Unique to Relativity, most **structures and components in the vehicle are manufactured with 3D printing processes**.
- The **maximum payload was expected to be 1,250 kg (2,760 lb)** to 185 km (115 mi) low Earth orbit (LEO).
- Terran 1 consists of two stages. The first stage is powered by nine Aeon 1 engines **burning methane and oxygen propellants** in a gas-generator cycle.
- The second stage is powered by a single vacuum-optimized version of Aeon 1, known as AeonVac, producing 126 kN of **thrust in vacuum.**
- The primary and secondary structures of Terran 1 are manufactured with Relativity's Stargate 3D **printer out of a proprietary aluminum alloy.**

3DPrinting

- 3D printing uses computer-aided design (CAD) to create three-dimensional objects **through a layering method.**
- In an additive process an object is created by laying down successive layers of material until the object is created.
- A typical 3D printer is very much like an inkjet printer operated from a computer. It builds up a 3D model one layer at a time, from the bottom upward, by repeatedly printing over the same area in a method known as **fused depositional modeling (FDM).**

One Web Constellation

Context

- LVM3 / OneWeb India-2 Mission is accomplished successfully -ISRO.

Background

One Web

- OneWeb (legally Network Access Associates Ltd) is a **communications company that aims to build broadband satellite Internet services**.
- The company is **headquartered in London**, with offices in California, Florida, Virginia, Dubai and Singapore.

One Web satellite constellation

- The OneWeb satellite constellation is a planned initial **648-satellite internet constellation** which is in the process of being completed in 2022. It has a **goal to provide global broadband internet services by the end of 2023.**
- The constellation is being deployed by

One Web satellites launched by ISRO

- A few days back ISRO successfully deployed 36 One Web satellites. It was launched by NewSpace India Limited (NSIL), from the Satish Dhawan Space Centre (SDSC- SHAR) in Sriharikota, India.
- This launch by ISRO and NSIL is one of the biggest commercial orders by India's premier space organization, and the first using the LVM3 rocket.
- This launch brings the total of OneWeb's constellation to 462 satellites, representing more than 70% of its planned 648 Low Earth Orbit (LEO) satellite fleet that will deliver high-speed, low-latency connectivity worldwide.

LAUNCH VEHICLE MARK 3 (LVM3)

- The Launch Vehicle Mark 3 (LVM3) is ISRO's newest **medium-heavy lift launch vehicle**, the heaviest rocket currently in use by India. Formerly called the Geosynchronous Satellite Launch Vehicle Mark III (GSLV Mk III), the rocket is **designed to mainly launch satellites into geostationary orbit at 35,000km.**
- The LVM3 is capable of lifting much heavier satellites than the GSLV Mk II with a bigger cryogenic upper stage and a larger first stage. **Both GSLV Mk II and LVM3 are three-stage vehicles**, while the PSLV, which launches to low earth polar orbits, is a four-stage vehicle.
- The GSLV Mk-II can place up to 2,500kg in geosynchronous orbits and up to 5,000kg to low-earth orbit. By comparison, the **LVM3 can lift 4,000kg to GTO and up to 8,000 kg to LEO.** Currently, America's SpaceX's non-human rated Falcon Heavy, a super-heavy lift vehicle, is the heaviest rocket that is operational. The LVM3 also has the human-rated variant which will be used for Gaganyaan missions.

Food Irradiation

Context

- The Centre is planning to irradiate onions with Gamma rays before sending them into cold storage on a pilot basis.

What is Food Irradiation?

- Food irradiation (the application of ionizing radiation to food) is a **technology that improves the safety and extends the shelf life of foods by reducing or eliminating microorganisms and insects.** Like pasteurizing milk and canning fruits and vegetables, irradiation can make food safer for the consumer.

How Is Food Irradiated?

There are three sources of radiation approved for use in foods.

- **Gamma rays** are emitted from radioactive forms of the element cobalt (Cobalt 60) or of the element cesium (Cesium 137). Gamma radiation is used routinely to sterilize medical, dental, and household products and is also used for the radiation treatment of cancer.
- **X-rays** are produced by reflecting a high-energy stream of electrons off a target substance (usually one of the heavy metals) into food. X-rays are also widely used in medicine and industry to produce images of internal structures.

- **Electron beam (or e-beam)** is **similar to X-rays** and is a stream of high-energy electrons propelled from an electron accelerator into food.

Why Irradiate Food?

Irradiation can serve many purposes.

- **Prevention of Foodborne Illness** – to effectively eliminate organisms that cause foodborne illness, such as *Salmonella* and *Escherichia coli* (*E. coli*).
- **Preservation –** to destroy or inactivate organisms that cause spoilage and decomposition and extend the shelf life of foods.
- **Control of Insects –** to destroy insects in or on tropical fruits imported into the United States. Irradiation also decreases the need for other pest-control practices that may harm the fruit.
- **Delay of Sprouting and Ripening –** to inhibit sprouting (e.g., potatoes) and delay ripening of fruit to increase longevity.
- **Sterilization –** irradiation can be used to sterilize foods, which can then be stored for years without refrigeration.

DEFENSE & SECURITY

Exercise Sea Dragon

Context:

- A P8I aircraft of the Indian Navy arrived at Guam, USA to participate in 'Exercise Sea Dragon 23', the third edition of the coordinated multi-lateral ASW exercise for Long Range MR ASW aircraft, conducted by the US Navy.

Details:

- The complexity and scope of these exercises has increased steadily over the past years to include advanced ASW drills.
- Ex Sea Dragon 23 will test the capabilities of participating aircraft in tracking simulated and live underwater targets, whilst also sharing mutual expertise.
- **The Exercise would witness representation by an Indian Navy P8I, along with P8A of the US Navy, P1 from the Japanese Maritime Self Defence Force, CP 140 from the Royal Canadian Air Force and P3C from the RoKN.**
- The Exercise aims to achieve high levels of synergy and coordination between the friendly navies, which is based on their shared values and commitment to an open, inclusive Indo-Pacific.

About:

- **Participating nation:** Six Indo-Pacific nations participated in a multi-lateral anti-submarine warfare exercise that includes navies of **India, Australia, America, Canada, Japan and South Korea.**
- **Purpose:** Anti-submarine warfare training and excellence.

INS Trikand

Context:

- INS Trikand is participating in the International Maritime Exercise/ Cutlass Express 2023 (IMX/CE-23) being held in the Gulf region from 26 Feb to 16 Mar 23.

Details:

- She will exercise with participants from over 50 nations and international maritime agencies with the common aim of enhancing maritime security and keeping sea lanes in the region safe for maritime commerce.

About the exercise:

- IMX/CE-23 is one of the largest multinational maritime exercises in the world.
- **IMX 23 is a U.S. Naval Forces Central Command (NAVCENT)-led maritime exercise held across territorial and international waters across the Middle East, and Cutlass Express is an annual U.S. Naval Forces Europe-Africa (NAVEUR-NAVAF) exercise that includes East African and West Indian Ocean partner nations.**
- This year, the two events will be combined. IMX/Cutlass Express is designed to demonstrate global resolve to preserve the rules-based international order, offer a unique chance to collaborate with like-minded participants and illustrate the importance of those relationships
- **While this is Indian Navy's maiden IMX participation, it also marks the second occasion where an Indian Naval ship is participating in an exercise conducted by the CMF.**

Importance:

- Earlier, in Nov 22, INS Trikand had participated in the CMF led Operation Sea Sword 2.
- Participation in exercises like Sea Sword 2 and IMX/CE-23 enables the Indian Navy in strengthening relationships and enhancing interoperability and collective maritime capability with maritime partners in the IOR.
- It also enables the Navy contribute constructively to regional stability and security.

About INS Trikand:

- It is a frontline frigate, is equipped with a versatile range of weapons and sensors.
- The ship is a part of the Indian Navy's Western Fleet, based at Mumbai.

Security Covers

Context:

- The top court said the entire expenses and cost of providing Z+ security cover to Ambanis within the territory of India or abroad shall be borne by them.

Details:

- In India, security cover is offered to recognised personalities whose lives are at jeopardy owing to their work or popularity.
- Different sorts of security are supplied depending on the information provided by the intelligence agency in order to safeguard them from such anti-social forces.
- After assessing the dangers, the security category is separated into five groups and assigned to a person. X, Y, Z, Z+, SPG, and more security classifications are available.
- Such security is available to VIPs and VVIPs, athletes, entertainers, and other high-profile or political figures.
- While Z+ is the highest level of protection, the most powerful people in the country, including current and previous prime leaders, receive additional SPG covering.

X LEVEL SECURITY:

- This is India's fifth critical security level, and its protection cover comprises two security professionals, both of whom are armed police officers.
- It is offered to several people around the country by a single Personal Security Officer.

Y LEVEL SECURITY:

- It is India's fourth security level, and the protective cover comprises an 11-member crew, which includes 1-2 NSG commandos and police personnel.
- It also comes with two PSOs. Many people in India fall into this category of security.

Z LEVEL SECURITY:

- The protective cover comprises a 22-member crew, comprising of 4-5 NSG commandos + police personnel, and is India's third-highest degree of security.

Z+ LEVEL SECURITY:

- It has the second-highest level of security protection.
- This security coverage protects a 55-person workforce, which includes 10+ NSG commandos and police officers.
- Each commando has received expert martial arts and unarmed combat training.
- This security protection has been offered to dignitaries such as BJP President Amit Shah, Uttar Pradesh Chief Minister Yogi Adityanath, Union Finance Minister, and others.

SPG LEVEL SECURITY:

- The Prime Minister of India, former Prime Ministers of India, and members of their families are afforded this degree of security everywhere on the globe, since it ensures their safety.
- Following the death of former Prime Minister Indira Gandhi, the need for this level of protection became apparent.
- It was established in 1988 by an Act of the Indian Parliament.
- The Central Government has complete control over the SPG Group. The unit's commander, known as the Director, is an IPS officer who is in charge of the unit's command and overall supervision.
- In their rank, about 4000 people are always reserved. It is also the most expensive security force in comparison to others because it provides maximum security cover.

Bold Kurukshetra Exercise

Context:

- **The Singapore Army and Indian Army participated in the 13th edition of Exercise Bold Kurukshetra**, a bilateral armour exercise at Jodhpur Military Station, India.

Details:

- For the first time in the exercise series, **both armies participated in a command post Exercise**, which involved Battalion and Brigade level planning elements and computer wargaming.
- Hosted by the Indian Army, the exercise involved soldiers from the 42nd Battalion, Singapore Armoured Regiment and an Armoured Brigade of Indian Army.
- The ten-day long joint training fostered common understanding of mechanised warfare in emerging threats and evolving technologies, developing inter-operability through a computer simulation-based Wargame using joint operational and tactical procedures controlled through a joint command post.

- Both contingents not only learnt about each other's operating drills and procedure, but also exchanged ideas and best practices being followed in a modern combat zone.

About:

- Exercise Bold Kurukshetra is conducted under the ambit of the bilateral arrangement for the joint Army Training and exercises between the Singapore Army and the Indian Army.
- **First conducted in 2005, this exercise underscores the strong and long-standing bilateral defence relationship between both countries and enhances cooperation between the two armies.**
- Both defence establishments also interact regularly through high-level visits, policy dialogues, courses and other professional exchanges.

ENVIRONMENT & ECOLOGY

Eurasian Otter

Context:

- The first photographic record of an elusive semi-aquatic carnivorous mammal has indicated that not all is lost for a Jammu and Kashmir stream.

Details:

Findings:

- A trio of scientists from the University of Jammu's Institute of Mountain Environment trapped three Eurasian otters in the Neeru stream of the Chenab catchment.
- Apart from putting an end to doubts about the animal's presence in the upper Chenab catchment, **their findings have confirmed that some stretches of the Neeru remain unpolluted**.
  o The Neeru is a tributary of the Chenab river.
  o **Since the Eurasian otter — classified as 'near threatened' on the IUCN Red List — is regarded as a flagship species and indicator of high-quality aquatic habitats, its presence is encouraging for the health of the Neeru stream**.

About Eurasian Otter:

Taxonomy:

- **Kingdom :** Animalia
- **Phylum :** Chordata
- **Class :** Mammalia
- **Order :** Carnivora
- **Family :** Mustelidae
- **Genus :** *Lutra*
- **Species :** *lutra*
- **Conservation status:**
  o **IUCN :** Near threatened
  o **IWPA :** Schedule II
  o **CITES :** Appendix I

Distribution:

- The Eurasian otter has one of the widest distributions of all palaearctic mammals.
- Its range covers parts of three continents: Europe, Asia and Africa.
- **In India, it occurs in northern, northeast and southern India. Formerly widely distributed in Japan, it is now believed to be extinct there.**

Characteristics, Habitat and Behaviour:

- The Eurasian otter has sleek brown fur, which is often paler on the underside and a long lithe body with a thick tail and short legs.
- Adaptations for an aquatic lifestyle include webbed feet, the ability to close the small ears and the nose when under water, and very dense, short fur that traps a layer of air to insulate the animal
- **The Eurasian otter lives in a wide variety of aquatic habitats, including highland and lowland lakes, rivers, streams, marshes, swamp forests and coastal areas independent of their size, origin or latitude**
- In the Indian sub-continent, Eurasian otters occur in cold hill and mountain streams. During summer (April - June) in the Himalayas, they may ascend up to 3,660 m.

Major Threats:

- Habitat destruction due to developmental activities such as canalization of rivers, removal of bank side vegetation, dam construction, draining of wetlands and aquaculture activities.
- Decrease in prey species due to acidification of rivers and lakes.
- Poaching for pelt.
- Coastal populations are vulnerable to oil spills, while the inland populations are vulnerable to organic pollution by nitrate fertilizers, untreated sewage, or farm slurry.
- A potential risk comes from traps designed to kill other species, especially underwater cages constructed to drown muskrats.

Sarus Crane

Context:

- An injured sarus crane bird that became a social media sensation when its alleged saviour posted a video about it, stirred up a hornet's nest in the Uttar Pradesh State's politics.

Details:

Key facts about the bird:

- **Common Name:** Sarus crane
- **Scientific Name:** Grus Antigone
- **Height:** 52-156 cm.
- **Length:** 90-130 cm

Status:

- Listed in **Schedule IV of the Wildlife (Protection) Act 1972 and as Vulnerable on IUCN Red List**.

Physical Characteristics:

- The Sarus crane is the **tallest flying bird in the world** with a wingspan of 240cm.
- It has a **predominantly grey plumage with a naked red head** and upper neck and pale red legs.
- It is a **social creature**, found mostly in pairs or small groups of three or four.
- Nests are constructed on water in natural wetlands or in flooded paddy fields.
- The Sarus crane is known for its ability to live in association with humans, inhabiting open, cultivated, well watered plains, marshlands and jheels. These areas suit them well for foraging, roosting and nesting.

Distribution:

- The Sarus crane has **three disjunct populations in the Indian sub-continent, south-east Asia and northern Australia** with an estimated global population of 25,000-37,000 individuals.
- In the Indian subcontinent, it is **found in northern and central India, Terai Nepal and Pakistan**.
- It was **once a common site in the paddy fields of Uttar Pradesh, Bihar, Rajasthan, West Bengal, Gujarat, Madhya Pradesh and Assam**.
- Their population is **now on the decline with only 15,000-20,000 found in India, a majority of which are in Uttar Pradesh**.

Threats:

- The main threat to the Sarus crane in India is **habitat loss and degradation** due to draining the wetland and conversion of land for agriculture.
- The **landscape of its historic range is rapidly changing** due to construction of highways, housing colonies, roads, and railway lines.
- More recently, **many deaths have been recorded due to collision with power lines**.
- Also, due to the increase in agricultural land, Sarus cranes are left with no choice but to **forage in these fields, and as a result ingest pesticides, which lead to poisoning**.

Seahorses Migration

Context:

- Extensive fishing off the Coromandel coast could be forcing the great seahorse to migrate laboriously toward Odisha.

Details:

- The Hippocampus kelloggi, one of 12 species of fish with a horse-like head found in the Indo-Pacific region, could be migrating toward coastal Odisha due to fishing pressures
- **Fishing is less intense in the Bay of Bengal off the Odisha coastline. But the shallow coastal ecosystem of the eastern Indian State may not be the new comfort zone for the fish with a horse-like head**,

Vulnerable species:

- There are 46 species of seahorses reported worldwide.
- The coastal ecosystems of India house nine out of 12 species found in the Indo-Pacific, one of the hotspots of seahorse populations that are distributed across diverse ecosystems such as seagrass, mangroves, macroalgal beds, and coral reefs.
- These nine species are distributed along the coasts of eight States and five Union Territories from Gujarat to Odisha, apart from Lakshadweep and the Andaman and Nicobar Islands.
- **The population of the great seahorse, which is among the eight species tagged 'vulnerable', is declining due to its overexploitation for traditional Chinese medicines and as ornamental fish, combined with general destructive fishing and fisheries bycatch.**
- **Despite the ban on fishing and trading activities on seahorses from 2001, clandestine fishing and trading still take place in India**.

About:

- Seahorses are poor swimmers but migrate by rafting -- clinging to floating substrata such as macroalgae or plastic debris for

dispersal by ocean currents – to new habitats for successful maintenance of their population.

- Seahorses are tiny fishes that are named for the shape of their head, which looks like the head of a tiny horse. There are at least 50 species of seahorses.

International Big Cat Alliance

Context:

- India **has proposed to launch a mega global alliance under its leadership to protect big cats and assured support over five years with guaranteed funding of $100 million (over Rs 800 crore).**

Details:

About:

- The proposed International Big Cat Alliance (IBCA) will **work towards the protection and conservation of the seven major big cats — tiger, lion, leopard, snow leopard, puma, jaguar and cheetah.**
- **Membership to the alliance will be open to 97 "range" countries**, which contain the natural habitat of these big cats, as well as other interested nations, international organisations, etc.

Purpose:

- Records show that the alliance's purpose is to provide **a platform for "dissemination of information on benchmarked practices, capacity building, resources repository, research and development, awareness creation", etc., on the protection and conservation of big cats.**
- Its major activities will include "advocacy, partnership, knowledge e-portal, capacity building, eco-tourism, partnerships between expert groups and finance tapping".

Structure:

- The IBCA's governance structure will comprise a General Assembly consisting of all member countries, a council of at least seven but not more than 15 member countries elected by the General Assembly for a term of 5 years, and a Secretariat.
- Upon the recommendation of the Council, the General Assembly will appoint the IBCA Secretary General for a specific term.
- After the first five years, which will be supported by India's "total grant assistance" of $100 million, the IBCA is expected to sustain itself through membership fees, and contributions from bilateral and multilateral institutions and the private sector.

Criticism:

- Without the political will to do what we know should be done, building yet another platform will not help conservation.
- The funding commitment (for IBCA) is more than what India can apparently afford to spend for 22 species at the brink of extinction.
- Several key landscapes and species recovery programmes are languishing due to inadequate funding.

Must read: https://www.iasgyan.in/daily-current-affairs/7-big-cats

Mimeusemia Ceylonica

Context:

- Two researchers from Tamil Nadu have spotted a **rare moth species for the first time in India in the buffer zone of the Kalakkad–Mundanthurai Tiger Reserve (KMTR) after it was last sighted 127 years ago — at Trincomalee in Sri Lanka in 1893.**

Details:

About:

- *Mimeusemia ceylonica* is a **moth species belonging to the subfamily Agaristinae and family Noctuidae.**
- It was first illustrated and described by English entomologist George Hampson in 1893.

About KMTR:

- The Kalakad Mundanthurai Tiger Reserve (KMTR) in **Tirunelveli and Kanyakumari District of Tamil Nadu** is one of the protected areas having diverse flora and fauna.
- This region has got vegetation types which gradually changes **from dry thorn forest to dry deciduous, moist deciduous and a patch of West coast wet evergreen forests on the higher reaches of the reserve**.
- KMTR was declared as the **"First Tiger Reserve of Tamil Nadu"** and the 17th Tiger Reserve of the country.
- KMTR consists of 895 sq.km of core area consisting of two adjacent sanctuaries namely Kalakad Wildlife Sanctuary, Mundanthurai Tiger Sanctuary in Tirunelveli District and part of Veerapuli and Kilamalai Reserve Forests in Kanyakumari District.
- **Mundanthurai Tiger Sanctuary was declared as Nation's first Tiger Sanctuary during 1962** with a pioneering vision by Tamil Nadu much before Tiger conservation was a National focus.
- **Kalakad Wildlife Sanctuary was established in 1976 primarily for the conservation of Lion Tailed Macaque.**
- River Thamirabarani and 13 other rivers originate from KMTR and the rivers form the lifeline of Tirunelveli, Tuticorin, Virudhunagar, Kanyakumari districts both for drinking water and agriculture. Hence, **KMTR is called popularly as River**

Sanctuary.

High-Powered Committee on Wild Animals

Context:

- The Supreme Court has expanded the authority and jurisdiction of the Deepak Verma Committee.

Details:

About Deepak Verma Committee:

- The Supreme Court has expanded the authority and jurisdiction of a powerful committee headed by its former judge, Justice Deepak Verma, **to carry out the necessary investigations and gather information regarding the import, transfer, procurement, rescue, and rehabilitation of wild animals throughout India, including those kept in captivity.**
  - Earlier only Tripura and Gujarat were within the committee's jurisdiction.
- The Court said that the **Chief Wildlife Wardens of the States would now be added to the committee as members**. All current and future complaints regarding the matter would be investigated by the committee.
  - The Committee may also consider requests for approval, disagreements, or complaints relating to the transfer or import of wild animals into India, the acquisition of those animals by any rescue or rehabilitation facility, or the welfare of those animals by zoos, with the assistance and cooperation of all departments and authorities throughout India.
- The committee will be free to suggest transferring ownership of captive animals or seized wild animals to any willing rescue centre or zoo for their urgent welfare, treatment, and rehabilitation.

Horseshoe Crabs

Context:

- **Horseshoe crabs, one of the oldest living creatures on earth and medicinally priceless, appear to be disappearing** from their familiar spawning grounds along Chandipur and Balaramgadi coast in Odisha's Balasore district.

Details:

About:

- Like olive ridley sea turtles, **these crabs are basically deep-sea animals.**
- The blood of this crab is very important for the preparation of rapid diagnostic reagents.
- **Only a few countries in the world have horseshoe crab population** and India is one among them.
- Palaeontological studies say the **age of horseshoe crabs is 450 million years**.
- Horseshoe crabs are **marine and brackish water arthropods of the family Limulidae and the only living members of the order Xiphosura.**
- Despite their name, they are not true crabs or crustaceans: **they are chelicerates**, most closely related to arachnids such as spiders, ticks, and scorpions.
- Horseshoe crabs live primarily in and around shallow coastal waters on soft, sandy or muddy bottoms.
- **They are eaten in some parts of Asia, and used as fishing bait, in fertilizer and in science (especially Limulus amebocyte lysate).**
- Because of the destruction of habitat and shoreline development, use in fishing, plastic pollution, status as a culinary delicacy in some areas, and use for scientific research and advancements, the horseshoe crab is facing down endangered and extinct statuses.
  - One species, T. tridentatus, has already been declared extinct in one area of Taiwan.
  - Facing a greater than 90% population decrease in T. tridentatus juveniles, it is suspected that Hong Kong will be the next to declare the horseshoe crab extinct in its area.
  - **The species is listed as endangered on the IUCN Red List, specifically because of overexploitation and loss of critical habitat leading to a steep decline in population size.**

Integrated Landscape Management Plan (ILMP)

Context:

- **As part of the Ken-Betwa Link Project** (KBLP), which is game-changer for the socio-economic prosperity of the drought prone Bundelkhand region, a comprehensive Integrated Landscape Management Plan (ILMP) has been prepared for the conservation of wildlife and biodiversity in Panna Tiger Reserve (PTR) & surrounding areas**.**

Details:

- To ensure systematic and time bound implementation of the Greater Panna Landscape Management plan, the **Greater Panna Landscape Council (GPLC) has been constituted under the chairmanship of Chief Secretary, Govt. of Madhya Pradesh** with members from all the stakeholders.
- Adequate financial provisions have been earmarked for the implementation of Environment Management Plan and Integrated

Landscape Management Plan under the Ken-Betwa Link Project.

- This model will be a template for future development with the motto - "**विकासभी, पर्यावरणभी**".
- The **goal of the GPL and the council is to ensure a "win-win" situation for conservation through integration with the development process based on a balanced approach and considering the diverse stakes**.

The broad objectives are:

- to enable betterment of habitat, protection, and management for flagship species viz. tiger, vulture, and gharial in the landscape;
- to consolidate the landscape for overall biodiversity conservation through spatial prioritization and well-being of the forest dependent communities; and
- to provide species-specific and site-specific monitoring strategies under the integrated landscape management in context with feedback loop and adaptive management options.

Ken-Betwa Link Project (KBLP):

- It is the first interlinking of rivers project under National Perspective Plan (NPP) taken for implementation, would be a game-changer for the socio-economic prosperity of the Bundelkhand region, which faces recurrent drought situation.
- The project is aimed at not only providing water security in the Bundelkhand but also ensuring the overall conservation of the region and specially for landscape dependent species such as tiger, vulture and gharial.
- Ken-Betwa Link Project has been approved by the Govt. of India in 2021 for implementation.
- **This agreement heralds the beginning of inter- state cooperation to carry water from areas that have surpluses to drought prone and water deficit areas, through the interlinking of rivers.**
- **The Project will be of immense benefit to the water starved Bundelkhand region, spread across the states of MP and UP.**
- This project will provide enormous benefits to the districts of Panna, Tikamgarh, Chhatarpur, Sagar, Damoh, Datia, Vidisha, Shivpuri and Raisen of Madhya Pradesh and Banda, Mahoba, Jhansi & Lalitpur of Uttar Pradesh.

ANTI-DEFECTION LAW

Context

Political events in Maharashtra have raised concern over the effectiveness of the anti-defection law.

About

The Tenth Schedule of the Constitution, also known as the anti-defection law, was added to prevent political defections.

In 1985, the Tenth Schedule of the 52nd amendment to the Constitution of India was passed by the Parliament of India to achieve this, which resulted in the introduction of the new word 'Political Party' in the Constitution of India.

The rationale to curb such defections was that they undermine the foundations and principles of Indian democracy.

The law disqualifies legislators for violating the will of their political party.

However, the presence of the Anti-Defection Law has also undermined democracy by inhibiting legislators from exercising their choice and ability to function independently, and restricted decision making in legislatures to a few who control political parties.

In 2003, the Constitution (91st Amendment) Act was introduced in the Parliament as a result of which the provisions regarding protection granted to legislators in cases of a split in the party under the Tenth Schedule were deleted.

The primary intentions of the law were

To curb political corruption, which was seen as a necessary first step to addressing other forms of corruption in the country.

To strengthen democracy by bringing stability to administration and ensuring legislative programmes of the Government are not jeopardised by a defecting parliamentarian.

To make members of parliaments more responsible and loyal to the political parties with whom they were aligned at the time of their election.

Features of the Anti-Defection Law

Disqualification on ground of defection: A legislator belonging to a political party will be disqualified if he
- voluntarily gives up his party membership, or
- votes/abstains to vote in the House contrary to the direction issued by his political party.
- A member is not disqualified if he has taken prior permission of his party, or if the voting or abstention is condoned by the party within 15 days.
- Independent members will be disqualified if they join a political party after getting elected to the House.
- Nominated members will be disqualified if they join any political party six months after getting nominated.

Exemptions in cases of merger: Members are exempted from such disqualification when at least two-thirds of the original political party merges with another political party. Further:
- the members must have become members of the party they have merged with/into, or
- they should have not accepted the merger and chosen to function as a separate group.

Decision making authority: The decision to disqualify a member from the House rests with the Chairman/Speaker of the House.

Bar of jurisdiction of courts: This provision bars any court jurisdiction in case of disqualification of a member under this schedule. This paragraph was declared unconstitutional by the Supreme Court of India in Kihoto Hollohon vs Zacillu, 1992.

Advantages of Anti-Defection Law

It provides stability to the government by restricting the shift of party relations.

It ensures that candidate shall be loyal to his party and citizens also gave vote to him.

It also promotes party discipline.

It allows the merger of political parties without disqualifying a member on the ground of defection.

It also helps in reducing corruption at the political level by restricting the change of party.

It provides procedure for those who defects from one party to another.

Issues of Anti-Defection Law

The law does not define a time period within which disqualification proceedings against a legislator ought to be decided.

With the role of the Speaker of the House getting more and more political by virtue of this law, disqualifications were either decided immediately or kept pending indefinitely depending on which of the two suited the political party that the Speaker was earlier affiliated with.

Additionally, with the Courts having no jurisdiction over disqualification proceedings, judicial remedy could be sought only against the decision of the Speaker or on his inaction in deciding the disqualification proceedings.

This made the proceedings under the Tenth Schedule useless to a large extent and did not discourage legislators from jumping ship.

In 2020 however, the Supreme Court in an order stated that Speakers ought to decide on the disqualification proceedings pending before them within a "reasonable time".

Way forward

Indian politics is at a crossroads between the legislators' dilemma and voters' mandate. The current laws eclipse their primary objective by providing a veil of legitimacy to undemocratic and illegal practices.

The present conundrum raises two divergent courses of action – either strengthen the law or repeal it altogether.

Cross-voting on salient issues builds the public's overall trust in the system.

India is witnessing a political consolidation at the federal level not encountered for at least three decades. This has fostered a lack of accountability and a tendency to suppress criticism of the government.

Abolishing the anti-defection law will bolster the real voice of the legislators.

Political defections wither the very roots of democracy in India and lead to a gradual decay of political morality.

The main objective for which the Anti-Defection law was introduced was to combat "the evil of political defection" but so far it has failed to fabricate results as the instances of political defections still continue unabated.

AUKUS NUCLEAR SUBMARINE DEAL

Context

Australia has unveiled plans to buy up to five U.S. nuclear-powered submarines, then build a new model with U.S. and British technology under an ambitious plan to bulk up Western muscle across the Asia-Pacific in the face of a rising China.

About

The defence deal called AUKUS was agreed upon by Australia, UK and the US in September 2021.

The first aspect of the pact is equipping Australia with submarines and this part of the agreement is called Pillar One. The US and UK will share plans for their submarines that will help Australia build its own eventually.

The AUKUS agreement is aimed a preserving a "free and open" Indo-Pacific.

Before the pact, Australia planned to buy diesel-powered subs from France in a $60 billion deal in 2016.

But Canberra abruptly scrapped it and joined AUKUS, leading to diplomatic tensions with Paris, which have subsided after the election of Anthony Albanese.

Significance

The three nations will create a new fleet of cutting-edge tech which include Rolls-Royce reactors made in the UK.

Under the deal, members of the Royal Australian Navy will be trained to use the subs and will be embedded at submarine bases in the US and the UK.

The country will receive at least three nuclear-powered submarines from the US in the early 2030s.

These Virginia-class vessels will be second-hand and need the approval of the US Congress. Australia will have the option to purchase two more. These have an estimated value of $3 billion each.

Compared with the Collins-class submarines due to be retired by Australia, the Virginia-class is almost twice as long and carries nearly three times more crew, with a capacity for 132 on board.

The US vessels are also able to stay submerged almost indefinitely and launch powerful cruise missiles.

Australia will get up to eight new submarines called SSN-AUKUS. They will have British designs and will be powered by the American combat system, according to a report by ABC Australia. These attack crafts will be built in Britain and Australia.

The UK is expected to get deliver the first home-built sub by the late 2030s. Australia will deliver new vessels to its navy by the early 2040s.

These boats will be faster than Australia's existing fleet. They will come with cruise missiles that have the capability of striking targets on land and at sea, reports the BBC.

With the deal, Australia will join a group of seven countries which have such ships: the US, Russia, China, the UK, France and India.

Opinion of Leaders

Joe Biden said that the moment was "an inflection point in history, where the hard work of enhancing deterrence and promoting stability is going to affect the prospect of peace for decades to come".

Australia's Albanese said that the submarine deal marked the "biggest single investment in Australia's defence capability in all of its history". According to him, this is the first time in 65 years and the second time in history that the US has shared its nuclear propulsion technology.

Talking about new security challenges like Russia's "illegal invasion" of Ukraine, "China'a growing assertiveness" and "destabilisingbehaviour of Iran and North Korea", Sunak said, "Faced with this new reality, it is more important than ever, that we strengthen the resilience of our own countries."

"But ultimately, the defence of our values depends, as it always has, on the quality of our relationships with others."

What threats does Australia face?

The AUKUS pact is seen as an answer to counter China's growing military presence in the Asia Pacific region.

Albanese has described the deal as the "single biggest leap" in the history of Australia's nuclear capabilities. The submarines will give the Australian navy the capability to reach far out in the ocean and launch attacks.

Australia currently has diesel-powered submarines, which can also carry nuclear warheads. However, these ships need to frequently resurface over water, making them easier to detect. They are smaller, cheaper and easier to maintain but advancements in tech have made them obsolete.

Reaction of China

Beijing has long criticised the deal, calling it a "dangerous" provocation in the past. It has repeatedly accused Australia, the UK, and the US of adopting a "Cold War mentality" that risks a greater escalation in the region.

After the AUKUS deal was announced, China's mission to the UN said that it is a "blatant act that constitutes serious nuclear proliferation risks, undermines international non-proliferation system, fuels arms races, and hurts peace and stability in the region".
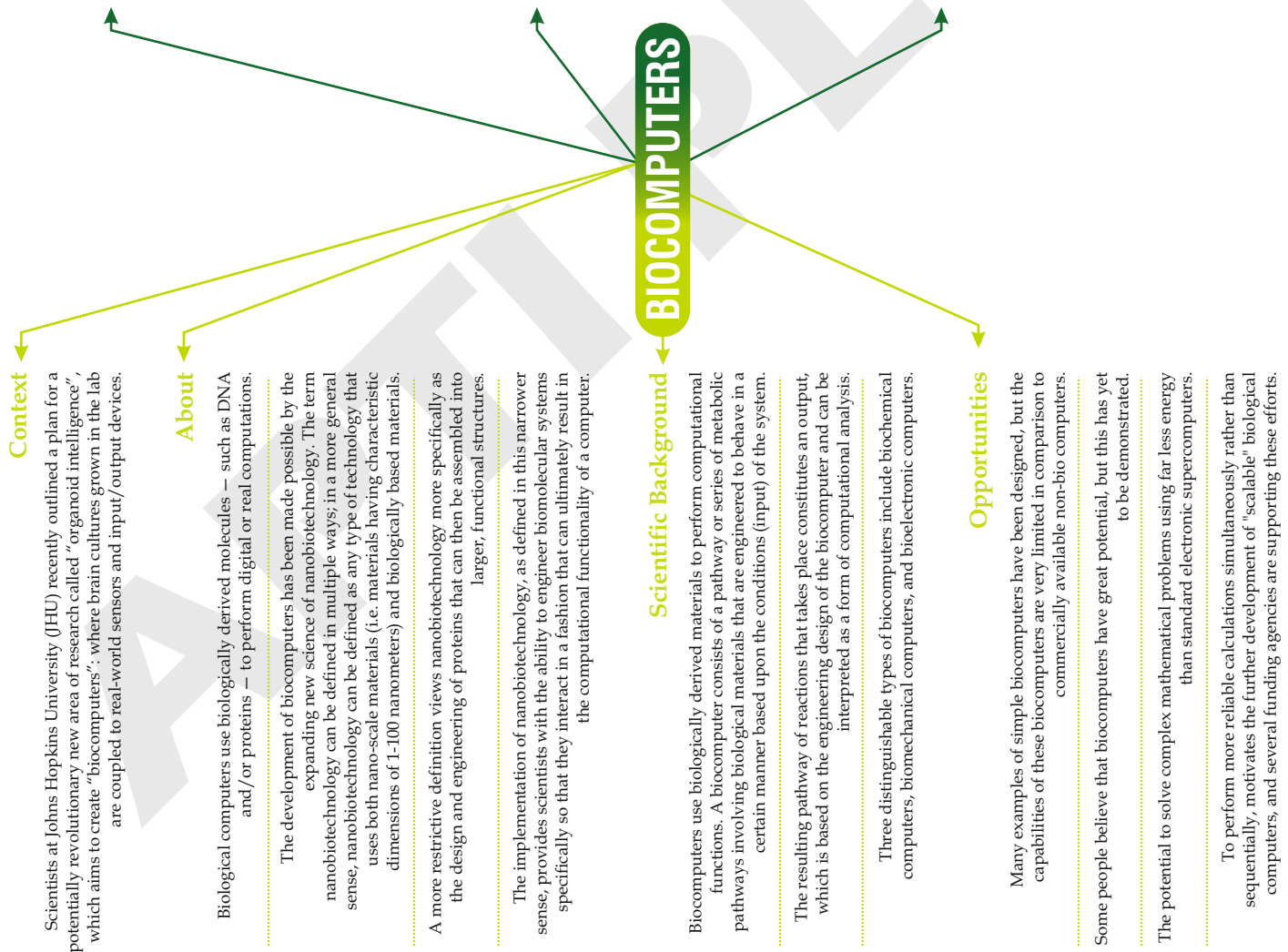
BIOCOMPUTERS

Context

Scientists at Johns Hopkins University (JHU) recently outlined a plan for a potentially revolutionary new area of research called "organoid intelligence", which aims to create "biocomputers": where brain cultures grown in the lab are coupled to real-world sensors and input/output devices.

About

Biological computers use biologically derived molecules — such as DNA and/or proteins — to perform digital or real computations.

The development of biocomputers has been made possible by the expanding new science of nanobiotechnology. The term nanobiotechnology can be defined in multiple ways; in a more general sense, nanobiotechnology can be defined as any type of technology that uses both nano-scale materials (i.e. materials having characteristic dimensions of 1-100 nanometers) and biologically based materials.

A more restrictive definition views nanobiotechnology more specifically as the design and engineering of proteins that can then be assembled into larger, functional structures.

The implementation of nanobiotechnology, as defined in this narrower sense, provides scientists with the ability to engineer biomolecular systems specifically so that they interact in a fashion that can ultimately result in the computational functionality of a computer.

Scientific Background

Biocomputers use biologically derived materials to perform computational functions. A biocomputer consists of a pathway or series of metabolic pathways involving biological materials that are engineered to behave in a certain manner based upon the conditions (input) of the system.

The resulting pathway of reactions that takes place constitutes an output, which is based on the engineering design of the biocomputer and can be interpreted as a form of computational analysis.

Three distinguishable types of biocomputers include biochemical computers, biomechanical computers, and bioelectronic computers.

Opportunities

Many examples of simple biocomputers have been designed, but the capabilities of these biocomputers are very limited in comparison to commercially available non-bio computers.

Some people believe that biocomputers have great potential, but this has yet to be demonstrated.

The potential to solve complex mathematical problems using far less energy than standard electronic supercomputers.

To perform more reliable calculations simultaneously rather than sequentially, motivates the further development of "scalable" biological computers, and several funding agencies are supporting these efforts.

Challenges

Although biocomputing has similarities with biology and computer science, it doesn't fit seamlessly with either one. In biology, the goal is to reverse engineer things that have already been built.

Biocomputing aims to forward engineer biology.

Experts in computer science are accustomed to machines executing programmed commands; when dealing with biological environments in what is known as a "wet lab," organisms might react unpredictably.

The culprit could be the cell's programming, or it could easily be something external such as the environmental conditions, nutrition, or timing.

Way forward

While human brains are slower than computers at, say, simple arithmetic, they outshine machines at processing complex information.

Brain organoids can also be developed using stem cells from individuals with neurodegenerative diseases or cognitive disorders. Comparing the data on brain structure, connections, and signalling between 'healthy' and 'patient-derived' organoids can reveal the biological basis of human cognition, learning, and memory.

They could also help decode the pathology of and drug development for devastating neuro-developmental and degenerative diseases such as Parkinson's disease and microcephaly.

Conclusion

The work in biocomputing thus far has focused on DNA-based systems because, at this point, genetic engineering is understood enough (even if all of its secrets aren't known) to make progress possible.

There are many more biological systems to tackle, such as those based on nerve cells.

The future is expected to include using the knowledge gleaned from developing biocomputers for DNA-based systems and apply it to neurochemistry.

CAPITAL PUNISHMENT

What is the practice in other countries?

According to Amnesty International, 55 countries around the world have the death sentence on the books. While death by hanging is still the most prevalent form of execution, especially in the former British colonies, other modes are followed in some countries.

In the United States, for example, an intravenous lethal injection is given in every state (27 states and American Samoa) that allows the death penalty.

In India, The Air Force Act, 1950, The Army Act 1950, and The Navy Act 1957 say that execution has to be carried out either by hanging by the neck until death or by being shot to death.

Advantages of Capital Punishment

It is analogous to the offense in cases of murder (i.e., a death for a death)

It has popular appeal in cases of murder

It prevents criminals from repeating their crimes

It deters others by making a lasting impression on them

Disadvantages of Capital Punishment

It eliminates any restitution or special service that the criminal might perform

It creates a financial loss to society by permanently removing criminals from the work force

It is not a heavy punishment to criminals who have little to live for

It is irreversible in cases of error

Conclusion

India is one of the biggest countries in the world, and as a result, there are a lot of crimes and criminals there. To deal with these issues, India has some incredibly strict regulations. Every offense results in punishment for the offender. The death penalty, which is rarely passed in India, is one of the corrections.

Context

The Supreme Court ordered the Government of India to support the rule that permits hanging by the neck as a method of execution.

Introduction

Capital punishment, also known as the death penalty, is the execution of a criminal who has been sentenced to death by a court of law for a serious felony.

It is known as the most severe form of punishment. It serves as punishment for the most heinous, grievous, and abhorrent crimes against humanity.

Capital Punishment in India

Capital punishment, also known as the death penalty, is awarded in the rarest of the rare cases. Section 354(3) of the Code of Criminal Procedure provides a method to execute the death penalty, i.e., "Hanging by the neck until dead."

Recently, the convicts of the Nirbhaya case were hanged until death in Tihar Jail. Let's know more about Capital punishment or Death Penalty.

Constitutional validity of death penalty in India

The validity of the death penalty has been contested on several occasions since the Indian Constitution was established through Supreme Court petitions.

The constitutional validity of the death penalty was challenged from time to time in various ways:

- The Supreme Court's five-judge bench unanimously maintained the death penalty's constitutionality in Jagmohan Singh v. State of Uttar Pradesh, concluding that it did not violate Articles 14, 19, or 21.
- In this case, the validity of the death sentence was contested on the grounds that it contravened Articles 19 and 21 because no procedure was provided. The Supreme Court held that "the choice of death sentence is done by the procedure established by law".
- It was noted that the judge decides between a death sentence and a life sentence based on the circumstances, facts, and type of crime presented during the trial.

G-20 AND INDIA'S PRESIDENCY

Context

Deep divisions between the United States-led Western countries and the G-Russia-China combine upended India's attempt to forge a consensus at the G-20 Foreign Ministers' Meeting.

About G-20

The Group of Twenty (G20) is an intergovernmental forum comprising 19 countries – Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom and United States and the European Union.

The G20 members represent around 85% of the global GDP, over 75% of the global trade, and about two-thirds of the world population.

The G20 was founded in 1999 after the Asian financial crisis as a forum for the Finance Ministers and Central Bank Governors to discuss global economic and financial issues.

It was upgraded to the level of Heads of State/Government in the wake of the global economic and financial crisis of 2007, and, in 2009, was designated the "premier forum for international economic cooperation".

About G-20 Summit

The G20 Summit is held annually, under the leadership of a rotating Presidency.

Working of G-20

The G20 Presidency steers the G20 agenda for one year and hosts the Summit. The G20 consists of two parallel tracks: the Finance Track and the Sherpa Track. Finance Ministers and Central Bank Governors lead the Finance Track, while Sherpas lead the Sherpa Track.

The Finance Track is led by Finance Ministers and Central Bank Governors of the member countries.

Within the two tracks, there are thematically oriented working groups in which representatives from the relevant ministries of the members as well as from invited/guest countries and various international organisations participate.

The G20 process from the Sherpa Track is coordinated by the Sherpas of member countries, who are personal emissaries of the Leaders.

The Sherpa Track oversees inputs from 13 Working Groups, 2 Initiatives – Research Innovation Initiative Gathering (RIIG) and G20 Empower, and various Engagement Groups, all of whom meet throughout the year and develop their Issue Notes and Outcome Documents in parallel. These substantive discussions then feed consensus-based recommendations to the Sherpa Meetings.

The outcome document of the Sherpa-level meetings eventually forms the basis of the Leaders' Declaration, which will be debated and signed (after and if consensus is reached) at the final New Delhi Summit.

In addition, there are Engagement Groups which bring together civil societies, parliamentarians, think tanks, women, youth, labour, businesses and researchers of the G20 countries.

The Startup20 Engagement Group will be established under India's G20 Presidency for the first time, recognising the role of startups in driving innovation that responds to a rapidly changing global scenario.

Active consultation with the Engagement Groups forms an integral part of India's 'Inclusive ambitious, decisive, and action-oriented'', G20 approach, as outlined by Prime Minister in the Bali Summit 2023.

India's G -20 Presidency

India holds the Presidency of the G20 from December 1, 2022 to November 30, 2023. The 43 Heads of Delegations- the largest ever in G20-will be participating in the final New Delhi Summit in September next year.

The G20 Logo draws inspiration from the vibrant colours of India's national flag – saffron, white and green, and blue. It juxtaposes planet Earth with the lotus, India's national flower that reflects growth amid challenges.

The Earth reflects India's pro-planet approach to life, one in perfect harmony with nature. Below the G20 logo is "Bharat", written in the Devanagari script.

The theme of India's G20 Presidency - "VasudhaivaKutumbakam" or "One Earth

One Family - One Future" – is drawn from the ancient Sanskrit text of the Maha Upanishad.

For India, the G20 Presidency also marks the beginning of "Amritkaal", the 25-year period beginning from the 75th anniversary of its independence on 15 August 2022, leading up to the centenary of its independence, towards a futuristic, prosperous, inclusive and developed society, distinguished by a human-centric approach at its core.

A new working group on Disaster Risk Reduction will be established under India's Presidency to encourage collective work by the G20, undertake multi-disciplinary research and exchange best practices on disaster risk reduction.

India's special invitee guest countries are Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain and UAE.

G20's invited international organisations are UN, IMF, World Bank, WHO, WTO, ILO, FSB, OECD, AU Chair, NEPAD Chair, ASEAN Chair, ADB, ISA and CDRI.

G20 meetings will not be limited only to New Delhi or other metropolises. Drawing inspiration from its G20 Presidency theme of "VasudhaivaKutumbakam"-'One Earth One Family One Future, as well as the Prime Minister's vision of an 'all of government' approach.

The Presidency is also a chance for the G20 Secretariat to provide the country's citizens with the unique opportunity be a part of India's G20 story.

India's G20 Priorities

Green Development, Climate Finance &LiFE: The opportunity to lead G20 comes at a time of compounding existential threat, with the COVID-19 pandemic having exposed the fragilities of our systems under the cascading impacts of climate change.

- In this regard, climate change is a key priority for India's presidential Presidency, with a particular focus towards not only climate finance and technology, but also ensuring just energy transitions for developing nations across the world.

Accelerated, Inclusive & Resilient Growth

- An accelerated, resilient and inclusive growth is a cornerstone for sustainable development. During its G20 Presidency, India aims to focus on areas that have the potential to bring structural transformation.
- This includes an ambition to accelerate integration of MSMEs in global trade, bring in the spirit of trade for growth, promote labour rights and secure labour welfare, address global skills gap, and build inclusive agricultural value chains and food systems etc.

Accelerating progress on SDGs

- India's G20 Presidency collides with the crucial midpoint of the 2030 Agenda. As such, India acknowledges the detrimental impact of COVID-19, which changed the current decade of action into a decade of recovery.
- In line with this perspective, India wants to focus on recommitting G20's efforts to achieving the targets laid out in the 2030 Agenda for Sustainable Development

Technological Transformation & Digital Public Infrastructure

- As G20 Presidency, India can foreground its belief in a human-centric approach to technology, and facilitate greater knowledge-sharing in priority areas like digital public infrastructure, financial inclusion, and tech-enabled development in sectors ranging from agriculture to education

Multilateral Institutions for the 21st century

- India's G20 priority will be to continue pressing for reformed multilateralism that creates more accountable ,inclusive just, equitable and representative multipolar international system that is fit for addressing the challenges in the 21st century.

Women-led development

- India hopes to use the G20 forum to highlight inclusive growth and development, with women empowerment and representation being at the core of India's G20 deliberations. This includes a focus on bringing women to the fore, and in leading positions, in order to boost socio-economic development and achievement of SDGs.

NATIONAL SECURITY ACT

Constitutional Provisions

The NSA is mentioned in Article 22 (3) of the Indian constitution, which allows preventive detention and restriction on personal liberty for reasons of state security and public order.

Also, Article 22(4) mentions that no law is there to authorize the detention of a person for more than three months unless the advisory board is reported with a sufficient cause for extended detention.

The advisory board consists of judges from the high court. Under the 44th amendment act 1978, the detention period without obtaining the opinion of the advisory board was reduced from three to two months.

Currently, the original period of three months continues, and the provision has not been brought into force.

Criticism of the Act

The NSA has been criticized for its misuse by the authorities and sometimes the government uses it as an extra-judicial power.

The Act has often been criticised on the grounds that it places arbitrary power in the hands of the government and is often misused by the authorities.

Certain provisions of the Act, such as those which provide that the detenu shall have no right to be represented by a legal representative before the Advisory Board, need to be amended.

The detained person may not have the requisite knowledge that is essential to make an adequate representation.

Period of confinement

- The maximum period to be detained is 12 months. It can be extended if there is fresh evidence against the detainee by the government
- A person can be held for 10 days without being informed about the charges against them
- During this time, the person can appeal to the high court advisory board but won't be allowed a lawyer during the trial.

Way Forward

The National Security Act is certainly a necessity to protect the nation from the abuse of democratic rights by certain anti-social elements.

At the same time, questions about a conflict between human rights and national security will always arise. The need is to provide a balance between the two.

There is an urgent need for the courts to evolve well-defined and precise standards to which the preventive detention laws must conform.

Context

National Security Act has been invoked in the case of self-styled Sikh preacher and on-the-run Waris Punjab De chief Amritpal Singh.

About

The National Security Act is an act by the Indian parliament promulgated on September 23, 1980, solving the purpose of preventive detention law.

The National Security Act (NSA) allows the central government or a state government to detain a person to prevent him from engaging in any kind of activity that might jeopardise national security.

The government may also detain the individual to prevent him from disrupting public order. The period to be detained is twelve months.

The extension will take place if the government issues fresh evidence against the individual.

Historical background

The Bengal regulation III was enacted by the East India Company during the presidency of Bengal in 1818.

Later in 1919, the British government enacted the Rowlatt Acts of 1919 that allowed the imprisonment of the suspect without trial. NSA is considered a close iteration of the 1950 Act.

When the Prevention Detention Act 1950 expired on December 31, 1969, Indira Gandhi introduced the controversial Maintenance of Internal Security Act (MISA) in the year 1971

The MISA also provided similar powers to the government as in the Prevention Detention Act.

Eventually, the MISA was repealed in the year 1977 when the Janata Party came to power, but when Indira Gandhi got back into power she brought NSA 1980.

Provisions of the Act

The person can't be charged during the detention period

The government can detain a person from disrupting public order and maintaining supplies and services essential to the community

If evidence shows the detainee is proven right, then the period can be extended to more than 12 months.

NEWS BROADCASTING & DIGITAL STANDARDS AUTHORITY

Functions of NBDSA

Maintaining and improving the standards of broadcast, and maintaining the independence of broadcasters, television journalists and/or news agencies;

Ensuring compliance by broadcasters, television journalists and news agencies with the Code of Conduct and adherence by the said persons to high professional standards;

Ensuring the maintenance of high standards of public taste and fostering a due sense of both the rights and responsibilities of citizens;

Fostering and encouraging the growth of a sense of responsibility and public service among all those engaged in and associated with the profession of television journalism and business of broadcasting;

Keeping under review and scrutiny any developments likely to or having the tendency to restrict the gathering, supply and dissemination of news of public interest and importance;

Such other aspects as may be incidental, consequential, related and/or otherwise materially concerned with the above precepts.

Powers of NBDSA

NBDSA administers the Codes of Ethics & Broadcasting Standards, which has been voluntarily drawn by the News Broadcasters & Digital Association (NBDA) for its member broadcasters to demonstrate their commitment to responsible broadcasting and to self regulate themselves.

The Authority may initiate proceedings on its own and issue notice or take action in respect to any matter which falls within its regulations.
- This can also be through complaints referred to the Authority by the Ministry of Information & Broadcasting or any other governmental body, or by anyone else via its website.

It can also recommend to the concerned authority for suspension/revocation of the license of such broadcasters, who do not adhere to its guidelines.
- The fine imposed by the Authority shall not exceed Rs. 1 lakh and such fine shall be recovered from the concerned broadcaster.

NBDSA has no involvement in the day-to-day operations of the broadcasters. NBDSA does not monitor programming, nor does it pre-clear or pre-censor programming. The broadcasters have complete creative and editorial independence.

Way Forward

Ensure that their actions do not excuse or inspire violations of press freedom. Democratic nations have a particularly important role to play in maintaining media freedom.

The televisions have to be proactive in scanning the external environment so as to identify such technologies and take the necessary strategic steps to cushion the firm from adverse effects.

Another recommendation is that the television stations will have to expand their revenue stream from pure advertising to set top boxes subscription as well as by moving into the outdoor advertising.

Further, profitability can be increased by signing long term contracts with the advertisers accompanied by rewards to enhance customer loyalty. This can increase the switching costs.

Television stations should strive for the top positions in terms of the most competitive human resource, cost management and differentiation an aspect perceived to bring forth best performance of the television stations.

Context

The News Broadcasting and Digital Standards Authority (NBDSA) has found that some programs broadcast on some news channels violate the Code of Ethics, Broadcasting Standards, and Special Guideline

About

Structure: The NBDSA is an independent body set up by the News Broadcasters & Digital Association (NBDA), which serves as a representative of private television news, current affairs and digital broadcasters.
- It describes itself as "the collective voice of the news, current affairs and digital broadcasters in India."

Members: The NBDA has presently 26 leading news and current affairs broadcasters (comprising 121 news and current affairs channels) as its members.
- The NBDA presents a unified and credible voice before the Government, on matters that affect the growing industry.

Funding: Funded entirely by its members, the NBDA has 26 news and current affairs broadcasters (comprising 119 news and current affairs channels) as its members. Various senior members of Indian media organisations serve on its Board of Directors.
- Objectives: Apart from presenting a unified front, it carries out activities "to promote, protect and secure the interests including the right of freedom of speech and expression of the news broadcasters, digital news media and other related entities."

It shares developments in the industry with members, provides a space for achieving common goals and consensus.

It aims to protect all its members from persons carrying "unfair and/or unethical practices or who discredit the television news broadcasters, digital news media and other related entities.

Concern

The media industry has undergone major changes after analogue to digital migration. Digital broadcasting has reduced the entry barrier which has for years been a source of competitive advantage.

It has fragmented the audiences and this has posed a great danger to television stations which make revenue solely via advertisements.
- As a result, competition is cut throat and the television stations had to adopt relevant competitive strategies.

Manipulating News for TRP's is not only a financial scam but also morally and ethically wrong.Some Channels are spreading a hate narrative which is a violation of the fundamental right of the citizen to know the truth through the media.

Smart Cities Mission in India

Vision
- With an increase on urban population and rapid expansion of areas, government is looking at smarter ways to manage complexities, increase efficiencies and improve quality of life.
- This has created a need for cities that monitor and integrate infrastructure to better optimise resources and maximise services to citizens.

Objective
- The objective of the smart city initiative is to promote sustainable and inclusive cities that provide core infrastructure to give a decent quality of life, a clean and sustainable environment through application of some smart solutions such as data-driven traffic management, intelligent lighting systems, etc.

The core infrastructure elements in a Smart City are as follows:
- Adequate water supply
- Assured electricity supply
- Sanitation including solid waste management
- Efficient urban mobility and public transport
- Affordable housing, especially for the poor
- Robust IT connectivity and digitalization

Coverage
- The mission will cover 100 cities that have been distributed among the States / Union Territories (UT) on the basis of an equitable criteria.
- The formula gives equal weightage (50:50) to urban population of the State / UT and the number of statutory towns (a town with a municipality, corporation, cantonment board or notified town area committee) in the State / UT.
- Based on this formula, each State / UT will, therefore, have a certain number of potential Smart Cities, with each State / UT having at least one.

Strategy
- Components of area-based development in the 100 Smart Cities Mission in India comprise city improvement (retrofitting), city renewal (redevelopment) and city extension (greenfield development), along with a pan-city initiative.

Administrative Structure: Guidelines on Smart City provide monitoring at three levels – national, state and city
- National: An Apex Committee, headed by the Secretary of the Ministry of Urban Development and comprising representatives from related ministries and organisations, has the mandate to approve proposals, monitor progress and release funds.
- State: A High Powered Steering Committee (HPSC) to be headed by the Chief Secretary of the State, which would steer the Smart City Mission as a whole.
- City: A Smart City Advisory Forum in all Smart Cities, comprising the District Collector, Chief Executive Officer of Special Purpose Vehicle (an SPV is created for implementation at the city level. Its role is to release funds, and implement, monitor and evaluate the Smart City development projects), member of Parliament, member of Legislative Assembly, Mayor, local youth, technical experts and representatives of the area Resident Welfare Association to advise and enable collaboration

Financing
- The Smart Cities Mission in India is a centrally sponsored scheme. It also requires state governments and urban local bodies (ULBs) to contribute an equal amount for implementing projects under the Smart City Proposal (SCP). States are expected to seek funds for projects outlined in the Smart City Proposal from multiple sources including the following:
  - Using State / ULB's resources (from collection of user fees, beneficiary charges & impact fees, land monetisation, debt, loans, etc.)
  - Deploying additional resources transferred due to acceptance of recommendations of the Fourteenth Finance Commission (FFC)

Budget Allocation
- Under Union Budget 2021-22, the Smart Cities Mission in India has been allocated Rs. 6,450 crore (US$ 868 million) as compared to Rs. 3,400 crore (US$ 457 million) in FY21 (revised estimates).

Status Update
- The total allocated investments for the Smart City Mission stood at ~Rs. 205,018 crore (US$ 27.60 billion) as of March 2021. Of the total investments, 5,614 projects worth ~Rs. 173,018 crore (US$ 23.29 billion) have been tendered, work orders have been issued for 4,912 projects worth ~Rs. 139,851 crore (US$ 18.83 billion) and 2,420 projects worth ~Rs. 40,152 crore (US$ 5.40 billion) have been completed as of March 2021.

SMART CITIES MISSION

Context
Under the Smart Cities Mission, cities across the country were asked to submit proposals for projects to improve municipal services and to make their jurisdictions more liveable.

About
The 100 Smart Cities Mission in India was launched by Prime Minister Narendra Modi on June 25, 2015. Smart Cities Mission is an urban renewal and retrofitting programme launched by the Government of India to develop smart cities and make them citizen friendly and sustainable.

The Union Ministry of Urban Development is responsible for implementing the mission in collaboration with state governments; this is expected to complete between 2019 and 2023.

Need for the Mission
Cities accommodate ~31% of India's current population and contribute 63% to the GDP (Census 2011).

By 2030, urban areas are expected to accommodate 40% of India's population and contribute 75% to the GDP.

Population growth in cities leads to infrastructure management and service delivery challenges.

The Smart Cities Mission in India is an initiative that aims to efficiently and effectively tackle these challenges.

Conclusion
COVID-19 has affected almost the entire world, causing widespread disruptions in economies and healthcare services. But, the mission to develop 100 smart cities in India has seen an upturn in the months following the lockdown as funds utilisation has almost doubled.

One of the greatest challenges facing smart cities is how to finance them. Smart city infrastructure requires a large capital investment. The government is concentrating on encouraging Public-Private Partnerships (PPP) for successful implementation of the smart city project in India (at present, about 21% funding of the smart cities projects is via the PPP mode).

For example, in June 2020, Sterlite Power entered a PPP agreement with the Gurugram Metropolitan Development Authority (GMDA) to build and maintain the fibre network in Gurugram Sub City 2 for 21 years.