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1. SCIENCE & TECHNOLOGY

1.1 HELLFIRE R9X MISSILE

Why in News?

Recently, US military used its **'secret weapon'** — **the Hellfire R9X missile** to kill the Al Qaeda chief **Ayman al-Zawahiri** on the balcony of a safe house in Kabul.

✍ About the Missile:

1. This missile is **also known as the AGM-114 R9X.**

2. Its a **US made missile which is known to cause minimum damage in the surrounding areas while hitting individual targets.**

3. Its weight is around **45 kgs** and the missile can also be launched from **helicopters, drones and aircrafts.**

4. The range of these missiles varies from **500 metres to 11 kms.**

1.2 ANTI-TANK GUIDED MISSILES (ATGM)

Why in News ?

On 4th August 2022, **Defence Research and Development Organisation (DRDO)** has successfully test fired Indian made **Laser-Guided Anti-Tank Guided Missiles (ATGM).**

THE NINJA MISSILE
① Reaper drone carrying the missile flies over target
Front view
② The missile is then dropped from the drone and locks onto the target
Blades
③ It extends SIX blades moments before smashing into target
④ The blades can cut through roofs of cars. Al-Qaeda deputy leader was struck by a Ninja missile in 2017 in Syria
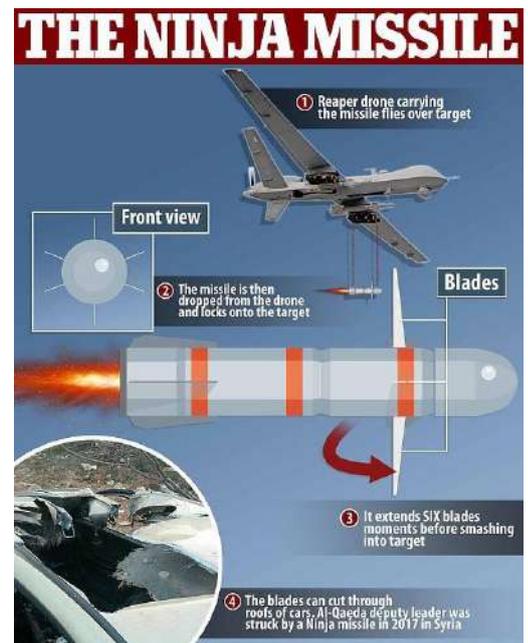
✍ What are Anti-Tank Guided Missiles (ATGM)?

1. These are primarily **designed to hit and destroy heavily armoured (loaded with weapons) military vehicles.**
2. This missile can be transported by a **single soldier also.**
3. This type of guided missiles are based on **electro-optical imager (IIR)** seeker.
4. These missiles work on **'fire-and-forget'** basis. It means **once they are launched they don't require further guidance.**

✎ What are Laser-Guided ATGM?

1) All Indian made Laser Guided ATGM has a **High Explosive Anti-Tank (HEAT)** warhead to defeat **Explosive Reactive Armour (ERA)** protected vehicles.
2) The ATGM has been developed with multi-platform launch capability (can be launched from many things) and is **currently undergoing technical evaluation trials** .

✎ Some other Anti-tank Missiles are:

1) **The Nag:** It is a **3rd generation missile which works on fire-and-forget basis.** It was developed to defeat **heavily weaponised enemy tanks.**
2) **Helina:** It has a **maximum range of 7 kilometers** and has been designed and developed to fix on the **ALH (Advanced Light Helicopter).** The missile system has **all-weather, day, and night capability** and can defeat **battle tanks as well.**
3) **MPATGM:** It stands for **Man-Portable Anti-Tank Guided Missile** which has a range of 2.5 kms. It works on a **fire-and-forget basis.**
4) **SANT:** It stands for **Smart Stand-off Anti-Tank Missile** and was being developed to launch from the **Mi-35 Helicopter** for the Air Force anti-tank operations.
5) **ATGM for MBT Arjun:** It's laser guided missile that is launched from the 120mm rifled gun of the Arjun tank to engage and defeat **Explosive Reactive Armour-protected armoured targets.**

1.3   MONKEYPOX TASK FORCE RECOMMENDS TO INCREASE UP RESEARCH INFRASTRUCTURE FOR DEVELOPING INDIGENOUS VACCINE

Why in News ?

Till 5th August 2022, almost 8 cases of the Monkeypox virus have been reported from India.

1. A task force of the experts formed by the central government has laid out plans to **fund research in developing the infrastructure** needed for preparing an Indian made vaccine.

2. **The World Health organization (WHO) has declared the outbreak of Monkey Pox as a public health emergency but** few experts are of the view that immediately there is no need for mass vaccination.

✎ About Monkeypox Disease:

1. It is a **viral (caused by virus) zoonotic disease.**

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2. **Zoonotic diseases are those which spreads from animals to humans. Eg: Rabbies, West Nile Virus etc.**

3. Monkeypox **occur primarily in tropical rainforest areas of Central and West Africa** and is occasionally spread to other regions of the world.

4. It has been found in **Squirrels, Gambian pouched rats, Dormice, and some species of Monkeys.**

5. This virus is a **member of the Orthopox virus genus in the family Poxviridae.**

6. The symptoms of it lasts from **2 to 4 weeks**. Severe cases can occur. In recent times, the **case fatality ratio (death ratio) has been around 3–6%.**

7. It is transmitted to humans through close contact with an **infected person or animal or with material contaminated with the virus**.

✍ Issues in Developing Monkeypox Vaccine are:

1. A company of Denmark named **Bavarian Nordic** has developed a **smallpox vaccine** called **JYNNEOS** and that has been tested for safety and effectiveness in people against the monkeypox and it has been approved by the **United States Food and Drug Administration** but this vaccine is **not yet approved by WHO for Monkeypox.**

2. In the case of **COVID 19,** the **genome** (it's a complete set of genes of an organism) of the virus was rapidly analysed from which the scientist's understand the role played by the **spike protein** in infecting healthy lung cells and this served as the basis for vaccine development but **this level of specific knowledge is not yet available in case of monkeypox.**

3. **Some experts are of the view that old smallpox vaccine has some risk issues** which can't be acceptable by modern standards.

4. Experts said that the genomic sequence of the **Indian strain has a 99.85% match with the West African strain circulating globally.**
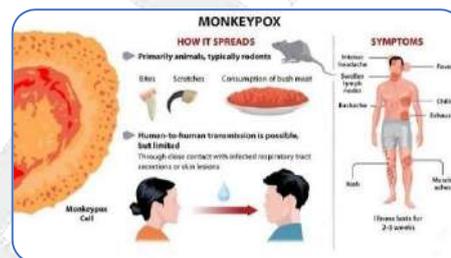
1.4 EXERCISE SKYLIGHT

In the 1st week of August 2022, Indian Army conducted "Skylight Mega-Exercise", to check and increase its capabilities in 'Space' areas.

✍ About Skylight Mega Exercise:

1. It was the **1st time that this type of large-scale exercise is conducted by Indian Army.**

2. It was **aimed at testing operational readiness** (how they will work during their requirements in war or so) of **satellite communication assets** and giving training to the staff who are handling these assets.

3. This **Exercise was an All-India exercise**, covering the Lakshadweep and Andaman and Nicobar Islands too.

4. It **also covered high areas of India's northern borders** (with china and Pakistan) where Indian Army has tried to activate all satellite communication assets.

5. During the exercise, **several technical and operational areas** in space domain were **pointed up for betterment.**

6. Agencies like **ISRO, DRDO** also took participation in this.

7. More than **280 satellite platforms were checked** in field formations.

✎ Communication Satellite of the Indian Army:

Satellite communication networks are being used by the Indian Army in **some of the remote border areas but it don't have its own Communication Satellite Network**. So, Indian Army is also working to have its own communication satellite, **called GSAT-7B** by **2025.** On the other hand, **Navy and Air Force have these satellite of their own.**

✎ About GSAT-7B Satellite:

1) The **GSAT-7B satellite will be an Indian made satellite.**
2) It will be designed with **advanced security features.**
3) Satellite will **give support to the communication needs of the troops deployed on the ground in faraway and difficult areas.**

1.5   COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH (CSIR)

Why in News?
In **August 2022**, senior scientist **Nallathamby Kalaiselvi** has become the **1st woman director general** of the **Council of Scientific and Industrial Research (CSIR)**.

1. Kalaiselvi's research work of more than 25 years is primarily focused on **electrochemical power systems (like Batteries, Fuel cells etc).**
2. Kalaiselvi also made key contributions to the **National Mission for Electric Mobility (to give promotion to Electric vehicles in India).** She has **more than 125 research papers and 6 patents on her name.**

✎ What is CSIR?

1. It is the **largest research and development (R&D) organisation in India.**
2. It was **established in 1942 and is headquartered in New Delhi.**
3. It has a total of **37 national laboratories, 39 outreach centres, 3 Innovation Complexes and 5 units.**
4. It is **funded by the Ministry of Science and Technology** and it works as an **autonomous body (independent).**
5. It is a registered body under the **Societies Registration Act,1860.**
6. It conducts research in wide areas like **radio and space physics, oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nanotechnology to mining, aeronautics, instrumentation, environmental engineering and information technology.**

✎ Structure of the CSIR is:

1. **President** of CSIR is **PM** of India.
2. **Vice President** of CSIR is **Union Minister of Science and Technology.**
3. **The Director-General is the head of the governing body of CSIR.**
4. The **other member** of the CSIR is the **Finance secretary (expenditures).**
5. The **term of members is 3 years.**

✎ What are the Objectives of the CSIR ?

1. The prime objective of CSIR is to conduct **scientific and industrial research.**
2. **The other activities of CSIR are:**
    a) It **provides promotion, guidance and coordination** to institutions who are working for scientific and industrial research in India.
    b) Providing **research scholarship and fellowship.**
    c) **Utilization of the results of the research** towards the development of industries in the country.
    d) Payment of a share of **royalty coming out of the development of the results of research** to those who are considered as having contributed towards the research.
    e) **Establishment, maintenance and management of laboratories, workshops, institutes and organisations** to increase scientific and industrial research.
    f) **Publication of scientific papers and journals** of industrial research and developments.

✎ What are awards associated with CSIR ?

1. **Shanti Swarup Bhatnagar (SSB) Prize** for **science and technology is named after the founder director of the CSIR** (Late Dr. Shanti Swarup Bhatnagar).
2. This prize was started in **1957** as **the most reputed prize in the field of science and technology in the country.**

✎ Recent important initiatives taken by CSIR are:

1. **During Covid-19:** It has **set up 5 systems** to handle the emerging situations due to Covid-19 pandemic:
    a) Digital and Molecular Surveillance
    b) Rapid and Economical Diagnostics
    c) Repurposing of Drugs, Vaccine and Convalescent Plasma Therapy.
    d) Hospital Assistive Devices and PPEs (Personal Protective Equipment).
    e) Supply Chain and Logistics Support Systems.
2. **Strategic:**
    a) **Head-Up-Display (HUD)**: It was developed for Indian Light Combat Aircraft, **Tejas.** HUD **helps the pilot in flying the aircraft in difficult weather.**
3. **Energy & Environment:**
    a) **Solar Tree:** It occupies **minimum space to produce clean power** through sunlight.
    b) **Lithium Ion Battery:** India's 1st **lithium ion battery** facility has been established by CSIR.
4. **Agriculture:**
    a) **Samba Mahsuri Rice Variety:** It is a **bacterial resistant rice variety.**
    b) **Rice Cultivar (Muktashree):** This rice variety **contains less Arsenic** (it's a type of chemical found naturally in the earth crust and its excess amount in food leads to poisoning).
    c) **White-fly resistant Cotton variety:** It has developed a rice variety which is resistant to whiteflies.
5. **Food & Nutrition:**
    a) **Ksheer-scanner:** It detects the **level of milk adulteration (mixture in milk)** in 45 seconds at the cost of 10 paise.
    b) **Double-Fortified Salt**: Salt fortified with **iodine and iron having improved the health of the people.**

1.6   VASCULITIS DISEASE

About Vasculitis

1. It **involves the inflammation of the blood vessels**.
2. The **inflammation can cause the walls of the blood vessels to thicken, which reduces the width of the passage through the vessel. If blood flow is restricted, it can result in organ and tissue damage.**
3. There **are many types of vasculitis and most of them are rare**. Vasculitis might affect just one organ or several. The condition can be short term or long lasting.

THE DIAGRAM SHOWS A NORMAL ARTERY (TOP) AND ONE THAT'S INFLAMED (BOTTOM).

VASCULITIS MEANS INFLAMMATION OF THE BLOOD VESSELS
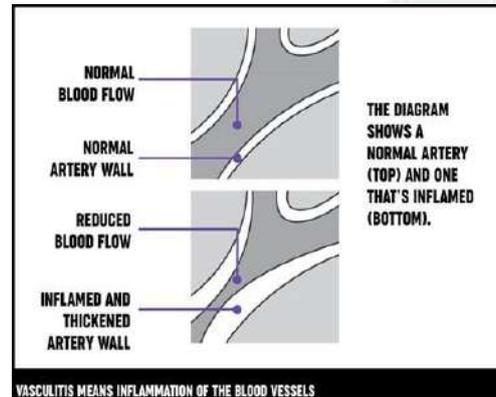
✎ Symptoms of Vasculitis are:
1. Fever
2. Headache
3. Fatigue
4. Weight loss
5. General aches and pains

✎ What are the causes of the Vasculitis?

1. The **exact cause of vasculitis is not known**.
2. Some types are **related to a person's genetic disorder.**
3. Some **can occur due to immune system attacking blood vessel cells by mistake.**

✎ What are the different kinds of vasculitis?

1. There are around **20 different disorders that are classified as vasculitis.**
2. **Angiitis and Arteritis** are used as **synonyms for vasculitis**, literally meaning **"inflammation within blood vessels" or "inflammation in arteries."**

✎ How is vasculitis treated?
1. Different types of inflammation cause different diseases, which have their own symptoms and treatment protocols.
2. **Steroids** are frequently prescribed and some other medicines too that can reduce the activity of the immune system.
3. Health organisations caution that **some kinds of vasculitis can become serious problems if not treated.**

1.7   DRUGS SHORTAGE HAUNTS THE HIV-POSITIVE COMMUNITY

Why in News?

Recently, People Living with HIV (PLHIV) are facing a big shortage of life-saving drugs.
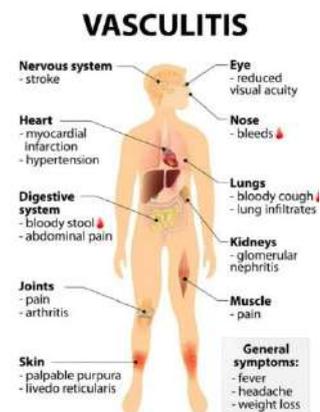
What Is HIV?

1. **HIV (Human immunodeficiency virus) is a virus that attack the cells that helps the body in fighting the infection.**
2. It makes a person **more vulnerable to other infections and diseases.**
3. **It is spreaded by coming in contact with certain bodily fluids of a person infected with HIV, most commonly through unprotected sex, blood transfusion etc.**
4. **If left untreated then HIV can lead to a disease known as AIDS (Acquired Immunodeficiency Syndrome).**
5. The human body can't get rid of HIV and even today **there is no effective HIV cure available**. So, once anyone have HIV, then he will have it throughout his life.
6. However, **by taking HIV medicines (called antiretroviral therapy or ART), people with HIV can live long and healthy lives and can prevent transmitting HIV to others.**
7. HIV virus for the **1st time was identified in 1981.**

What Is AIDS?

1. **AIDS is the late stage of HIV infection that occurs when the body's immune system is badly damaged because of the virus.**
2. In many developed countries, most people with HIV do not develop AIDS because taking HIV medicine every day as prescribed stops the progress of the disease.
3. **A person with HIV is considered to have reached to AIDS when: the number of his CD4 cells (these cells helps in fighting infection) falls below 200 cells per cubic millimeter of blood (200 cells/mm3). A person with a healthy immune system has CD4 counts between 500 and 1,600 cells/mm3.**
4. Without HIV medicines, people with AIDS typically survive for almost 3 years but once someone got infected with other disease like TB or cancer, his life expectancy without treatment falls to about 1 year.

✎ What are the symptoms of HIV infection?

1. **Some people with HIV do not show symptoms for months or even years after getting infected with the virus.**
2. However, around 80% of the people develops flu-like symptoms known as **'Acute Retroviral Syndrome'** around 2–6 weeks after the virus enters the body.
3. **The early symptoms of HIV infection may include:**
a) Fever
b) joint pain
c) muscle aches
d) sore throat
e) sweating particularly at night
f) enlarged glands
g) red rashes
h) tiredness
i) weakness
j) weight loss

4. These symptoms can also occur because of immune system fighting off many type of viruses. However, people who experience several of these symptoms should take a test.

✒ **Asymptomatic HIV:**

1. In many cases, **symptoms might not occur for many years.**
2. During this time, the virus continues to develop and cause immune system and organ damage. Without medication, this slow process can continue for an average of around 10 years.
3. Asymptomatic person living with HIV often experiences no symptoms, feels well, and appears healthy.

✒ **India and HIV/AIDS:**

1. According to **National AIDS Control Organization of India (NACO)**, **the prevalence of AIDS in India in 2018 were almost 21 lakh cases.**
2. **India is home to the world's 3rd largest population suffering from HIV/AIDS.**
3. India **aims to end HIV/AIDS by 2030** and **is a signatory of UNAIDS programme** which is working to eliminate AIDS worldwide.
4. Ending the AIDS by 2030 is also mentioned in Government of India's **National Health Policy (NHP).**
5. **In 2018, almost 80% of people living with HIV were aware of their infection status and of whom almost 56% were on antiretroviral therapy (ART).**

✒ **About NACO:**

1. It is functioning under the **Ministry of Health and Family Welfare.**
2. It is **a nodal agency responsible for implementing the National AIDS Control Program (NACP).**

✒ **Some most effective HIV drugs are:**

1. **Dolutegravir**
2. **Lopinavir**
3. **Ritonavir**
4. **Abacavir**

Antiretroviral Therapy... What does it do?
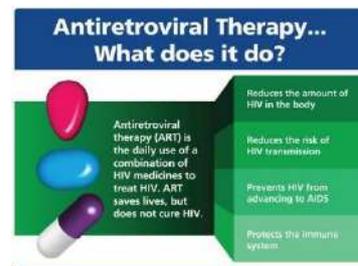
1.8   BOOSTER DOSE: CORBEVAX

Why in News?

In August 2022, the Government of India announced that those who have taken Covishield or Covaxin as their 2nd dose for Covid-19 can take Corbevax as their 3rd booster dose.

1. **This decision came after India approved Corbevax as a Covid booster dose for individuals aged 18 or above.**
2. Until now, the **3rd dose had to be the same vaccine** that was used for the 1st and 2nd dose.
3. But till now, **Corbevax is not approved by World Health Organisation (WHO) for emergency use.**

✍ About Corbevax Vaccine:

1. **Corbevax is a Indian made vaccine.**
2. **It can be** stored at a temperature of 2-8 degree Celsius, **which is best suited for India's requirements.**
3. **Corbevax is a** "recombinant protein sub-unit" **vaccine, which means it is made up of** spike protein of COVID 19 virus.
4. The spike protein allows the virus to enter the cells **of the body, so that it can grow** and cause disease.
5. **However, when this spike** protein is given to the body alone**, it is not that harmful as** the rest of the virus is absent.
6. **The body is** expected to develop an immune response against the injected spike protein.
7. **Once the** human immune system recognises the protein **then it produces** antibodies in the form of white blood cells **to fight the infection.**
8. **Therefore, when the r**eal virus attempts to infect the body then **it will** have an immune response ready **that can kill the virus.**

✍ What are other types of Vaccines?

1. **Inactivated vaccines:**
   a) It uses the inactivated **version of the germ that causes a disease.**
   b) Vaccines of this type are created by **inactivating the bacteria or virus, typically using heat or chemicals.**
   c) This can destroy the **ability of virus to multiply**, but keeps it within the body, so that the **immune system can recognize it.**
2. **Live-attenuated Vaccines:**
   a) Live vaccine uses a **weakened form of the germ that causes a disease.**
   b) Because these vaccines are so similar to the natural infection, **they create a strong and long-lasting immune response.**

3. **Messenger (m) RNA Vaccines:**

   a) mRNA vaccine makes proteins to start **an immune response**.
   b) mRNA vaccines have **several benefits compared to other types of vaccines,** including **shorter manufacturing time** because they do not contain a live virus so there is **no risk of causing disease in the person getting vaccinated.**

4. **Toxoid Vaccines:**

   a) They uses a **toxin (harmful product) made by the germ that causes a disease.**
   b) They **create immunity to the parts of the germ that cause a disease** instead of the germ itself. That means the **immune response is targeted to the toxin instead of the whole germ.**

5. **Viral Vector Vaccines:**

   a) It uses a **modified version of a different virus** as a vector to deliver protection.
   b) Several different viruses have been used as vectors, including **influenza, vesicular stomatitis virus (VSV), measles virus and adenovirus etc.**

1.9   LARGEST FLOATING SOLAR PROJECT OF INDIA

Why in News?

NTPC has said it has **made India's largest floating solar power project at Ramagundam Telangana.**

✎ **About National Thermal Power Corporation Limited (NTPC):**

1. It is a **central Public Sector Undertaking (PSU).**
2. NTPC comes **under the Ministry of Power.**
   It is **India's largest energy corporation** established in **1975.**
3. It aims to **provide power and related solutions in an economical and environment-friendly way.**
4. NTPC is also **promoting usage of green hydrogen** in sectors like **transportation energy, chemical, fertilizer, steel etc.**
5. It is **located in New Delhi.**

✎ **About the Project:**

1. It is **situated in Ramagundam, Telangana**.
2. **Capacity** of this floating project is **100 MW.**
3. The project consists of **advanced technology** and **environment friendly features.**

✎ **Other Solar Energy Initiatives:**

1. **National Solar Mission:** It is one of the key missions of govt. of India for **better solar power generations.**
2. **INDC's target:** It targets installing **100 GW grid-connected solar power plants by the year 2022.**
   [**India's Intended Nationally Determined Contributions (INDCs)** target to **reduce the emission intensity of its GDP by 33 to 35% from 2005 level by 2030.]**
3. **International Solar Alliance (ISA):** It was launched by **Prime Minister of India** and the **President of France in 2015** for better use of solar energy.
4. **One Sun One World One Grid (OSOWOG):** It is cross-border power grid plan **which aims to transfer solar power generated in one region to feed the electricity demands of others.**
5. **Government Schemes:** Govt. Has initiated many schemes such as Solar Park Scheme, Canal bank & Canal top Scheme, Bundling Scheme, **Grid Connected Solar Rooftop Scheme** etc.

1.10   Electromagnetic Field Emission and its Impact

Why in News?

In **August 2022,** the **Minister of State for Communications said** that the Electromagnetic Field Emissions **(EMF) has not impacted environment in India.**

✎ **What is Electromagnetic Field?**

1. It is a **combination of invisible electric and magnetic fields of force.**
2. Electric fields are **created by differences in voltage of current:** the higher the difference between voltage, the stronger will be the field.

3. Magnetic fields are **created when electric current flows through a wire:** the greater the current, the stronger the magnetic field.

What are EMF emissions and its sources?

1. **Electromagnetic waves that generated out of the EMF are known as EMF emissions.**
2. **Depending upon the nature of origin, the sources are of 2 types:**

Natural Sources of EMF:

- **present everywhere in our environment but are invisible to the human eye.**
- Electric fields are **produced by the formation of electric charges** in the atmosphere when thunderstorms happen.

Human-Made Sources of EMF:

1. **Other than natural sources, the electromagnetic waves can also be produced by fields generated by human-made sources, some sources are:**
   - **X-rays** are used in hospitals to diagnose many diseases.
   - The **electricity that comes out of every power socket** is associated with low frequency electromagnetic fields.
   - Various kinds of **higher frequency radio waves** are **used to transmit information** through TV antennas, radio stations or mobile phone base stations etc.

Issues related to EMF:

1. **Impacts on Humans:**
   EMFs may cause serious **health problems like leukemia, miscarriages, chronic fatigue, weakened immune system, forgetfulness, depression, nausea etc.**
2. **Impacts on the Environment:**
   Radars are used for navigation, **weather forecasting emit pulsed microwave signals, which are detrimental to health of flora and fauna present around these radars.**

What are the Initiatives Taken by the Government to Control EMF Emissions?

1. According to Government, **EMF emissions from Mobile towers are non-ionizing Radio frequencies** having very minuscule power and are **incapable of causing any adverse environmental impact.**
   - The **International EMF Project** of the **World Health Organisation (WHO)** published a report and said that the **exposure limits in the Non-Ionizing Radiation Protection (ICNIRP) guidelines** for the protection of human health are also **protective of the environment.**
2. The **present standards** for Electromagnetic Field (EMF) emissions from mobile towers in India are already **10 times lower than the safe limits recommended by WHO.**
3. The government has **decided a process and mechanism for monitoring any violation** so that **Telecom Service Providers (TSPs)** follow the guidelines set for EMF emissions.
4. Government has made it compulsory for TSPs to submit a self-certificate before the commercial start of the **Base Transceiver Station (BTS)** site.

5. The field units of the **Department of Telecommunications (DoT) regularly do the EMF audit (review) for the efficient working.**

6. Department of Technology has a provision of **financial penalty for TSPs whose BTSs are found to exceed the set EMF emission limits.**

7. In addition, **if emission levels** of such non-compliant BTSs are **not brought within limits within 30 days**, then the same **TSP will be shut down by government according to the procedure.**

1.11   NOVEL LANGYA HENIPAVIRUS

Why in News?

In August 2022, Cases of a **novel Langya henipavirus (LayV)** have been **reported in** Shandong and Henan provinces of **China.**

✎ What is Langya Virus?

1. The **first case** of the Langya virus **was reported in 2019.**
2. The Langya virus is a **zoonotic virus** which **means it can be transmitted from animals to humans.**
3. Langya is **part of the genus Henipavirus.**
4. These viruses are **found in bats, rodents and shrews and are known to infect humans and potentially cause fatal diseases.**
5. Langya Virus **has a single-stranded RNA genome**.
   - Single-stranded RNA is the **simplest form of genetic molecule which gives information about the living being.**
6. **Unique features** of these viruses are their **larger genomes**, **longer untranslated regions.**
   - **Genome is a complete set of genes in a cell or living thing.**
7. **Mojiang, Ghanian, Cedar, Nipah, and Hendra** are some of the viruses **belonged to same family of Henipavirus.**
   - Of these, **Nipah and Hendra are known** to have caused **fatal illnesses in humans.**
8. It is an **emerging cause of zoonosis in the Asia-Pacific region.**
9. The Langya virus has been **classified among Biosafety Level 4 (BSL4) Pathogens.**

✎ What are the Biosafety levels (BSL)?

1. BSL is **used to identify the protective measures from a virus.**
2. These are **needed in a laboratory setting to protect workers, the environment, and the public.**
3. **Activities and projects conducted in biological laboratories** are **categorized by biosafety level.**
4. There **are 4 biosafety levels:**
   - **BSL-1:** It consists of **microbes** known to cause **least impact on laboratories workers. Examples: Skin bacteria, yeast**
   - **BSL-2:** Level 2 contains microbes **which can cause moderate impact on environment and laboratory workers. Example: common cold, herpes**
   - **BSL-3: Third level of biosafety works for the microbes which can cause potentially harmful and deadly diseases. Example: Tuberclosis, SARS-CoV-2, Avian Influenza**

- **BSL-4**: It consists of the **agents which have highest potential of spreading aerosols** which **can be life threatening**, also these are **highly contagious** (which spread fast). **Example: Ebola virus, Smallpox virus**.

✎ **Symptoms of Langya Virus:**

- Fever
- Fatigue
- Cough
- Nause
- Headache
- Loss of appetite **etc.**

✎ **Treatment of Langya virus:**

1. There are **no licensed drugs or vaccines meant for humans**.
2. The **primary option is supportive care to treat zoonotic disease complications**.

✎ **How Impactful is Langya Virus?**

1. The Langya virus **may possibly be fatal to humans in case of severe infections.**
2. Langya **belongs to the same family of viruses** as the **deadly Nipah virus that is typically found in bats.**

1.12 LUMPY SKIN DISEASE

Why in News?

From the last few weeks till August 2022, nearly 3,000 cattle have died in Rajasthan and Gujarat due to a viral infection called the Lumpy Skin Disease (LSD).

✎ **About Lumpy Skin Disease:**

1. It is **caused by a virus** called the **Capripoxvirus**, and is **"an emerging threat to livestock worldwide".**
2. It is **genetically related to the goatpox and sheeppox virus family**.
3. It **infects cattle and water buffalo mainly** through vectors (medium) **such as blood-feeding insects.**
4. **It has severe impact on animal health and wellbeing and can cause huge economic losses to infected farm.**
5. LSD **can be deadly if stays longer.**
6. **According to** the **Food and Agriculture Organization (FAO)**, the **mortality rate is less than 10%.**

✎ How does animal get infected?

1. Infection can spread **through bringing in infected cattle from affected regions.**
2. It is caused mainly **by blood feeding vectors such as mosquitos, biting flies and ticks.**

✎ Symptoms of LSD:

1. The **appearance of circular nodes** on all **over the animal's body** or skin that **look similar to lumps.**
2. Excessive **secretion of nasal and saliva.**
3. **Generally, sign of the disease seems to appear in 28 days.**

✎ Spread of LSD:

1. The disease is **not zoonotic**, meaning it **does not spread from animals to humans**, and **humans cannot get infected with it.**
2. **Historically**, LSD **was restricted** to **Africa**, where it was **1ˢᵗ discovered in 1929**.
3. **In 2019** it was **1ˢᵗ reported in Asia and the Pacific region** in n**orth west China, Bangladesh and India.**

✎ Treatment of LSD:

1. **No treatment** is available for the disease so **prevention by vaccination** is the **most effective means of control.**
2. Successful **control and elimination** of LSD **depends on** "**early detection** followed by a **fast and extensive vaccination campaign"**
3. **Once** an animal has **recovered**, it is well **protected and cannot be the source of infection for other animals.**

1.13   QUANTUM KEY DISTRIBUTION (QKD)

Why in News?

In August 2022, **Defence Research and Development Organisation (DRDO) and Indian Institute of Technology (IIT) Delhi** verified the **Quantum Key Distribution (QKD) link.**

✎ More about this latest development:

1. QKD Link was verified **for communicating over a distance of over 100 kilometres** between **Prayagraj and Vindhyachal in Uttar Pradesh.**
2. This **technological advancement of a representative QKD Link** was **achieved with the commercial-grade optical fibre already available in the field.**

✎ What is Quantum Key Distribution (QKD):

1. QKD is **a mechanism to have a secure communication between 2 entities.**
2. It **utilises a cryptographic procedure** which **involves various components of quantum mechanics.**

3. The **technology enables 2 communicating sides**, known only to user, **so that only they can use it to encrypt and decrypt messages** hence, **a very highly secure communication can be achieved.**
4. The **distribution of encryption keys is the important factor** for this.
5. **Quantum-based communication offers a healthy solution to sharing the keys securely.**
6. **Secure communications are important not only for the defence and strategic agencies** across the globe but **also for various civilian applications.**
7. **DRDO has launched multiple projects** for the **development of this technology.**

✎ **Significance of QKD:**

1. This technology will **enable security agencies to plan an efficient quantum communication network** with the help of domestic technology.
2. **Military grade communications** can be more secure and strong now.

✎ **Other achievement related to QKD by DRDO**: **Quantum Random Number Generation (QRNG):**

1. It is **developed by Young Scientist Laboratory for Quantum Technologies (DYSL-QT)**, a **DRDO facility** based in Mumbai.
2. QRNG has the **ability to detect random quantum events** and **convert those into an arrangement of binary digits.**
3. The **QRNG system developed by DYSL-QT has passed the global randomness** testing standards.
4. The **generated random numbers** were **also evaluated** and **verified** using **DRDO's domestic developed Randomness Testing Statistical Test Suite.**
5. India has **entered the group of countries** which **have achieved** the **technology based on the Quantum Phenomenon.**

✎ **Global and domestic Status on QKD:**

1. Most of the **large economies and defence powers across the world** are **trying to formulate plans for the development of quantum technologies.**
2. **These countries include the US, Canada, several European countries, China, Japan and South Korea.**

✎ **International conference on Quantum Information Technology (2019):**

1. It saw **participation of key defence, civilian and academic entities of the country.**
2. At the conference **India has seen significant policy decisions** and **budget allocation for the sector.**
3. **China** has **said** that **it has achieved multiple innovations in the quantum technology domain that included:**
   ▪ The **world's 1st quantum satellite.**
   ▪ The world's **1st optical quantum computing machine** prototype.
   ▪ A **2000 km long quantum communication link between Beijing and Shanghai.**
   ▪ China's **13th and 14th 5-year plans give priority to quantum technology.**

2. POLITY AND GOVERNANCE

2.1   REPRESENTATION, ALL THE WAY UP (SOURCE: THE INDIAN EXPRESS)

Why in News?

On 25th July 2022, **Smt. Droupadi Murmu**, a Adivasi woman from a very simple background, was elected as **the 15th President of India** and this was made possible only because of reforms at the local level.

The **73rd and 74th Amendments of 1992** have played an important role in bringing people from the ground levels into the politics.

73rd Amendment Act of 1992 gave constitutional status (included in the constitution) to Panchayats in the Rural Areas.

74th Amendment Act of 1992 gave constitutional status to Municipalities at the urban Level.
✎ **Reservations given to women by 73rd and 74th Amendment Act are:**

1) A minimum of **1/3 of seats** has to be reserved for women at all the levels in Panchayats and Municipalities.
2) It also provided 1/3 of the reservation for **SC Women, ST Women and OBC Women inside their Community reservation too.**
3) **Reservation beyond 33%:** States such as Bihar and West Bengal have gone beyond the Constitutional provision by increasing women's reservations from **33% to 50%** and introduced reservations for OBCs too.

✎ **Benefits of this**: Making Indian political system **more Representative**:
Issues:

Even after 30 years of these constitutional reforms, the local governments have still not become powerful **"units of self-government"** because:

1) **No true financial and administrative power** has been transferred to Local self governments by state's.
2) **Expansion of the reservation** to other groups has been ignored. Like **No Reservation for Transgender Community.**
3) **Issue of 'Panchayat Pati'**: Many elected women's work as per the wishes of her Husband and here the motive of reservation is lost.

✎ **Conclusion**:

Studies have shown that **women-led panchayats** invest's more in **public goods, focus on infrastructure projects that are more useful for women**, and **increase women's involvement in village affairs.**

✎ **Women in Judiciary:**

As per government data, there are just **4** women judges in the Supreme Court and **96** in the High Courts.

2.2   HATE SPEECH AND BLASPHEMY (SOURCE: THE HINDU)

Why in News?

Presently, there has been a rise in cases related to **Hate Speech and Blasphemy** in India. Blasphemy is the **act of Insulting God or anything which is considered Sacred by the people.**

✎ What is Hate Speech?

1) As per the **267th Report of the Law Commission of India, Hate Speech** is defined as giving '**Encouragement or Motivation** to do hatred mostly against a group of persons on the basis of **Religion, Region, Race, Caste etc.'**
2) So, Hate speech is any word written or spoken, sign's or anything within the hearing or visible to a person with the intention to cause fear in him or motivating to do violence.
3) **Related Data: As per the** data of **National Crime Records Bureau (NCRB),** there has been a huge increase in cases registered related to hate speech. There were only **323 cases registered in 2014** but it has increased to **1,804 cases in 2020.**

✎ What are the Regulations Related to Blasphemy?

1) Indian Penal Code (it's the official Criminal Code of India) under   Section 295(A) **punishes any speech, writings or signs that are made with an intention to insult anyone's religion or religious beliefs with a fine and imprisonment for up to 3 years.**

2) **Supreme court's Interpretation:**
   a) **In Ramji Lal Modi case (1957):** The legality of Section 295(A) was confirmed **by a 5 judge Bench of the Supreme Court (SC)** in this case. SC also said **that Article 19(2) allows reasonable limits on freedom of speech and expression to maintain public order (peace and stability in the society)..**
   b) **In Superintendent (Central Prison of Fatehgarh) Vs Ram Manohar Lohia case (1960): Here SC said that if there is a link between the words spoken and any public disorder caused as a result** of it then it can be registered under Section 295(A) of IPC.
   c) In 2011, SC said that only those speech that leads to " **any kind of Violence or any other unlawful action**" can be punished. So, the **Governments has to fulfill few conditions before using public disturbance as a justification for suppressing Freedom of speech expression of its Citizens.**

✎ Why there is a Need for Distinction between Blasphemy and Hate Speech Laws?

1) **Wide Interpretation: Section 295(A) of IPC** is too wide and it cannot be said that any kind of disrespect to any religion or religious belief's will   necessarily lead to incitement of violence.
2) **Section 295(A) contains hate speech Laws:** The SC has said on many occasions that perhaps the goal of hate speech laws in Section 295(A) is to ensure **Equality.**
3) **Laws Lacks Clarity:** There are **huge differences between the interpretation and the actual wording,** due to which the law is still being exploited and misused at all levels of administration.

Way Forward

1) Blasphemy, which generally restricts criticism of religion's, doesn't look in Harmony with the principles of democratic societies.
2) In a free and democratic society, there should be no restrictions on raising questions and objections.
3) To make a balance between the protection of faith and hate speech, one solution can be **is to keep blasphemy in law but make it non-criminal.**

2.3 DISTRICT LEGAL SERVICES AUTHORITIES (DLSAS) (SOURCE: THE INDIAN EXPRESS)

Why in News?

On 1ˢᵗ August 2022, PM has addressed the starting session of the 1ˢᵗ District Legal Services Authorities (DLSA) meet.

Legal Services Authorities have been set up at various levels by the Govt. under the Legal Services Authorities Act,1987 and these are:

1. At National Level, its **National Legal Service Authority (NALSA)**: It's to provide **free Legal Services to the weaker sections of the society** and to **organize Lok Adalat's** (it works to solve cases through Compromise if both the parties agree for it). **Chief Justice of India (CJI) is the Chief of NALSA.**

2. At State Level, its **State Legal Service Authority (SLSA)** which is headed by the **Chief Justice of High Court of the state concerned**. It has been formed to implement the plans and policies of NALSA at the state level.

3. At district Level, its **District Legal Service Authority (DLSA)** which is headed by the **District Judge of the District concerned.** It's work is to implement Legal service Programmes in the Districts. Presently, There are **676 DLSAs in India.**

✎ **So, Who are Eligible for the Benefits under the Legal Services Authorities Act, 1987 ?**

1. Schedule Castes and Schedule Tribes.
2. Victim of trafficking and Begging.
3. Women and Children.
4. Persons with disabilities.
5. Victims of Mass Disaster / Ethnic Violence / Caste Atrocity / Flood / Earthquake or Industrial disaster
6. Industrial Workmen.
7. In Custody / Protective Home / Juvenile Home / Psychiatric Hospital / Psychiatric Nursing Home.
8. Persons having annual income less than **Rs. 3 Lac**
9. Senior Citizens having annual income less than **Rs. 4 Lac**
10. Transgender's with annual income less than **Rs. 4 Lac**
11. Acid Attack Victim
12. Person's infected and affected with HIV AIDS

In 2022, Government has combined all the justice programmes under a new scheme named

DISHA (**Designing Innovative Solutions for Holistic Access to Justice).**

DISHA Scheme

TELE-LAW	NYAYA BANDHU (Pro Bono Legal Services)	NYAYA MITRA	LEGAL LITERACY AND LEGAL AWARENESS
An e-interface platform that aims to empower people through pre-litigation advice for rightfully claiming their entitlements and for timely redressal of their difficulties. It seeks to connect the poor and marginalized sections of society, through a dedicated pool of Panel Lawyers via video conferencing/telephonic facilities available at Common Service Centers (CSCs)	Aims for advancing the culture of pro bono and creating a framework for dispensation of offering pro bono legal services across the country. It links the persons eligible to avail free legal aid under Section 12 of Legal Services Authorities (LSA) Act, 1987 with the pro-bono lawyers	Aims to facilitate District Judiciary for assisting in reduction of pendency of decade old pending cases in the district court & subordinate judiciary with the help of Nyaya Mitra	Pan India Legal Literacy and Legal Awareness aims to enable the vulnerable sections of society to have access to information about their legal rights, entitlements and creating better legal awareness so as to make justice delivery system citizen-centric

2.4   PARLIAMENT PASSES BILL TO BAN FUNDING FOR WEAPONS OF MASS DESTRUCTION

Why in News?

On 1st August 2022, Indian Parliament amended '**The Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act,2005.**

What are Weapons of Mass Destruction (WMD)?

1. These are the weapons which can do **death and destruction on a very large scale.**
2. Modern weapons of mass destruction can be categorised into 3 types: **i) Nuclear weapons** (a bomb or missile that uses nuclear energy for attack) **ii) Biological weapons** (attack is done through disease-causing organisms or toxins to harm or kill humans, animals or plants) **iii) Chemical weapons (**it uses chemicals to do the harm) **.**
3. The **term weapons of mass destruction** has been used for the **1st time in 1937.**

4. Their danger can be understood with the example of **Nuclear bombs used to attack Hiroshima and Nagasaki of Japan**.

✍ Aim of the Amendment:

1. Aim is to **ban funding of weapons of mass destruction** and also empowers the Central government to **freeze** (can't be used or sold), **seize** (taken into custody) or **attach assets and resources of the people engaged** in such activities.
2. The previous act, the **Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005 only banned the manufacture of weapons of mass destruction.**

✍ What are the Key Amendments of the Act ?

1. **Section 12A:** A new **Section 12A was added** in the existing law which says that **"no person shall finance any activity which is prohibited under this Act, or under the United Nations (Security Council) Act of 1947 or any other relevant Act."**

2. **Prevent from getting Finance or any other help**: It also prohibits giving any finances or any other help to the persons who are engaged in any such activity.

✍ International efforts to control the spread of WMD are:

1. **Nuclear Non-Proliferation Treaty of 1968:** Objective was to prevent the spread of nuclear weapons or weapons technology.

2. **Biological Weapons Convention of 1972:** It prohibits the development, production, transfer and use of biological weapons.

3. **Chemical Weapons Convention of 1993:** It prohibits the development, production, transfer and Use of Chemical Weapons**.**

2.5   RAJYA SABHA PASSED ANTI-DOPING BILL

Why in News?

On 2ⁿᵈ August 2022, the parliament passed the National Anti-Doping Bill.

1. Aim of the bill is to provide a **statutory status (formed under a law)** to the **National Anti-Doping Agency (NADA) and the National Dope Testing Laboratory in sports**.

2. Now, India will be in the group of nations such as **US, China, France, Australia, Japan, S Korea** that have a law on Anti-Doping and a dope test laboratory of itself.

✍ What is Doping ?

It refers to the use of prohibited(banned) medications, drugs or treatments by athletes with the intention of improving their sports performance.

✍ National Anti-Doping Agency (NADA)

1. It was formed in **2005** as a registered society **under the Societies Registration Act, 1860** with the **responsibility to make 'Dope Free' sports in India.**

2. Main **objective of NADA is to implement** anti-doping rules as provided by **WADA (World Anti-Doping Agency).**

3. It also **organize dope control programmes, education and research** in it and also creates awareness about the bad effects of doping.

4. The NADA has the necessary authority and responsibility for:
   a) Planning, implementing, monitoring and suggesting improvements in laws to control doping.
   b) It also works in cooperation with other National and International Organizations.

✍ World Anti-Doping Agency (WADA)

1. It was set up in **1999 by the International Olympic Committee.**

2. It is also recognised by the **UNESCO International Convention against doping in Sports.** This convention was held in the year **2005** to **discuss the issue of doping in sports.**

3. WADA's main function is to **develop, harmonize (making almost similar) and implement anti-doping rules and regulations** across all the sports and the countries.

4. It has a separate **WADA Code** and **under this code it conducts investigations into the doping incidents.**

5. It also **conducts research on doping and also educates sportspersons** and related staff on anti-doping rules and regulations.

✍ So, what are the Important Provisions of the National Anti-Doping Bill, 2022 ?

1. **Prohibits athletes from engaging in doping:** The Bill prohibits athletes, athlete support staff and other persons from engaging in doping in sports.

2. **Powers to NADA:** Bill gives the power to NADA for "investigation, imposing sanctions in case of anti-doping rules violations and the power of inspection, sample collection, sharing and receiving the information related to investigation".

3. **Disqualification for violating rules:** In case of violations of doping rules, the athlete can be disqualified and his prizes and medals can be taken back. He can also be banned from participating in sports events for some period of time too.

4. **Increased the duty of NADA**: NADA will also work to give effects to the guidelines agreed in UNESCO Convention on doping.

✍ Issues with the Bill:

1. **Qualifications of the Director General of NADA is not written in the Bill** and are left to be announced through rules.

2. The central government can remove the Director General from his office on the grounds of **"Misbehaviour or Incapacity or such other ground".** so, **leaving these provisions in the hands of central government can affect the independence of the Director General**.

3. This also goes **against the guidelines of the World Anti-Doping Agency** as it clearly said that **such bodies must be independent** in their work.

4. Under the bill, the board **of NADA has the powers to remove the members of the disciplinary panel and appeal panel** on the grounds which are not written in the Bill.

5. Further, there **is no platform in front of these panels to put their case freely. This may affect the independent functioning of these panels.**

2.6   CENTRAL VIGILANCE COMMISSION

Why in News?

In August 2022, the Central Govt. appointed Suresh N Patel as the new chief of the Central Vigilance Commission (CVC).

✍ What is CVC ?

1. The CVC was **set up by the govt. in 1964 on the recommendations of the K. Santhanam committee** to advice and guide the central government agencies in the field of vigilance (to keep an eye on corruption).
2. CVC is the topmost **vigilance institution of the country and it is an independent body which is responsible only to parliament.**
3. The parliament made **Central Vigilance Commission Act, 2003 which provided it a statutory status (formed under a law).**
4. It **submits its annual report to the President of India.**
5. Currently, **CVC has a chairperson and 2 Vigilance Commissioners (VCs).**
6. The CVC **receives complaints on corruption or misuse of office** and recommends **appropriate action to the agencies.**
7. **CVC is not a Investigating agency.** The CVC either gets the investigation done through the **Central Bureau of Investigation (CBI)** or through Chief Vigilance Officers (CVO) in government offices.

✍ What are the service conditions of the Central Vigilance Commissioner ?

1. **Appointment:** The Central Vigilance Commissioner is **appointed by the President of India after** the recommendations of the 3 member committee which consists of: 1) **PM 2) Minister of Home Affairs (MHA)** 3) **Leader of Opposition in the Lok Sabha.**
2. **Tenure:** He holds the **office for a period of 4 years.**
3. **Removal:** He can be removed from the office by the President on the **grounds of 'proved misbehaviour or incapacity'** but only after the **Supreme Court (SC)** has done an inquiry into his case and recommends action against him.
4. He **can also resign from his office by writing to the President.**

2.7   INNER PARTY DEMOCRACY

Why in News?

On 5th August 2022, **Boris Johnson (former UK PM)** has been removed from the post of party leader(belongs to **conservative party)** by its **Members of Parliament** (MPs).

Note: This incident has also raised the issue in India to seriously think on empowering elected representatives (like MPs, MLAs) so that they can ensure accountability (make them answerable and responsible) of their party leadership.

✍ What is Inner Party Democracy?

Taking the **decisions on the basis of consensus of its members** in a political party is called Inner Party Democracy.

### ✍ How are Members of Parliament elected in the United Kingdom?

1. To become an MP **from a political party, a candidate must take a permission from the** party's nominating officer and t**hen he needs to** win the most votes **in his constituency.**
2. **Entire UK is divided into** 650 areas, which are known as constituencies**.**
3. During an election, **public votes for the candidate of their choice.**

4. The candidate **who get the most votes becomes the MP** from that area until the next election. If an MP die or resigns from his office, a by-election is held in that constituency to find a new MP for that area.

5. **General elections happen** every 5 years.

✎ How are Members of Parliament elected in India?

Parliament of India consists of 2 houses: **1) Lok Sabha 2) Rajya Sabha.**
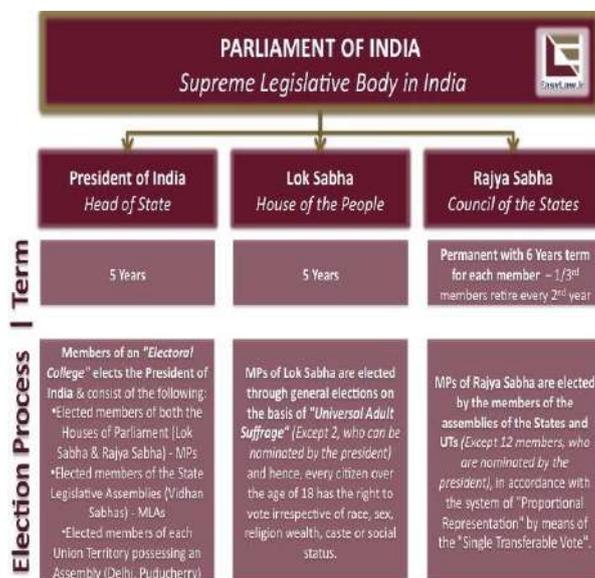
✎ What power does an MP have in the UK against the PM ?

1. **A PM** has to maintain the confidence **of his ministers at all time to run a stable government.**

2. **If there is a doubt that the** leader is no longer acceptable to the people, **then a well-structured body in the party comes** into action and then it provides **new leadership.**

3. Even, individual MPs **can write to their party** committee (which includes senior MPs) **expressing that they have** "no confidence" **in their leader.**

4. If 15% of the party MPs writes to the committee **then the leader will be** forced to get the fresh support from his parliamentary party.

✎ What powers does an MP have in India against the PM ?

1. A **No-Confidence-Motion** is a **parliamentary motion** which is moved in the **Lok Sabha** against the **entire Council of Ministers (COM)**, stating that the present COM is not fit to run the government.

2. **Article 75** of the Indian constitution says that 'the Council of Ministers shall be **collectively responsible to the Lok Sabha'.**

3. No reason needs to be mentioned for the adoption of No-Confidence Motion.

4. If the motion is passed in the house, the **Government has to vacate the office.**

5. A No-confidence motion can be passed by majority vote in the House. **If MPs or the parties maintains an absence from the voting then** those numbers will be **removed** from the overall strength of the house and then the majority will be taken into account.

What can be considered as a barrier to MPs liberty in India?

Anti-Defection Law (1985):

1. The anti-defection law **applies when an MP or a MLA** leaves his or her party or doesn't obey his party.
2. Parliament added it to the constitution in the **10th Schedule in 1985.** Its purpose was to **bring stability in the government** by discouraging MPs or MLAs from changing parties regularly.
3. However, this law will not apply if defection is done by **1/3 of the elected MPs or MLAs of that party in the house.**
4. This law does not apply on political parties for encouraging or accepting defecting MPs or MLAs.
5. The members disqualified under the law **can contest elections from any political party for a seat in the same House also.**
6. The decision on questions as to disqualification on ground of defection are taken by the **Chairman** or the **Speaker** of such House.

Conclusion:

So, we need to find a system where a balance can be made between the liberty of representatives to make their leaders accountable and stability of governments. If we focus only on any 1 of the above then it will not be in the interest of the democracy or the development of the country.

2.8 PRIVILEGE OF MPS DOES NOT EXTEND TO CRIMINAL CASES SAID BY RAJYA SABHA CHAIRMAN

Why in News ?

Recently, Rajya Sabha Chairman clarified in the House that *"MPs do not enjoy any immunity from being arrested in a criminal case during the parliament session or otherwise"..*

What are the Parliamentary Privileges?

1. These are the **special rights, immunities and exemptions enjoyed by the 2 houses of the parliament, their committees and their members.**
2. These privileges are defined in **Article 105 of the Indian Constitution.**
3. Under these privileges, MPs are exempted from any **civil liability (but not criminal liability)** for any statement made or act done while performing their duties.
4. **Parliament has not made any special law** to mention all the privileges. They are **based on 4 sources:**
   a) Constitutional provisions
   b) Various laws made by the Parliament
   c) Rules of both the Houses
   d) Judicial interpretations
5. One of the privilege is that a MP *cannot be arrested in a civil case, 40 days before the parliamentary session and upto 40 days after the session.*
6. This privilege is already included under *section 135A of the Civil Procedure Code, 1908.*

✑ **Few rulings of the Supreme Court (SC) on privileges are:**

1. *Dr Zakir Hussain case (1966):* SC said in this case that *"Members of Parliament do enjoy certain privileges so that they can perform their duties".*
2. *K Anandan Nambiar and another case*: SC in this case said that a '**MP** *can claim no special status higher than that of an ordinary citizen and is as much liable to be arrested, detained or questioned even during the Session of parliament'*
3. *State of Kerala Vs K. Ajith and Others:* SC in this case said that '*privileges and immunities are not the ways to claim exemptions from the general law of the land'.*

2.9 ELECTRICITY AMENDMENT BILL, 2022

Why in News ?

On **8th August 2022**, the **Electricity (Amendment) Bill 2022** was introduced in the **Parliament**.

1. Many **power engineers** were protesting against the bill across the country.

✑ **What is the Electricity (Amendment) Bill 2022 ?**

1. The bill seeks to amend the **Electricity Act 2003.**
2. **The Electricity Amendment Bill, 2022** aims at giving **multiple companies an open access to distribution network of power supply.**
3. It will also allow **consumers to choose any electricity service provider.**
4. Objective is to **enable competition, enhance efficiency** of distribution companies and to improve services to consumers.
5. The bill also has provisions regarding the **revision of tariff** every year.
6. Bill proposes to **fix the maximum ceiling on tariff and minimum tariff too.**
7. It proposes to convert the punishment **from imprisonment or fine** to **just fine.**

✑ **What are the protestor's arguments against the bill?**

1. **Against the Federal Structure: The Constitution** has listed the **'Electricity'** in the **concurrent list** of the **7 Schedule,** so both **central as well as state governments** have the power to make laws on this subject. So, the protestors are saying that it is against the **federal structure of Indian polity.**
2. **Electricity Subsidy: Protestors have fear that free power for farmers** and **Below Poverty Line** population will go away after this bill becomes law.
3. **Differential Distribution Obligations : Protestors argue that after the passage of the bill, o**nly **government distribution companies (discoms) will have universal power supply obligations** (responsibility of providing electricity in every corner). Therefore, it is likely that **private companies** will prefer to supply the electricity in **profit-making areas**.

✑ **How this bill will impact the power employees & consumers?**

1. **Monopoly of Private Players: People have fear that it will lead to a major loss for government distribution companies** and will help in **establishing the monopoly of a few private companies in the country's power sector.**
2. **Operational Issue:** In the **total cost of electricity supply almost 80% is related to power purchase** and it **will be the same for all distribution companies** operating in an area.

So, by bringing in more distribution companies, **the quality of service or price is not going to be any different.**

3. **Consumers have to pay more: As per a report of UK auditors,** due to adoption of such models the consumers **has to pay of 2.6 billion pounds more.** The cost of such new models will be **charged from the ordinary consumer only.**

4. **In case of Failure**: When a private company fails, **consumer suffer the most.**

✎ **What is government stand on the bill ?**

1. **Government is continuously saying that** no provision in the bill reduce the power of the states **to regulate the** power distribution sector, payment of power subsidy etc.

2. **The government has indicated that** multiple distribution companies are already existing in many areas **and the** bill only simplifies the process **to ensure that competition leads to better operations and services for consumers.**

3. **The government is saying that it has** consulted every state and many associations **which have provided in writing** that there is nothing anti-farmer in the bill.

4. **The bill allows the use of** additional cross-subsidy **that is collecting more tariffs from the industrial and commercial users in one area and provide it for subsidising the poor people in other areas.**

5. **With** India aiming to achieve 50% of its installed power capacity from renewable sources **by 2030, the government is of the view that the push for** Renewable Purchase Obligations (RPOs) mentioned in the bill will increase India's power demand**.**

✎ **What can be the Way Forward ?**

1. Being a subject of the **concurrent list of Indian constitution,** recommendations from **states should be taken into consideration** for effective implementation of the provisions of the bill.

Provision related to **subsidies should be mentioned in a very clear way** to eliminate any scope of confusion/ conflict.

2.10   MODEL TENANCY ACT

Why in News?

According to Ministry of Housing and Urban Affairs (MoHUA), the Model Tenancy Act has been corrected by only four states, i.e., Andhra Pradesh, Tamil Nadu, Uttar Pradesh, and Assam.

✎ **What is the Model Tenancy Act (MTA), 2021?**

1. It **regulates renting of premises and protects the interests of both landlords and tenants.**
2. MTA aims at creating a **safe, vibrant, sustainable, and inclusive rental housing market in the country.**
3. It will **enable the availability of rental housing stock for all income groups** and can **address the issue of homelessness.**

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4. The act will **reform the rental housing sector** by gradually **shifting it toward the formal market**.

What was the Need for Model Tenancy Act?

1) As per **Census 2011, more than 1 crore houses were lying vacant in urban areas.**
2) The **existing laws are restricting the growth of rental housing and discourage owners from renting out** their vacant houses due to fear of reclamation.
3) There was a need to **bring transparency and accountability to the existing system.**
4) It is **important to balance the interests of both the property owner and tenant in a sensible manner.**
5) **By 2050, more than half of India** would be **living in cities**, mainly **due to migration**, hence a **legal framework to manage the rental housing sector was really important.**

✍ **What does the Act say:**

1) A **written agreement** is mandatory between the property owner and the tenant.
2) To Establishes an independent authority in every state and UT for **registration of tenancy agreements.**
3) A separate court should be there **to take up tenancy-related disputes.**
4) Limit the **tenant's advance security deposit to a maximum of 2 months' rent** for **residential purposes** and to a **maximum of 6 months** for **non-residential purposes.**
5) The **landlord** will be responsible for activities like structural repairs **except any damage caused by the tenant**.
6) The **tenant will be responsible for drain cleaning, switches, and socket repairs,** kitchen fixtures repairs, replacement of glass panels in windows, doors, and maintenance of gardens and open spaces, etc.
7) A landowner will have to give **24-hour prior notice before entering the rented premises to carry out repairs or replacements.**
8) If a landlord has **fulfilled all the conditions stated** in the rent agreement (giving notice etc.) and the **tenant fails to vacate the premises** on the expiration of the period of the tenancy the landlord is **entitled to double the monthly rent for 2 months** and **4 times** after that.

✍ **Significance of the Act:**

1) This will help in **speedy mechanism in resolving disputes** and other related matters.
2) It will **help to clear the legal framework** with respect to rental housing across the country.
3) It is **expected to give a boost to private participation in rental housing**.
4) **Separate courts will lessen the burden on** the already struggling **judiciary.**

✍ **Major Challenge with the implementation of the bill:**

1) The **Act is not binding on the states,** as **land and urban development** remain **state subjects. This leads federal disputes.**

2) Lack of awareness about the rights of owners and tenants becomes major hurdle in the implementation.

2.11 HIGHER EDUCATION COMMISSION OF INDIA

Why in News?

Government of India announced that they are **working on the draft** of a Bill **that will bring a Higher Education Commission of India (HECI)**, for **college and university-level** education. This new work will **be in line with National Education Policy of India.**

What is the Draft Higher Education Commission of India Bill, 2018?

It stands for **"Draft Higher Education Commission of India (Repeal of University Grants Commission Act) Bill, 2018".**

It was introduced in January, 2018, but it was never finalised, and within two years, the **National Education Policy 2020 was announced.**

So, now govt. is reworking on this bill to bring HECI (Higher Education Commission of India)

✍ Key Points related to bill:

1) The Bill **replace the older act University Grants Commission (UGC) Act, 1956** and establishes the **Higher Education Commission of India (HECI).**
   (UGC is responsible for coordinating, determining and maintaining standards of higher education.
2) The HECI will **maintain academic standards** in higher education by:

   - **Laying down (mentioning) learning outcomes** for courses.

   - **Specifying eligibility criteria** for Vice Chancellors.

   - **Ordering closure of higher educational institutions which fail to** adhere to **minimum standards.**

3) **Every higher educational institution empowered to award degrees or diplomas** will have to **apply to the HECI before its functioning.**
4) **HECI also has the power to revoke permission** on some specified grounds**.**
5) The Bill sets up an **Advisory Council** chaired by the **Union Minister of Human Resource Development.**

✍ Coverage of the bill :

The Bill will apply to **'higher educational institutions'** which include:

1) **Universities set up by centre/state legislatures.**
2) Institutions **which are deemed to be a university, and colleges.**
3) It **exclude universities of national importance.**

✍ Major Challenges in 2018's Bill:

1) **Autonomy**: The Bill aims to promote **autonomy of higher educational institutions, but** certain provisions of the Bill **do not meet this stated objective.**
2) **Regulatory challenges:** Currently, institutions offering professional courses **are regulated by 14 professional councils.**

   i. It is not clear why only **two areas(Legal and Architecture studies) are included within the regulatory ambit** of the HECI and not the other fields.

3) **Disbursal of Grants:**At present, the **UGC has the power to allocate and disburse grants to universities and colleges.**

  i.   While the **Bill replaces the UGC, it does not include any provisions regarding disbursal of grants.**

4) **Independency:** Presently, the **Central Advisory Board of Higher Education (CABE)** co-ordinates and **advises the centre and states on education related matters.**

  a.   The Bill creates an **Advisory Council** which can **restrict HECI from functioning as an independent regulator.**

✎ Functions of HECI?

▪ The HECI will **recommend ways** to **promote autonomy** of higher educational institutions and **ensure maintenance** of academic standards in higher education.

▪ **It will specify norms for:**

  o   Learning outcomes for courses.

  o   Standards of teaching and research.

  o   Evaluation procedure to measure yearly academic performance of institutions.

  o   Accreditation of institutions.

  o   Ordering closure of institutions.

✎ What is the Significance of National Education Policy, 2020?

1) **1)Recognising Importance of Formative years (primary years of education):** It will help in adopting a **5+3+3+4 model for school education starting at age 3**, the policy recognises the **primacy of the formative years** from ages 3 to 8 in shaping the child's future.

2) **2)Departure of rigid divisions between streams of studies:**The new policy will **break the strict division of arts, commerce and science streams in high school.**

3) **3)The Union of Education and Skills:**As Introduction of **vocational courses with an internship is a key feature of policy.** This may push the **vulnerable sections of society** to send their children to school.

4) **4)Making Education More Inclusive:** The NEP offers the extension of the **Right to Education (RTE)** to **all children up to the age of 18.**

5) **5)Allowing Foreign Universities:** The document states **universities from the world** will be able to set up campuses in India.

6) **6)Clarity on medium of Instructions:** It emphasizes on making **mother tongue, local language or the regional language** the medium of instruction at least till Grade 5 and this can put an end to English vs Hindi debate..

2.12   MINES AND MINERALS DEVELOPMENT AND REGULATION (MMDR) ACT

Why in news?

Recently in July, **Kerala government has opposed the new set of proposed amendments to the Mines and Minerals (Development and Regulation) Act.**

✍ What is MMDR Act?

The Bill seeks regulate the mining sector in India, also it is going to amend the old age **Mines and Minerals (Development and Regulation) Act, 1957.**

Mining minerals of India: India has a huge potential of mining industry as it is home to various **major** (uranium, copper, zinc etc.) **and minor** (felspar, dolomite etc.) minerals.

✍ What are the Proposed Changes?

1) **Removal of restriction on end-use of minerals:**
    The Bill provides that **no mine will be reserved for particular end-use as earlier it was restricted.**
2) **Sale of minerals by captive mines:**
    The Bill provides that **captive mines** (mines other than atomic minerals) **can sell 50% of their annual mineral production in the open market** after meeting their own needs.
    ▪ The central **government may increase this threshold through** a notification.
3) **Direct engagement of auction by Govt. in certain areas:**
    Central government can specify a time period for completion of the auction process in consultation with the state government.
4) **Allocation of mines with expired leases:** The Bill adds that **mines whose lease has expired, may be allocated to a government company** in certain cases.
    ▪ The **state government may grant a lease for such a mine** to a government company for a period of up to 10 years or until the selection of a new lessee, whichever is earlier.
5) **Extension of leases to government companies:**

    The Act empowers central government to prescribe the mining lease time period for mines granted to govt. companies.

6) **Conditions for delay of mining lease:**
    • If the lessee is **not able to start mining operations within two years** of the grant of a lease.
    • If the lessee has **discontinued mining operations for a period of two years.**
    • The **lease will not lapse at the end of this period if a concession is provided by the state government** upon an application by the lessee.

- According to Bill the **threshold period for lapse of the lease may be extended by the state government only once and up to one year.**

✎ **Significance of new Changes to act:**

1) **Transparency:**
   It would lead to **greater transparency in the auction process** as there is a **perception that state governments may prefer some bidders,** and try to delay or cancel mining rights

2) **Maximization of Output:**
   Less restrictions and more flexibility **would add up into the output from captive mines** as they would be able to sell output in excess of their own requirements.

3) **Ease of Doing Business:**

   Simplification of procedure will bring ease of doing business and benefit all the beneficiaries (parties involved) in areas where minerals are located.

4) **Speeding up the Mining activities:**
   Better regulation and easy clearances will **speed up the process** of implementation of projects.

5) **Efficient Energy Market:**
   New laws can make our energy sector more self reliant and can significantly reduce our dependency on coal imports.

6) **Access to High-End Technology:**
   Efficient energy sector will **bring more competition and hence will help India in gaining access to high-end technology** for underground mining used by miners across the globe.

2.13 SUPREME COURT PRESENTS ITS DECISION TO HELP UNMARRIED WOMEN GAIN 'BODILY AUTONOMY' UNDER MTP ACT 2021

Why in News?

In **August 2022**, The **Supreme Court** has **said that we should leave the 51-year-old abortion** law that restricts unmarried women from ending pregnancies and should **give them bodily autonomy.**

✎ **What bodily autonomy?**

It is the **right of a person on their own bodies, more specifically used here for the rights of women in the pregnancy cases.**

✎ **Earlier observations:**

1. A woman's right to end pregnancy is an **inseparable part of her personal liberty under Article 21** of the Constitution.
2. She has a sacred right to **bodily integrity**, as the the court has said.
3. The court said **forcing a woman to continue with her pregnancy** would **not only be a violation of her bodily integrity** but **also impacts her mental state.**

✎ **What did the Court say now?**

1. The court said that the prohibition was **attack on women's right to bodily autonomy and dignity**.
2. The **danger to life is same in case of unmarried** woman **as in** the **case of a married woman** said Justice Chandrachud.
3. The **danger of suffering a mental breakdown is much more** in the case of **unmarried women due to societal pressure,** said the court.

✎ **What is MTP Act 1971?**

1. It is **an Act which allows women to end the certain types of** (as mentioned in the act) **pregnancies by registered Doctors.**
2. It **came in 1971** to give women the **right over their body.**

✎ **What were the issues with the act?**

1. The **decision of ending the pregnancy cannot be taken on the basis of choice rather it was purely circumstantial.** (As per mentioned in the act).
2. There were **4 situations under which a legal abortion could be done:**

   ▪ If continuance of pregnancy can cause **risks to the life of the mother**.
   ▪ If the **foetus** (early stage of child) **has any serious complications to child itself.**
   ▪ If pregnancy occurred as a result of **failure of contraception** (but this is only applicable to married women)
   ▪ If pregnancy is a result of **sexual attack or rape.**

✎ **What was the need for the amendments?**

New laws and some changes were brought in the act **to increase the scope of the rights given to women.**

For example: Unmarried women, Rape Victims etc. which earlier were not considered.

✎ **What was the last amendment?**

The court noted that an amendment to the Act in 2021 had **substituted the term 'husband' with 'partner',** a clear signal that the law covered unmarried women also.

✎ **A comparison:**

These are the key changes that the Medical Termination of Pregnancy (Amendment) Act, 2021, has brought in:

1. **The gestation limit** (Age of the child in the womb) **for abortions has been raised from the earlier ceiling of 20 weeks to 24 weeks,** but only for **special categories** of pregnant women such as **rape or incest survivors.**

The MTP Act 1971 and The MTP Act Amendments 2021

	MTP Act 1971	The MTP Amendment Act 2021
Indications (Contraceptive failure)	Only applies to married women	Unmarried women are also covered
Gestational Age Limit	20 weeks for all indications	24 weeks for rape survivors Beyond 24 weeks for substantial fetal abnormalities
Medical practitioner opinions required before termination	One RMP till 12 weeks Two RMPs till 20 weeks	One RMP till 20 weeks Two RMPs 20-24 weeks Medical Board approval after 24 weeks
Breach of the woman's confidentiality	Fine up to Rs 1000	Fine and/or Imprisonment of 1 year

2. **All pregnancies up to 20 weeks require one doctor's approval**.
3. **Women can now end unwanted pregnancies caused by contraceptive failure**, even if they are unmarried.
4. **There is also no upper gestation limit for abortion in case of foetal disability**, that is decided by a medical board of specialist doctors.

2.14   PHARMACOPOEIA COMMISSION FOR INDIA MEDICINE

Why in News?

In August 2022, government established the **Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H)** under the **Ministry of Ayush.**

✎ What is Pharmacopoeia?

1. It is an **officially recognized book of standards for medicines.**
2. These standards have been **prepared under Drugs and Cosmetics Act, 1940 and Rules 1945**.
3. As per the **2nd Schedule** of the Drugs and Cosmetics Act, it is the **official book of standards for drugs imported/ manufactured** in India.

✎ About the Pharmacopoeia Commission:

1. PCIM&H is an **autonomous body.**
2. The Commission **works for development of Pharmacopeial Standards (as per the book)** for **Ayurvedic, Unani, Siddha & Homeopathic drugs.**
   [**Unani, Sidha are different types of medicine system**, same as ayurvedic system is one different system]

   3. PCIM&H acts as **Central Drug Testing agency** for **Indian systems of Medicine.**

✎ More about the News:

Government has also merged the **Pharmacopoeia Commission of Indian Medicine & Homoeopathy (PCIM&H)** and the **2 central laboratories** namely:

- **Pharmacopoeia Laboratory for Indian Medicine (PLIM)**
- **Homoeopathic Pharmacopoeia Laboratory (HPL)**

✎ Benefits of Merger with PLIM & HPL:

1. **The merger will help in getting better outcome (standards) by the best use** of infrastructural **facilities, manpower and financial resources** of the all 3 organizations (those who got merged).
2. Focused and consistent **development of standards of medicines can be achieved through this merger.**

2.15   2 NEW BILLS INTRODUCED IN LOK SABHA

Why in News?

In August 2022**, 2 new bills, the Competition (Amendment) Bill, 2022 & New Delhi International Arbitration Centre (Amendment) Bill** were **introduced in the Lok Sabha.**

✎ What was the need of these new bills?

1. New bills were needed **to improve the ability of Indian markets according to global standards.**
2. **Previous act i.e., Competition Act 2002 has become age old now, and we needed new changes according to new age markets.**

✎ What changes does the Competition (Amendment) Bill 2022 bring?

1. The **bill came to amend Competition Commission of India Act 2002 (CCI).**
2. It **introduces provisions to allow the CCI to address the needs of new-age markets.**
3. It also brings a provision of **'value of transaction'**, which will act as a parameter for **combinations (mergers) to the CCI.**

✎ Other Proposed Amendments:

1. Period of **3 years** will be fixed **for filing information on anti-competitive agreements** (old or discouraging)**.**
2. There are **Changes in some definitions** like **'enterprise', 'relevant product market', 'group'** and **'control'** to give clarity.

✎ Features of the new bill:

1. **Anti-competitive** (old) **agreements will be reviewed.**
2. It will **give approvals of mergers and acquisitions (M&A).**
3. **Penalties of the parties who will share information** during an investigation **will be reduced.**
   - That will **help in reducing litigation.**

✎ What is the Competition Commission of India (CCI)?

1. It was **established in March 2009.**
2. **Competition Commission of India** is a **statutory body** of the Government of India.
3. It is responsible **for implementation of Competition Act, 2002.**
4. CCI was made **on the recommendations of the Raghavan committee.**

[Raghavan Committee was **formed to give suggestions to improve and maintain the competition in Indian markets.**]

✎ Objective of CCI:

1. Competition Commission of India **(CCI)** is the **competition regulator as its name tells.**
2. It is a **watchdog** (observer) **for smaller organizations** that **are unable to defend themselves in disputes with large corporations.**
3. **Main aim** of CCI is to ensure **consumer welfare, fair and healthy competition** in economic activities.

✎ Composition of CCI:

1. The Commission **consists of 1 Chairperson and 6 Members.**
2. **Appointments** of CCI are done **by the Central Government.**
3. The commission is a **quasi-judicial body** which gives **opinions to statutory authorities** and also deals with other cases.

4. [Quasi-judicial is a **body which does not have full judicial powers**, as when a body **can look into a matter but can not give punishment for the offence**.]
5. The **Chairperson** and other **members of CCI is the whole-time members.**

✎ **About New Delhi International Arbitration Centre (NDIAC):**

1. **The New Delhi International Arbitration Centre (NDIAC)** is an autonomous institution.
2. NDIAC was **established in 2019** and declared as an **Institute of National Importance by an Act of Parliament.**
3. It is situated **in New Delhi.**
4. It **works to conduct settlement, mediation, and negotiations with the international markets and products to improve Indian market.**

✎ **What is the NDIAC Amendment Bill?**

▪ NDIAC bill was introduced by the Law Minister to change its name to India **International Arbitration Centre.**

2.16   IMPLEMENTATION OF PESA ACT, 1996

Why in News?

Electoral Parties are making **promises to strictly implement** the Panchayat Extension to Scheduled Areas **(PESA) Act, 1996 to gain trust of tribals in Gujarat.**

What is tribe?

Tribe is a group of people that have common origin, common forefathers, a common culture, and live in its own isolated society.

✎ **Status of Tribes in India:**

1. Tribal Population of India is **8.6%** (i.e., 11 crore) **of the total population.**
2. India is **home to the 2nd largest number of tribal people in any country in the world.**
3. India has currently **705 officially recognised tribes.**
4. In India **89.97%** of the tribals **live in rural areas** and **10.03% in urban areas.**

✎ **What is the PESA Act?**

1. The PESA Act was **enacted in 1996.**
2. It aims **"to implement provisions of Part IX of the Constitution relating to the Panchayats in Scheduled Areas".**
    ▪ **[Part IX, consists articles 243 to 243ZT** of the Constitution and these **include provisions relating to municipalities and cooperative societies.]**
3. Under the PESA Act, **Scheduled Areas are those referred to in article 244.**
4. Article 244 says that the provisions of the **5th Schedule shall apply to the Scheduled Areas and Scheduled Tribes in states other than Assam, Meghalaya, Tripura, and Mizoram.**
5. The **5th Schedule provides for a range of special provisions for 10 states.**
6. 10 states — Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Telangana — have notified Fifth Schedule areas that cover (partially or fully) several districts in each of these states.

7. **Gujarat** has **notified the State PESA Rules** in January **2017**. **However**, the Act has **not been implemented properly rather it was just on paper.**

8. **Currently, 6 states** (Himachal Pradesh, Andhra Pradesh, Telangana, Rajasthan, Gujarat, Maharashtra) have **formed the PESA laws,** and **Chhattisgarh** would **become the 7th state**.

✎ **Objectives of PESA Act:**

1. To **ensure self-governance through Gram Sabhas (village assemblies)** for people living in the **Scheduled Areas.**
2. It recognises **right of tribal communities, who are residents of the Scheduled Areas**,
3. To make tribals **govern themselves through their own systems** of **self-government**.
4. To **accept and appreciate their traditional rights on natural resources.**
5. To give them **power to participate in the developmental plans through the act.**

✎ **What is the Significance of Implementing the Act?**

1. Democratic Decentralisation:

- PESA gives **power to gram sabhas to play an important role in giving approvals for developmental plans** and **controlling all social sectors.**
- Some of the **areas include management of:**
  - ❖ **Resources over jal, jangal, zameen (water, forest and land)**
  - ❖ **Rights of tribals on the minor forest produce.**
  - ❖ Human resources like education and skilling of tribals.
  - ❖ Managing local markets
  - ❖ Preventing land isolation by extending developmental projects in tribal areas.
  - ❖ Regulating alcohols and other intoxicants in tribals.

2. Preserving Identity:

- The **powers given to Gram Sabha helps the tribals in maintaining their cultural identity and tradition.**
- **PESA gives tribals the control over schemes** which disturbs their life and habitat and
- PESA also give them **control over natural resources within the area of a village.**

3. Power to resolve their own issues:

- The PESA Act **allows gram sabhas to maintain a safety net on their rights** and **surroundings** so that they can **feel safe from external effects** (Political, economic etc.)

4. Regulator of the activities in their own areas:

- The **gram sabha has given the powers to monitor and prohibit** the construction, manufacturing, transport, sale and consumption of intoxicants, etc., within their village limits.

✎ **What are the Issues Related to PESA?**

1. The **state governments are supposed to implement state laws for their Scheduled Areas similarly as the national law** which some time does **not possible because of different administrative and financial reasons**. This has resulted in the **partially implementation of PESA.**

The **partial implementation has impacted the self-governance badly in Adivasi areas, like in Jharkhand.**

2. PESA **does not get implemented properly due to** the many administrative issues like **legal delays, bureaucratic laziness, absence of political will.**
3. In reality different developmental **schemes get approved on paper by Gram Sabha, without actual implementation** of these schemes in tribal areas.
4. Some time the **lack of trust between tribals and government agencies** become an issue for implementation of PESA.

Way Forward:

1. There should be **proper awareness in tribals about their rights,** so that they **can take benefits of the schemes** and plans **meant for them.**
2. Government **should work on building trust between tribal and government** agencies so that developmental **plans can be implemented properly.**
3. There should be **regular monitoring of working of states through social audits so that** accountability in implementing PESA Act **can be maintained.**

2.17   BAL AADHAAR INITIATIVE

Why in News?

In August 2022, more than **7.9 million children of up to 5 years of age were registered under** the Unique Identification Authority's **Bal Aadhaar initiative.**

✎ About Bal Aadhaar Initiative:

1. **Under this initiative children in the age group of 0-5 years** are **issued Bal Aadhaar by UIDAI.**
2. Bal Aadhaar is **issued by the Unique Identification Authority of India (UIDAI).**
3. **To differentiate** the Bal Aadhaar **from normal Aadhaar, it is issued in blue colour.**
4. Aadhaar **enrolment of children** are **carried out based on a facial image of the child,** and **biometric authentication of the parent/guardian** (having a valid Aadhaar).
5. A **proof of relationship document** (preferably birth certificate) **is collected at the time of enrolment for Bal Aadhaar.**
6. **For Aadhaar enrolment of these children, biometrics are not collected.**
7. **Collection of biometrics** (fingerprints and iris) **is very important in issuing Aadhaar and the same is required to find uniqueness based on de-duplication (to find out the false document) of these biometrics.**
8. Bal Aadhaar is **issued with a remark** that **this is valid till the child attains the age of 5 years.**
9. On attaining the age of 5, the **child is required to furnish his or her biometrics at an Aadhaar Seva Kendra** to **complete a process called mandatory biometric update (MBU).**
10. The **MBU process goes through a de-duplication process.**
11. **After** completion of **MBU** process, the **child is issued a normal Aadhaar without any change in the Aadhaar number.**

12. Bal Aadhaar **works as an enabler to get several welfare benefits**, and also **works as a digital photo identity for children right from birth.**

✍ **About Unique Identification Authority of India:**

1. UIDAI is **a statutory authority** that **works for identity related issues.**
2. It was **established under the provisions of the Aadhaar** (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) **Act, 2016 by the Government of India.**
3. Earlier, **UIDAI was created through a government notification in 2009** and it was **functioning as an attached office of the then Planning Commission (now NITI Aayog).**
4. It **functions under the Department of Electronics & Information Technology (DeitY)** of the then **Ministry of Communications and Information Technology.**

✍ **Objective of UIDAI:**

To issue Unique Identification numbers (UID), named as "Aadhaar", to all residents of India

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2.18   KARNATAKA HIGH COURT DIRECTS UIDAI TO DISCLOSE AADHAAR DETAILS OF 12 BANGLADESHI NATIONALS TO NIA

Why in News?

In August 2022, the High Court of Karnataka has directed the **Unique Identification Authority of India (UIDAI)** to **give the documents submitted for securing Aadhaar by 12 Bangladesh nationals to NIA.**

▪ These Bangladeshi nationals are **facing severe criminal charges such as rape and trafficking.**

✍ **About UIDAI:**

1. UIDAI is a **statutory authority.**
2. **It was** established under the **Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016** by the Government of India.
3. UIDAI **works under the Ministry of Electronics and Information Technology (MeitY).**
4. It is **responsible for Aadhaar enrolment** and **verification, including operation and management of all stages of Aadhaar life cycle.**
5. The **Aadhaar Act 2016 has been amended by the Aadhaar and Other Laws (Amendment) Act, 2019.**
6. As **on 31st October 2021, the Authority has issued 131.68 crore Aadhaar numbers to the residents of India.**

✍ **Objectives of UIDAI:**

1. UIDAI aims to issue **Unique Identification numbers (UID),** named as "**Aadhaar**", to all residents of India.
2. The **UID had to be strong enough to eliminate duplicate** and **fake identities.**

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3. UID is **verifiable and authenticable in an easy, cost-effective way.**

✎ Vision of UIADI:

1. To **give residents of India** a **unique identity and a digital platform to verify themselves anytime, anywhere.**
2. To **provide for good governance, efficient, transparent** and **targeted delivery of subsidies.**
3. To **develop policy, procedure and systems for Aadhaar holders for updating and authenticating their digital identity.**
4. To **ensure security and privacy** of **identity information and verification records of individuals.**

✎ About National Investigation Agency (NIA):

1. From **last several years, India has been the victim of increasing terrorism sponsored from across the borders.**
2. There **was a need for setting up of an Agency at the Central level for investigation of offences related to terrorism and certain other Acts**, which have national consequences.
3. Many **experts and Committees, such as the Administrative Reforms commission in its Report**, had **recommend for establishment of such an Agency.**
4. The **Government after several discussions planned to pass a legislation for establishment of a National Investigation Agency in a concurrent jurisdiction framework.**
5. It **was introduced by the then home minister** after the 26/11 Mumbai terrorist attacks and was passed in Parliament with very little opposition.
6. Accordingly**, the NIA Act was enacted on 31st December, 2008**, and the **National Investigation Agency (NIA) was born.**
7. At present, the **NIA is functioning as** the apex **Central Counter Terrorism Law Enforcement Agency** in India.

✎ Vision of NIA:

1. It **aims to be a thoroughly professional** investigative agency matching the best international standards.
2. The **NIA aims to set the standards to counter terrorism and other national security related investigations at the national level**
3. It constantly **works toward developing into a highly trained, partnership-oriented workforce.**
4. It also **aims at creating deterrence (example) for existing and potential terrorist groups/individuals.**
5. It **aims to develop itself as a storehouse for all terrorist related information.**

✎ Investigation by NIA:

1. Investigation of cases under the NIA act may be **conducted by officers of the rank of Deputy Superintendent or Assistant Commissioner of Police or above.**
2. The Bill **additionally empowers the officers of the NIA, of the rank of Inspector or above, to investigate cases.**
3. It is **headed by a Director-General, appointed by the Central Government.**

3. INTERNATIONAL RELATIONS

3.1   **TEJASWIN SHANKAR WINS INDIA'S 1ST EVER HIGH JUMP MEDAL IN COMMONWEALTH GAMES**

Why in News?

On 4th August 2022, Tejaswin Shankar won the 'Bronze medal in Men's High Jump'. It is India's 1st ever high jump medal in Commonwealth Games.

✍ What is Commonwealth of Nations ?

1. **Also known as the 'Commonwealth'** and it's a political organisation of **56 countries.**

2. **It's Headquarter is located in London.**

3. It was originally created as the **British Commonwealth of Nations** through the '**Balfour Declaration of 1926'**.

4. The current commonwealth of nations was formally started by the **London Declaration in 1949** with the theme "**free and equal**".

5. Majority of the countries in the organisation are **former territories of the British Empire.**

6. The chief institutions of the organisation are the two: 1) **Commonwealth Secretariat**, which focuses on **intergovernmental relations** between the member states 2) **Commonwealth Foundation**, which focuses on **non-governmental relations** among the member states.

7. Currently the **head of the organisation is Queen Elizabeth II.**

8. The 2018 commonwealth heads of government meeting appointed **Prince Charles to be the next head of the organisation.**

9. Member states have **no legal obligations to one another** but they are connected through their use of the English language and historical ties.

10. The '**Commonwealth Charter**' defines their shared values of democracy, human rights and the rule of law.

11. India became its member in 1947.

✍ About Commonwealth Games:

1. Also known as the '**Friendly Games'**.
2. Its a **multi-sport event which is held once in every 4 years** in which the countries of the commonwealth takes participation.
3. The event was **1st held in 1930** and with the exception of 1942 and 1946 (cancelled due to World War 2) it had occured after every 4 years.
4. Athletes with a **disability are included as full members** of their national teams since 2002, making the Commonwealth Games the 1st fully inclusive international sports event.
5. **2022 Commonwealth games are going on in Birmingham (Britain).**

3.2   FOREIGN VISIT OF THE STATE GOVT. MINISTERS

Why in News?

Recently, CM of Delhi was not given **permission to attend the World Cities Summit in Singapore.**

✎ What is the Issue?

1. The central govt. said that the trip to Singapore is **'not advisable'.**

2. In 2019, the Delhi CM proposed to visit Copenhagen for attending the **7th C-40 World Mayors Summit but** was rejected by the Ministry of External Affairs without providing any reason.

✎ Under which provisions the approval of central govt is required?

1. In 1982, the **cabinet secretariat issued guidelines regarding foreign travel of ministers of state governments and Union Territories.**
2. These guidelines says that foreign visits by members of the state governments in their official capacity will require **clearances from the Ministry of External Affairs (MEA), Ministry of Home Affairs, Finance Ministry and the Central Administrative Ministry.**
3. Another **order came in 2004** and it made changes which says that the **final orders were to be issued by the Finance Ministry.**
4. In **2010, another set of guidelines were issued that made political clearances mandatory** before private visit of ministers of state govts.

✎ On what Grounds has the Petition been Filed?

1. **Violates Right to Privacy:** Requiring permission for visiting abroad by state government ministers violates their right to privacy and dignity of their constitutional office.
2. **Beyond Jurisdiction of Governor's Office:** It argues that the **Governor** advising against the proposed Singapore visit is beyond the jurisdiction of his office.
3. **Violates Article 21:** The use of such powers by the Governor and Central Govt. is **against national interest and good governance. Right to travel Abroad is a fundamental right** guaranteed under Article 21 of the Constitution.

3.3   INDIA-ASEAN FOREIGN MINISTERS MEETING

Why in News?

In August 2022, Foreign Ministers of India and ASEAN (Association of South-East Asian Nations) meet in New Delhi.

1. **This year completed the 30 years of India-ASEAN relations.**
2. 2022 has been designated as **ASEAN-India friendship year**.

✎ About ASEAN:

1. It is a **regional grouping that works in areas like Economic, Political, and Security cooperation.**

2. It was **established in 1967 in Bangkok (Thailand)** with the signing of the **ASEAN Declaration (also known as Bangkok Declaration)** by the founding members of ASEAN namely **Indonesia, Malaysia, Philippines, Singapore and Thailand.**

3. Its **chairmanship rotates annually,** based on the alphabetical order of the English names of member states.

4. ASEAN countries have a total population of **650 million** people and a combined **Gross Domestic Product (GDP) of USD 2.8 trillion.**

5. It is **India's 4th largest trading partner** with about **USD 87 billion** of trade.

6. Currently **10 South East Asian Nations are its Members** and these are: **1) Brunei 2) Cambodia 3) Indonesia 4) Laos 5) Malaysia 6) Myanmar 7) Philippines 8) Singapore 9) Thailand 10) Vietnam**

How has Been the ASEAN-India Relations?

1. ASEAN is **considered 1 of the most influential grouping in Southeast Asia.**

2. India and several other countries, including the **US, China, Japan and Australia are its important partners.**

3. The **ASEAN-India dialogue relations (diplomatic ties) started with the establishment of a partnership in 1992.**

4. The relations further upgraded to **full dialogue partnership in 1995 and summit-level partnership in 2002.**

5. Traditionally, the basis of India-ASEAN ties **has been trade and people-to-people ties due to shared historical and cultural roots.**

6. A more recent and urgent **area of talks has been China's rise.**

7. Both **India and ASEAN aim to establish a 'Rule-based World'** for peaceful development and its against China's aggressive policies.

What are the areas of cooperation between India and ASEAN ?

1. **Economic Cooperation:**
   a) ASEAN is India's **4th largest trading partner.**
   b) India signed **FTA (Free Trade Agreement)** in **goods in 2009** and an **FTA in services and investments in 2014** with ASEAN.
   c) India has a **Comprehensive Economic Cooperation Agreement (CECA) with various countries** of the ASEAN region which has resulted in concessional trade(low tax and duties) and a rise in investments in India.

2. **Political Cooperation: ASEAN-India Centre (AIC)** was established **to undertake policy research** with organizations and think-tanks in India and ASEAN.

3. **Financial Assistance:** India provides **financial assistance to the ASEAN nations through various mechanism like ASEAN-India Cooperation Fund, ASEAN-India S&T Development Fund and ASEAN-India Green Fund.**

4. **Connectivity:** India has been doing several connectivity projects like **India-Myanmar-Thailand Trilateral (IMT) Highway and the Kaladan Multimodal Project (connects Kolkata to Mizoram through Myanmar).** India is also trying to **establish a maritime (water based) transportation agreement** with ASEAN and also Plans for a railway link between New Delhi in India to Hanoi in Vietnam.

5. **Socio-Cultural Cooperation:** Programmes to boost **people-to-people interaction with ASEAN are organized** such as inviting ASEAN students to India, Special Training Course for ASEAN diplomats, Exchange of Parliamentarians etc.

6. **Defence Cooperation:** Joint Naval and Military exercises are conducted between India and most ASEAN countries. Vietnam has traditionally been a close friend of India on defence issues, Singapore is also an equally important partner in Defence.

7. In 2022 only, **2ⁿᵈ ASEAN Digital Ministers (ADGMIN) meeting with India** was held, where two sides **finalized India-ASEAN Digital work plan 2022**.

.✒ **What is the Significance of ASEAN for India?**

1. India needs **a close diplomatic relationship with ASEAN nations** both for **economic and security reasons.**

2. Connectivity with the **ASEAN nations can allow India to increase its presence in the region.** These connectivity projects keep the **Northeast India** at the centre, ensuring the economic growth of the north eastern states.

3. Improved trade ties with the ASEAN nations will help in **countering the China's presence in the region and will lead to economic growth** and **development for India.**

4. **ASEAN is the advocate of the rules-based security architecture in the Indo-Pacific region** (it comprises the region of Indian Ocean, the Western and Central Pacific Ocean)**,** which is important for India since most of its trade is dependent on maritime security.

5. Collaboration with the ASEAN nations is necessary for **handling counter insurgency in the Northeast, combat terrorism, tax evasion etc.**

Way Forward

1. As China have 3 times more commercial flights than India to Southeast Asia, improving **air connectivity between India and ASEAN countries is the need of the hour.**

2. There is need to expand the concept of **QUAD (includes India, Japan, Australia and US)** to include **the ASEAN countries and become a QUAD+ arrangement. Vietnam and Indonesia** have expressed **a positive view on QUAD in the region.**

3. Tourism can be **encouraged between India and the ASEAN**.

3.4   IRAN NUCLEAR DEAL TALKS

Why in News?

In August 2022, fresh round of talks started between the US and Iran in Vienna (Austria) to restart the Iran's Nuclear Deal of 2015.

1. This nuclear deal is also known as the **Joint Comprehensive Plan of Action (JCPOA)**.

✎ **About Iran Nuclear Deal:**

1. This deal was signed in **2015** between the **Iran and 7 countries and these are: U.S, Russia, France, China, UK, Germany and the European Union (EU).**
2. Under this deal, **Iran gave a written guarantee of not using nuclear energy for making weapons.**
3. In return, **US and his ally countries agreed to remove trade and other sanctions(restrictions) over Iran.**
4. Iran also agreed to **allow inspectors from the International Atomic Energy Agency (IAEA)** to access its nuclear sites.

✎ **What are the issues that are coming in way of reviving the deal?**

1. Due to the **unilateral withdrawal** (taken decision alone) of the US from the JCPOA in 2018 and the **re-imposition of sanctions on the Iran** has **taken the relations between the 2 to the lowest level.**
2. After the cancellation of the deal, **Iran has increased its Uranium stock.**
3. **Israel**, which is 1 of the closest partner of USA **has strongly rejected the deal.**
4. **Saudi Arabia** (Iran's one of the greatest rival) **complained that they were not involved in the talks of the deal** even though Iran's nuclear programme **posed security risk for every country in the region.**

✎ **What is the significance of JCPOA for India?**

1. Removing sanctions may revive **India's interest in the Chabahar port** (located in Iran) and **other plans for regional connectivity.**
2. This will **further help India to counter the Chinese presence in Gwadar port (**Pakistan).
3. Apart from Chabahar, **India's vision of the International North-South Transit Corridor (INSTC)** which runs through Iran may also get a boost.
4. Due to the pressure **of the US, India has to bring down oil imports to almost O from Iran. So,** restoration of ties between the US and Iran will **help India in buying cheap Iranian oil.**

✎ **So, What is the Way Forward ?**

1. The **US need to take care not only of Iran's nuclear programme but also its increasingly hostile(bad) behaviour in the region.**
2. Us has to understand the reality of the **new world in which many new powers are emerging.**
3. **Iran needs to work on trust building.**

3.5   **ISRAEL-PALESTINE CONFLICT**

Why in News ?

Recently, After almost 3 days of continuous violence between Israel and Palestine, a ceasefire (temporary end to a fight) took place between both.

1. Earlier this year as well, tension increased up at **Jerusalem's al-Aqsa Mosque** between the **Palestinians and Israeli police.**
2. These clashes are the part of the ongoing **Israeli–Palestinian conflict.**

✍ What is Conflict between Israel and Palestine?

1. **Conflict Over Jerusalem:**
   a) **Jerusalem** has been at the **center of the Israeli-Palestinian conflict as both have claims over it.**
   b) As per the **original 1947 United Nations (UNs) 'Partition Plan', Jerusalem was proposed to be an international city and will be governed by international laws.**
   c) However, in the **1st Arab-Israel war of 1948**, the **Israel captured the western half of the Jerusalem city** and **Jordan took the eastern part**, including the old city that has **Haram al-Sharif (also known as 'Temple Mount' and it is a sacred site in Judaism, Islam and Christianity).**
   d) Israel captured **East Jerusalem from Jordan in the 6 Day War of 1967.**
   e) Since its annexation(capture), Israel has increased **settlements in East Jerusalem.**
   f) **Israel sees the whole city of Jerusalem as its 'capital'.**
   g) Whereas, the Palestine says that they will **not accept any compromise formula** for the future Palestinian state unless **East Jerusalem will be given to him.**
2. **Recent Developments:**
   a) **Al-Aqsa Mosque:** In **May 2021**, **Israeli armed forces attacked the Al-Aqsa Mosque** in the **Haram-al-Sharif in Jerusalem,** ahead of a march by the Jews community celebrating Israel's capture of the eastern half of the Jerusalem in 1967.
   b) **West Bank Settlement:** Israel's supreme court has rejected a petition **against the demolition of more than 1,000 houses of Palestinian people**. This judgment has opened the way for the **demolition of 8 small villages** and most of them belongs to Palestinian people.

✍ What is India's stand on the Israel-Palestine issue ?

1. India was **pro-Palestine (in favour)** for the first **4 decades after India's Independence.**
2. In the last almost **3 decades relation with Israel has gone to another level. But relation with Palestine is still good.**
3. In **2017**, in an unexpected move, **Indian PM visited only Israel** and not Palestine and it was the 1st visit to Israel by any Indian PM.
4. Then, the recent visit of the **PM to Palestine (2018), Oman and the UAE** is again a **continuation of the policy which gives importance to all the countries.**

| 3.6 | THE COMING BATTLE FOR TAIWAN |

Why in News ?

Recently, US leader Nancy Pelosi visited Taiwan and it has increased tensions in the entire world.

✍ Background of the Taiwan issue:

1. **Taiwan is a small island located on the east coast of China.**
2. After the **victory of the communists in mainland china in 1949**, **the Chinese republican leaders fled to Taiwan** and established republican government there.

3. People's Republic of China (PRC or China) says that "**there is only 1 China in the world" and "Taiwan is an inseparable part of China**".
4. However, **Taiwan sees itself as an independent nation** and its leaders have defended its sovereignty against the Chinese goal of capturing Taiwan.
5. Currently, **Taiwan is entirely dependent on the US for its defence** against possible Chinese aggression.

✎ Why does China want to reunify the country ?

1. To end the 2 centuries long **'humiliation' given by western powers.**
2. To **finish the civil war** that started nearly 100 years ago.
3. China believes that if it recovers Taiwan, then it will emerge **as a global power.**
4. **Taiwan** is both **economically and strategically important for China.**

✎ bout Chinese doctrine:

1. **First Act**: China has adopted **Deng Xiaoping's 'hide and bide' strategy** and **Hu Jintao's 'peaceful rise'**. Thus, it remained peaceful, until it was powerful enough to move to the next stage.

2. **Second Act: By 2010 China was powerful enough to challenge world powers.** Therefore, it started taking control of disputed territories by force, both land and sea.

   For Eg: China has changed the status of the territories like **Ryukyus, Spratlys, Paracels (all 3 are the islands in the south china sea), 9 Dash line in the south China sea and at the himalayan borders with Bhutan, Nepal and India.**

3. **Third act: Hong Kong was reunited in 2020**. China destroyed its limited autonomy under **"1 country,2 systems"**. Macao has already been taken. Thus, the **only remaining Chinese target is Taiwan.**
4. **The Fourth act**: It will take place after the China got complete control over Taiwan**. It will then challenge the US to become the world's dominant power.**

✎ What are issues China is facing to fulfil its goal of annexing Taiwan ?

1. **Internal Weakness of China:** China has been suffering from 1 century old civil war. People in Hong Kong are still protesting against the Chinese takeover.
2. **External resistance**: India's strong resistance has acted as barrier to the Chinese ambition in the Himalayas. Formation of groups like **QUAD** (includes India, Japan, Australia and the US) are acting as an headache for China.
3. **The danger of world war/Nuclear war:** UN chief has already warned that recent geopolitical events may cause nuclear war.

✎ India-Taiwan relations:

1. **India doesn't have formal diplomatic relations with Taiwan** but both sides have trade and people-to-people ties.

2. India has refused to accept **the "one-China" policy** since **2010.**

✎ **What India should do ?**

1. **Can take help from West: India** can take help of the western countries (like US) in tackling China.
2. **India can use Taiwan to challenge China**: Taiwan is not a major strategic concern for India but because it is the single most important factor that can consume China's energy and delay its ambition of becoming global power.
3. **Material and moral support**: Quad countries can provide material and moral support to Taiwan.

3.7   AIRSPACE VIOLATIONS NEAR LAC

Why in News ?

In August 2022, India and China held a special round of military talks on Air space Violations at the Chushul-Moldo border in Eastern Ladakh.

1. The talks were held on the issue of "**provocative behaviour**" by Chinese fighters flying close to the **Line of Actual Control (LAC)** and violating the 10-km no-fly zone rule.

✎ **What is Line of Actual Control (LAC)?**

1. It's a **imaginary line that separates Indian-controlled territory from the Chinese-controlled** territory.
2. LAC is different from the **Line of Control (LoC) with Pakistan**:
3. The **LoC was agreed in 1972** after the **Shimla Agreement between India and Pakistan. It is delineated(drawn) line on the map.**
4. The **LAC on the other hand is only a concept. It is not agreed upon by the 2 countries, neither delineated on a map nor demarcated(divided) on the ground.**
5. India consider the length of LAC to be **3,488 km** long, while the China consider it to be only around **2,000 km.**
6. **LAC is divided into 3 sectors and these are:**
    i)   **Eastern Sector**: It goes from Arunachal Pradesh to Sikkim (1346 km).
    ii)   **Middle Sector** : It goes from Uttarakhand to Himachal Pradesh (545 km)
    iii) **Western Sector:** It runs after Himachal Pradesh till Ladakh (1597 km).
7. The LAC in the eastern sector is as per the **McMahon Line (1914).**
8. The **McMohan line was drawn to separate the British India with Tibet.**
9. The **middle sector of the LAC is the least disputed sector, while the western sector witnesses the highest number of disputes between the 2 countries.**

✎ **Why do such aggressive incidents keep happening over the LAC?**

1. The biggest reason is that **LAC is not fully demarcated(divided)** and there are **differences in understanding** due to which such incidents keep happening.
2. To maintain peace and stability along the LAC, the 2 **sides are regularly holding talks at various levels.**
3. Since the aggression began in **eastern Ladakh in May 2020**, both sides have deployed air assets(like fighter jets) along the LAC and also increased air defence.

✍ What is the status of India-China recent conflicts?

1. In **June 2020, clash happened at Galwan Valley (located near Ladakh)** and it was fought with sticks not guns. It **was the 1ˢᵗ face to face violent incident between the 2 sides since 1975.**
2. The most recent conflict was in **January 2021**. It **took place along the border in India's Sikkim state**, which is **between Bhutan and Nepal.**
3. Recently, the Chinese are **complaining about the Indian Air Force (IAF) upgrading its capabilities to detect Chinese Air Force aircraft's operating within the territory** controlled by them in the Tibet region.
4. The 2 sides have **resolved the 3 disputed areas in the eastern Ladakh.**
5. Both the countries have **conducted almost 16 rounds of commander-level talks to de-escalate the situation** and tensions which began after the Chinese tried to change the boundry on the LAC in 2020.

✍ What are the agreements between the India-China on Air Space?

1. As per the existing agreements between India and China, **operation of fighter aircraft and armed helicopters are restricted to a certain distance from the LAC.**
2. According to the **'Agreement on Maintenance of Peace and Tranquillity along the LAC in India-China Border Area' of 1996, combat aircraft** (it includes fighter, bomber, military trainer, armed helicopter and other armed aircraft) **shall not fly within 10 km range of the LAC.**
3. **Between 1993 and 2012**, a set of **Confidence Building Measures (CBMs)** were agreed upon between India and China to **maintain peace between the 2 countries.**

✍ What are the Confidence Building Measures between India and China (CMB)?

1. **In a conflict situation,** neither side shall use force or threaten to use force **against the other.**

2. **Both sides** shall treat each other with dignity **and refrain from any provocative actions.**

3. **If the soldiers of the 2 sides came to a face-to-face situation due to differences in the understanding of LAC then they shall follow the agreed protocols and take all necessary steps to avoid an escalation of the situation.**

4. No military aircraft of either side shall fly across the LAC, **except by prior permission.**

5. **Neither side shall** open fire, use hazardous chemicals, **conduct blast operations or hunt with guns or explosives within 2 kilometres from the LAC.**

✍ About Air Space and related Laws:

1. **About:**
   i) Air space in international law, is the **space above a particular national territory of a country.**
   ii) It **does not include outer space,** which under the **Outer Space Treaty of 1967** is **declared free and does not belongs to any particular Nation.**
   iii) The treaty, however, **did not define the altitude at which outer space begins and air space ends.**

2. Air Sovereignty:

i) It is the **fundamental right of a country to regulate the use of its air space and enforce its own aviation laws.**

ii) Ever country controls the **entry of foreign aircraft into its territory** and that person within its territory are subject to its laws.

iii) The principle of **'Air Space Sovereignty'** was **established through the Paris Convention on the Regulation of Aerial Navigation (1919)**.

3. Prohibited Air Space:

i) **It refers to an area of air space within which flight of aircraft is not allowed, usually due to security concerns.**

3.8   UNIVERSAL POSTAL UNION (UPU)

✎ **About Universal Postal Union (UPU) ?**

1.It was **established in 1874** by the **Treaty of Bern (Switzerland).**

2. It is a **specialized agency of the United Nations (UN) that coordinates postal policies among member nations.**

3. It is **1 of the oldest surviving organisation of the world.**

4. UPU's **headquarter** is located in **Bern, Switzerland.**

5. The **UPU contains 4 bodies:**
   a) The Congress
   b) The Council of Administration (CA)
   c) The Postal Operations Council (POC)
   d) The International Bureau (IB).

6. It **also oversees the Telematics and Express Mail Service (EMS) .**

7. **Any member country of the United Nations may become a member of the UPU.**

8. Any non-member country of the United Nations may become a UPU member provided that its request is approved by at least **2/3 of the member countries of the UPU.**

9. It has a **total of 192 member countries.**

10. **India joined the UPU in 1876.**

3.9   INDIA TO HOST UNSC MEET ON COUNTER-TERRORISM

Why in News?

- **In October 2022, India will host officials from all 15 countries of** the United Nations Security Council **(UNSC), in Delhi and Mumbai.**

What is UNSC?

1. It is the **leading global body for** maintaining **international peace and security.**
2. It was **formed in 1946.**
3. UNSC is a **major crisis-management body**, empowered to **impose (apply) binding responsibilities on the 193 UN member states to maintain peace.**
4. The council has total 15 members, with **5 permanent and 10 elected members.**
5. **These members meet regularly** to **assess threats to international security,** including civil wars, natural disasters, arms production, and terrorism.
6. Structurally, the **council remains largely unchanged** since its formation which repeatedly **leads to debate about the need for reforms.**
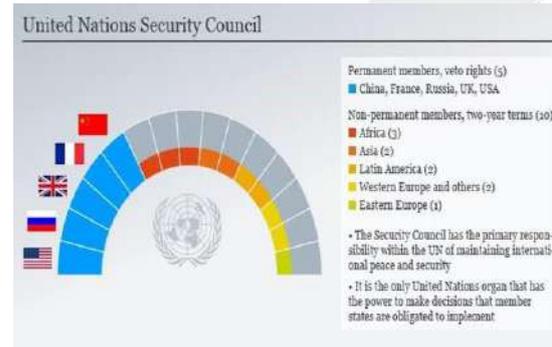
✎ **What will be the targets of this meeting?**

The meeting of the Counter-Terrorism Committee (CTC), which India is chairing for 2022 as a member of the UNSC, will focus particularly on challenges such as:

- **terrorism financing**
- **cyber threats**
- **use of drones etc.**

✎ **What India will possibly discuss in meeting?**

1) India is **expected to highlight cross-border threats from Pakistan and Afghanistan** at the meeting.
2) India, for a long time has been pushing for the **UN members to adopt a Comprehensive Convention on International Terrorism (first proposed in 1996),** which **can be raised again** during the meeting.
- The event **will show India's role as a victim of terrorism as well as a** country that is fighting to counter terrorism through its efforts.
- **significant areas of focus are expected to be:**
   ▪ **The Internet and social media**
   ▪ **Terrorism financing, and**
   ▪ **Unmanned aerial systems.**

3.10 INDIA AND CHINA HOLD DIALOGUE ON AIRSPACE VIOLATION NEAR LAC:

- **Why in News?**
- India and China discussed ways to improve the management of **airspace and avoid airspace violations along the Line of Actual Control (LAC).**

What is LAC?

1) It is the **natural demarcation line** that **separates Indian territory from Chinese territory.**

2) In 1959, It was first **introduced by Chinese officials in a letter to Jawahar Lal Nehru but rejected due to incoherency.**

3) **In 1962, after the Sino-India war it was agreed upon by both countries and understood by dividing it into 3 parts.**
   - **Western:** In this region, Ladakh remains on the Indian side whereas Tibet & Xinjiang provinces are on the Chinese side.
   - **Middle:** This part of LAC separates Uttarakhand & Himachal Pradesh on the Indian side from Tibet on the Chinese side.
   - **Eastern:** Here, Arunachal Pradesh remains on the Indian side and Tibet on the Chines side. This part of the line is often termed as the MacMohan line.

4) **The term "line of actual control" originally (1962) referred only to the boundary in the western sector, but during the 1990s came to refer to the entire de facto (operational in real) border.**
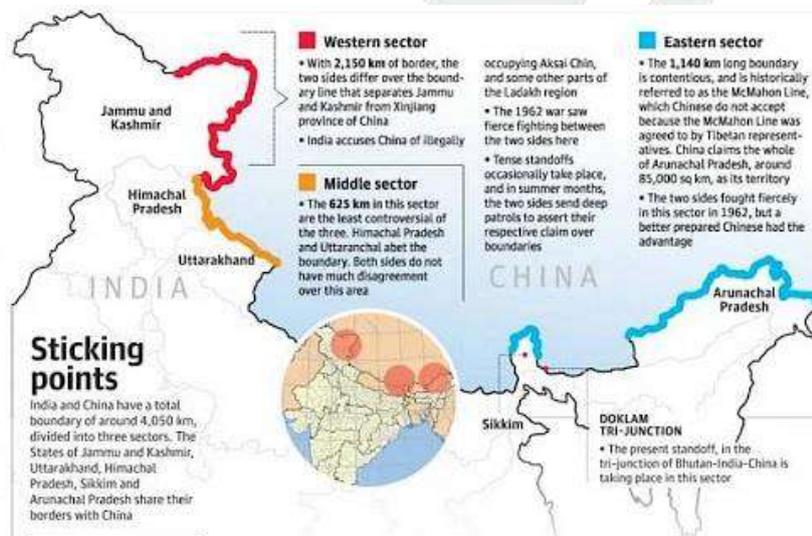
✍ What is the India-China Conflict along LAC?

- The **LAC is mostly in line with what China claims**, **but in the eastern** sector, the whole of **Arunachal Pradesh is claimed as part of China,** Which India does not agree upon.

- During the visit by the Indian Prime Minister to China in May 2015, the **Chinese rejected the request to explain the LAC**.

- The **recent clashes since May 2020** at **Galwan Valley, Pangongso Lake**, and other points across LAC have **killed many soldiers** of both countries. Since then the **tension along LAC has increased** tremendously.
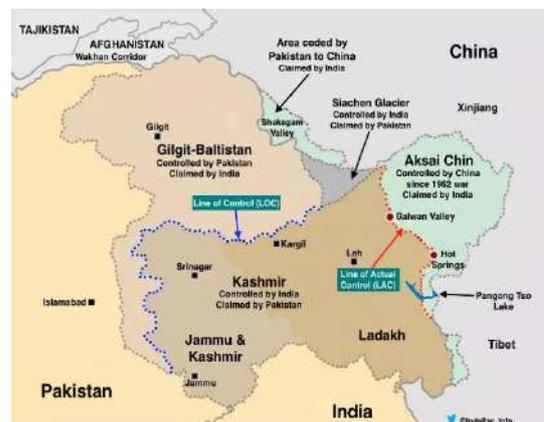
✍ How is LAC different from LOC (Line Of Control)?

- **LOC has emerged from the 1948 ceasefire (after Kashmir war)** and it was also **signed by the United Nations (UN).**

- **In 1972,** following the **Shimla Agreement** between the two countries, it was **named as the LOC**.

- It was **outlined on a map signed by both armies' Director-General of Military Operations (DGMO).**

- The **LAC**, on the other hand, is **just a concept**-the two **nations do not agree on it.**

3.11   TRANS-HIMALAYAN MULTI-DIMENSIONAL CONNECTIVITY NETWORK

Why in News?

In **August 2022**, China and Nepal agreed to construct "Trans-Himalayan Multi-Dimensional Connectivity Network" (THMCN).

- China will **also give a grant assistance of USD 118 million to Nepal, to undertake several projects in 2022.**

✍ Key Highlights of the China-Nepal agreement:

1. **Experts from China will visit to Nepal** for surveys in 2022.
2. Under the agreement, **China will give the financial support for the research and studies related to China-Nepal cross-border railway.**
3. **Trans-Himalayan   Multi-Dimensional Connectivity network** will be constructed **under Belt & Road Initiative (BRI) of China**.
   - BRI is a **global infrastructure development strategy** of Chinese government adopted in 2013 **to invest in nearly 150 countries and international organizations.**
4. Under the Trans-Himalayan network **railways and communication networks will be constructed**.
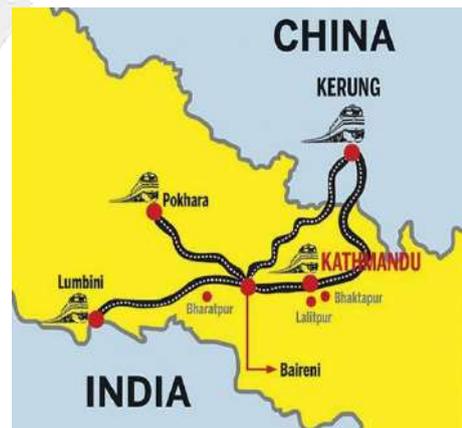
✍ About Trans-Himalayan Multi-Dimensional Connectivity Network:

1. The network is **also** called as **"Trans-Himalayan network" (THN).**
2. It is an **economic corridor between Nepal and China.**
3. The construction of this network was appreciated, as it **will change the status of Nepal "from a landlocked to a land-linked country".**
4. The network **consists of multiple transportation infrastructure projects**, one such project being "**China–Nepal railway".**
5. **China-Nepal railway project** is at the stage of research and surveys.
6. There will be construction of a **tunnel road for fast and better connectivity.**
7. **Araniko Highway will be upgraded under THN.**
   - This highway was **closed down after the Gorkha earthquake**. It **ends at border of Kodari village and Chinese border crossing of Zhangmu.**
8. THN will also cover **the renovation of border port.**

9. The network **also involves internal improvements to Nepalese transport infrastructure like**
   - **Koshi** Economic Corridor
   - **Karnali** Economic Corridor
   - **Gandaki** Economic Corridor

3.12   CHINESE VESSEL AT SRI LANKAN PORT

Why in News?

In August 2022, **despite expressing of concerns by India over military ship's visit,** China's **satellite tracking vessel Yuan Wang 5** has **arrived at Sri Lanka's southern Hambantota Port**.

✎ **What do we know about Yuan Wang 5?**

1. It is a **3ʳᵈ generation vessel of Yuan Wang series** who entered service in 2007.
2. This series of ships include "**space tracking ships" and are involved in supporting the manned space programme**".
3. It has the **ability to trace satellites and intercontinental missiles.**

✎ **About Hambantota Port?**

1. **Hambantota International Port Group** is a **Public Private Partnership** and a **Planned Development Project** between the **Government of Sri Lanka** and **China.**
2. This port was **given to China by Sri Lanka on a 99-year lease after Sri Lanka failed to repay Chinese loans.**
3. It is **seen as a case of Chinese "debt trap" Diplomacy.**

✎ **About China's Presence in Sri Lanka:**

1. **China's presence in Sri Lanka has increased on a large scale in recent years.**
2. China is the **largest financial creditor to Sri Lanka.**
3. **Almost 15% of the central government's external debt of Sri-Lanka comes from Chinese Loans.**
4. Sri Lanka **heavily depends on the Chinese loans to handle** its **foreign debt burden.**
5. **China gave** about **USD 2.8 billion to Sri Lanka after the pandemic hit but** has not helped in 2022, when the **island's economy collapsed** very fast.
6. China **did huge investment** of about USD 12 billion in **Sri Lanka's infrastructure projects between 2006-19.**
7. **China enjoys friendlier waters in South Asia** (of which Sri Lanka is a part) and the **Indian Ocean** as **compared to** that in **Southeast Asia and the Pacific.**

✎ **India's Concern due to China's Presence:**

1. Sri Lanka has **decided to establish a Special Economic Zone (SEZ)** around the **Colombo port city** and a **new economic commission**, that will be **funded by China.**
2. The **Colombo port handles 60% of India's trans-shipment cargo.**

3. **Leasing of Hambantota** and the **Colombo Port City project to China** makes it easy for the Chinese navy to **have a permanent presence in the Indian Ocean**, which is a **cause of concern for India's national security.**

4. It is **considered as a part** of **Chinese strategy to encircle** India and it is known as the **Strings of Pearls Strategy.**

5. Other **South Asian nations** like **Bangladesh, Nepal and the Maldives** have also **been moving to China to finance large-scale infrastructure projects.**

✍ What should be India's Approach Moving Forward?

1. **India should** promote the **Neighbourhood First policy** with Sri Lanka which is **important for India to preserve its planned interests in** the **Indian Ocean region.**

2. Platforms like the **BIMSTEC, SAARC**, and the **IORA** could be used to have cooperation in fields like **technology, agriculture**, **marine sector development**, IT **& communication infrastructure etc.**

3. India **needs to continue to work on** the **Kankesanturai port in Jaffna (in Sri Lanka)** and the **oil tank farm project** in **Trincomalee to ensure that China does not make any further inroads in Sri Lanka.**

4. **Both countries** can also **cooperate on enhancing private sector investments** to **create economic flexibility.**

5. In the **technology sector**, **India can create job opportunities in Sri Lanka** by **expanding the presence of its IT companies.**

6. These **organizations can create thousands of direct and indirect jobs** and boost **service economy of Sri-Lanka.**

4. INTERNATIONAL RELATIONS

4.1   MOTHER'S RIGHT TO DECIDE THE SURNAME OF A CHILD

Why in News?

In July 2022, **Supreme Court** ruled that the mother, who is the only natural guardian of the child, after the death of the biological father (husband), has the **right to decide the surname of the child.**

✎ What did the SC Rule?

1) Surname, not only talks about **lineage (family line)** but more importantly who is there with the child in a real social environment.

2) 2)The SC also said that the mother, also has the **right to give up the child in adoption.**

✎ The Laws Related to Guardianship in India?

1) Hindu Minority and Guardianship Act (HMGA) 1956:

It gives superiority to the father, in case of guardianship **of a minor** (below the age of 18 years). Whereas, the **custody (care) of a minor,** who has **not completed the age of 5** years shall ordinarily **be with the mother."**

2) Guardian and Wards Act of 1890 (GWA):

- It deals with the **appointment of a person as a 'guardian' to a child,** both **with respect to the child and property.**
- **guardianship and custody can be vested with one parent with visitation rights to the other parent.**
- In doing so, the welfare of the minor or **"best interests of the child" shall be of paramount consideration.**

3) Muslim Personal Law (Shariat) Application Act, 1937:

- o It says, the **father is the natural guardian,** but **custody vests with the mother until the son reaches the age of 7** and the **daughter reaches puberty** though the **father's right to general supervision exists.**

- o The **concept of Hizanat in Muslim law** states that the welfare of the child is above all else.

- o This is the reason why Muslim law **gives preference to the mother over the father in the matter of custody** of children in their tender years.

4) Supreme Court Judgements related to guardianship rights:

The **Supreme Court's landmark judgment in Githa Hariharan v. The Reserve Bank of India** in 1999 **provided partial relief.** In this case, the HMGA was challenged for violating the guarantee of ''equality of sexes'' under **Article 14** of the Constitution of India.

[**Article 14** says that **no person shall be denied treatment of equality before the law** or the **equal protection of the laws** within the territory of India.]

- However, the judgment failed to recognize both parents as equal guardians. **SC said that the mother's role is not subordinate to that of the father.** Though the **judgment sets an example** for courts, it has **not led to an amendment to the HMGA.**

5) Governments stand on the guardianship:

The **Law Commission of India** in its 257th report on **"Reforms in Guardianship and Custody Laws in India" in May 2015 recommended** that the **"superiority of one parent over the other should be removed".**

Way Forward

1) A **child-centric human rights law should be on based on** the principle that public good demands **proper growth of the child**, who is the **future of the nation.**
2) **Joint parenting with equal rights can be a** balanced solution for the child's best growth.
3) **Both** the **mother and the father** should be **regarded,** simultaneously, **as the natural guardians of a minor.**
4) The **HMGA should be amended to "constitute both the father and the mother as being natural guardians**.

4.2　　UNDERTRIALS (WHO ARE NOT FOUND GUILTY YET BUT IN POLICE CUSTODY)

Why in News?

In August 2022, Supreme Court **(SC) asked to release the undertrials** and **those who have done minor offences**, **so** that they can **celebrate the 75th year of Independence.**

What are Undertrials and why it is becoming an issue?

1. A person **who is arrested for some crime** and is **waiting to appear before the magistrate** (a government official dealing with administration of laws).
2. **According to National Crime Record Bureau (NCRB), 76% of prisoners** in Indian jails **are under-trials.**
3. The **basic rights of a person** (undertrial) **get harmed** as there is **possibility** that **he/she is innocent** but **due to delay** in trials they **have to spend time in police custody.**

HIGHEST SHARE OF UNDERTRIALS IN JAIL

States/UTs	Number	Share
Delhi	14,506	91%
J&K	3,717	91%
Bihar	44,187	85%
Punjab	15,643	85%
Odisha	15,619	83%
All India	3,71,848	76%

4.3　　SOURCE: THE INDIAN EXPRESS

✍ **Reasons for a high number of undertrials:**

1. **Delay in the justice** system.
2. **Shortages of court staff** and judges.
3. **Bail system is not** efficient and **regular.**
4. **Poor legal representation** (to get Government lawyer of legal help etc.)

 Initiative for Undertrials in India:

1. Setting up of **several Fast-Track Courts** so that **cases can be solved speedily.**
2. **Modernization of Prison scheme.**
3. **IPC and CrPC laws** have been **revised and reviewed for less confusion.**
4. **Similar type of small offences is merged together** so that they can be **solved fast with better efficiency.**

4.4   WORLD TRIBAL DAY

Why in News?

9th August is celebrated as the International Day of the World's Indigenous (tribal) Peoples.

Aim:

1. To **highlight the role of indigenous people in maintenance of the environment and habitat they live in.**
2. The Tribal day **also highlight the importance of conserving their rights.**
3. It tells about the contribution of communities to world through the knowledge they gathered and passed to coming centuries.

 Theme of the Tribal Day:

"The Role of Indigenous Women in the Preservation and Transmission of Traditional Knowledge."
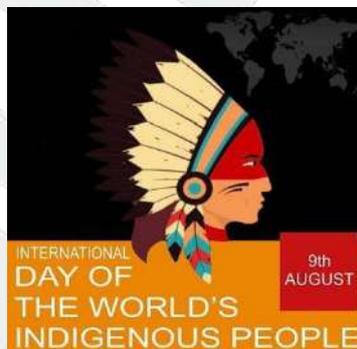
 History of Tribal Day:

1. In **1994**, the **UNGA, declared August 9 as the International Day of the World's Indigenous People through a resolution**, as it was
2. **Significance of 9th August** is that on this day the **1st meeting of UN Working Group on Indigenous Populations was held.**

 Significance of Tribal Day:

1. Through various **events and awareness world can take benefits of** the **knowledge** acquired by indigenous people.
2. The day will **increase the understanding and preservation of indigenous languages**, their **spiritual practices**, and **philosophies.**
3. The tribal preservation will **help in the upliftment of Tribals without compromising their identity.**

✎ Status of Tribes in India:

5. Tribal Population of India is **8.6%** (i.e., 11 crore) **of the total population.**
6. India is **home to the 2nd largest number of tribal people in any country in the world.**
7. India has currently **705 officially recognised tribes.**
8. In India **89.97%** of the tribals **live in rural areas** and **10.03% in urban areas.**

✎ Constitution and Tribes:

1. Constitution of India **does not define the term 'tribe',**
2. The **term Scheduled Tribe was added** in the Constitution **through Article 342.**

[Article 342 of the constitution of India tells, which communities would come under Scheduled tribes in any state and Union Territory.]

✎ How does India describe its tribes?

1. **Scheduled tribes** are **indigenous people officially regarded as socially disadvantage.**
2. According to **Lokur Committee (1965), the essential characteristics to be recognized by Scheduled Tribe are:**
   - **Indication of primitive traits** (unique features)
   - **Different Culture**
   - **Shyness of Contact with the Community at Large** (Isolation from people of outer society)
   - **Geographical Isolation** (Isolation from resources and weather of other places)
   - **Backwardness** (Lack of development as compared to other society)

3. **In accordance with The Scheduled Castes and Scheduled Tribes Orders (Amendment) Act, 1976 which came after the inclusion of article 342 india had following tribes:**

   - Andamanese, Chariar, Chari, Kora, Tabo, Bo, Yere, Kede, Bea, Balawa, Bojigiyab, Juwai, Kol.
   - Jarawas.
   - Nicobarese.
   - Onges.
   - Sentinelese.
   - Shom Pens.

4.5   YOUTH EMPLOYMENT DETERIORATED IN INDIA: ILO REPORT

Why in News?

According to the **Global Employment Trends for Youth 2022 released by** the International Labour Organization **(ILO), Indian youth employment declined in 2021 compared to 2020.**

- The report says that the **recovery in youth employment is still very low globally**, confirming that COVID-19 has affected young people more than any other age group.

✎ About ILO:

- Established as **an agency for the League of Nations following World War I.**
- Established by **the Treaty of Versailles in 1919.**
- It became **the first specialised agency of the United Nations (UN) in the year 1946.**
- It got **the Nobel Peace Prize in 1969.**
- It is **the only tripartite U.N. agency.** It brings together governments, employers and workers.
- **Headquarters:** Geneva, Switzerland.

✎ **Key Terms used in the report:**

1. **Unemployment Rate:** It's a **percentage of unemployed persons in the total labour force.**
2. **Labour Force:** It's the **total number of persons either employed** or **unemployed in a week** just **before the date of the survey.**
3. **Current Weekly Status (CWS) Approach:** Under it, a person is considered **unemployed if he/she did not work even for 1 hour on any day during the week but was available for work at least for 1 hour on any day during the week.**
4. **Worker Population Ratio (WPR):** WPR is defined as the **percentage of employed persons out of the total population.**

✎ **Types of Unemployment:**

1. **Disguised Unemployment:** It is a situation where **more people are employed than actually needed to do a particular work.** It is mostly found in agriculture.
2. **Seasonal Unemployment:** It occurs **during certain seasons** of the year, like agricultural labourers in India rarely get work throughout the year.
3. **Structural Unemployment:** It occur because of **mismatch between the jobs available in the market and the skills** of the available workers in the market.
4. **Cyclical Unemployment:** It is a **result of the business cycle**, where **unemployment** rises during **recession (**it is a period of weak or negative growth in GDP) **and declines with the increase of economic growth.**
5. **Technological Unemployment:** It's a kind of unemployment which occurs because of **change in technology.** In 2016, World Bank data predicted that the proportion of jobs that are in danger because of automation in India is **70%.**
6. **Frictional Unemployment**: It's also known as **search unemployment.** It is the **time gap between the 2 Jobs of an Individual** that is, the day when he leaved his last job and the day on which he is starting the new job.
   It is often considered **voluntary unemployment** because it is not caused due to the shortage of jobs but in fact, the worker himself quit his job in search of better opportunities.
7. **Vulnerable Employment**: This happens when people working informally, **without proper job contracts and thus don't have any legal protection.** These persons are considered 'unemployed' because records of their work are not maintained.

✎ **Key Findings of the report:**

1. **Role of Pandemic:** Pandemic has **degraded the already suffering labour market** by giving rise to **new challenges like lack of demand for labour** due to closing of manufacturing units.

2. **Young people are affected more than adults:** Youngsters in this age group 15 to 35 years have experienced a **much higher employment loss** in than adults since early 2020.

3. The **total number of unemployed youths** globally is estimated to reach **73 million in 2022.**

✎ **What does report say on India:**

1. **Surveys conducted by the Centre for Monitoring the Indian Economy (CMIE):** The youth employment **participation rate declined by 0.9% more in first 9 months of 2021** as **compared to 2020.** The situation is

2. **Quality education and training opportunities:** Report has suggested that the Countries should **create decent jobs, especially in green, blue and digital economies, so that they can go towards greater sustainability and inclusiveness.**

3. **Unequal access to online education:** School **closures lasted 18 months** and from the **24-crore school-going children**, **only 8% are** in rural areas and **23% in urban areas had adequate access to online education.**

4. **Learning regression**: Report said that the **closures of schools not only prevented new learning but also led to the phenomenon of "learning regression",**
   ▪ [Learning regression is process of children forgetting what they had learned earlier.]

5. **Role of MGNREGA: MGNREGA was highlighted in the report as it has played an important role in providing paid employmen**t, **particularly for women** and also **adding for good into environment** through various **green projects work** etc.

6. **Low youth female market participation:** According to report India has a low youth female labour market participation and young women experienced comparatively larger **employment losses than young men in 2021 and 2022.**

7. **High youth employment losses:** The employment losses are highest in India and it is more than the global average job loss among youth,

8. **Private school teachers less paid:** The study says that **teachers in non-state schools are usually paid much less than those in state schools.**

9. **Highly informal domestic work:** Report highlighted that the domestic **work is a highly informal in India** leading to **extremely low wages.**

10. **Young women and girls are vulnerable to abuse: Due to informal nature of work young women and girls deals with different kind of abuse.**

11. **Abuse reports:** Reports of **abuse suffered by young domestic workers** including **verbal and physical abuse**, and sexual exploitation **are common**.

✎ **Various reports by ILO:**

1. **Global Wage Report**
2. **World Social Protection Report**
3. **World of work Report**
4. **World Employment and social outlook report**

4.6   **GOVERNMENT IS GOING TO COUNT PEOPLE WHO CLEAN SEWERS**

Why in News?

In August 2022, the **Ministry of Social Justice and Empowerment (MoSJ&E) is** preparing to count **all people engaged in hazardous cleaning of sewers and septic tanks across country.**

- **Sewer cleaning is an activity that has led to at least 351 deaths since 2017.**

✎ **More about the News:**

1. Ministry said that the **counting exercise will be conducted across 500 AMRUT (Atal Mission for Rejuvenation and Urban Transformation) cities.**
   - The AMRUT is a central government scheme to **provide basic facilities to the urban areas to improve the quality of life with especial focus on the poor and the disadvantaged**.
2. The exercise will be **a part of the National Action Plan for Mechanized Sanitation Ecosystem (NAMASTE) of government of india.**

✎ **About National Action Plan for Mechanized Sanitation Ecosystem (NAMASTE):**

1. It will **update the process of rehabilitating sanitation** workers to improve their lifestyle.
2. NAMASTE **will replace the Self-Employment Scheme for the Rehabilitation of Manual Scavengers (SRMS), which was started in 2007.**
3. Major Idea of NAMASTE is to **link these sanitation workers** to the **Swachh Udyami Yojana,** through **which the workers will be able to buy sanitation machines and can shift their work.**
4. It is a **joint venture between 3 departments:**
   - **The Department of Drinking Water and Sanitation.**
   - **The Ministry of Social Justice and Empowerment.**
   - **The Ministry of Housing and Urban Affairs**.
5. The **main objective of the scheme is to ensure:**
   - **Zero death because** of the **sanitation work** in India.
   - **No sanitation workers** should come in direct contact with human waste matter.
   - All **Sewer and Septic tank sanitation workers have access to livelihoods other than work of sewer cleaning.**

✎ **Other benefits:**

1. Scheme will provide Capital subsidies of up to **₹5 lakh on sanitation machinery, and interest subsidies on loans, for the beneficiaries**.
2. The scheme will **give training to workers to use these machines, during which time a stipend of up to ₹3,000 per month will be provided**.
3. The scheme will give the **list of alternative occupations in sectors like agriculture, services, electronics assembling, handicrafts so that the sanitation workers can shift their occupation to better one.**

4.7   **SAKSHAM ANGANWADI AND POSHAN 2.0**

Why in News?

On 3rd August 2022, **Ministry of Women and Child Development** has issued guidelines regarding the implementation of **Saksham Anganwadi and Poshan 2.0 Programme.**

✎ **What is Anganwadi ?**

1. Its a type of **rural child care centre** in India.
2. They were started by the Indian government in **1975** as part of the **Integrated Child Development Services program**. This program was started to **solve the issue of child hunger and malnutrition in India.**

✎ **What is Saksham Anganwadi and Poshan 2.0 ?**

1. In the year **2021-22**, the Govt of India (GoI) merged **the Integrated Child Development Services (ICDS) programme and** POSHAN abhiyaan to form Saksham Anganwadi and POSHAN 2.0.
2. This scheme consists of the following **sub-schemes: 1) ICDS 2) POSHAN Abhiyaan 3) Scheme for Adolescent Girls (SAG) 4) National Creche Scheme (entertainment places for children's having working parents).**
3. Its a **centrally sponsored programme (funds will be contributed by both central and state govts)** which will be **implemented by state governments**.

✎ **What are the recent guidelines issued under the scheme ?**

1. The scheme is **open to all the beneficiaries of the previous schemes** and the only pre-condition is that the **beneficiary has to be registered at the nearest anganwadi centre** with aadhaar identification.
2. The beneficiaries for the scheme will be **adolescent girls in the age group of 14-18 years** who will be identified by the states.
3. **AYUSH** (Ayurveda, Yoga, Unani, Siddha, Homeopathy) **Ministry** will promote the campaign of **'Yoga at Home, Yoga with Family'** .
4. The **Ministry of AYUSH** will provide **technical support for the scheme implementation.**
5. Efforts should be made for the **100% measurement of the child's health data**.
6. It **promotes the use of jaggery and the** food items that gives high energy.

✎ **Vision of the Programme:**

1. It will try to handle the issue of **malnutrition (who lacks nutrition) among the children's up to the age of 6 years, adolescent girls (14-18 years) and pregnant and lactating women's.**
2. Its a important scheme for **India's development as women and children comprise over 2/3 of India's population.**
3. The achievement of the **Sustainable Development Goals** (SDGs) will depend on this programme in a big way as these issues are a crucial part of SDGs. **SDG 2 is on Zero Hunger and SDG 4 is on Quality Education.**
4. The mission will focus on the **importance of nutrition and early childhood care and education** for the well-being, growth and development of children's into healthy and productive adults.

✍ **Objectives of the Programme:**

1. To prepare a **comprehensive (overall) strategy to handle the challenge of malnutrition and to implement the 'Supplementary Nutrition Programme' under Anganwadi Services.**
2. Scheme for adolescent girls and Poshan Abhiyaan have been merged under **Poshan 2.0 to make it a 'Complete Nutrition Support Programme'.**

✍ **The objectives of Poshan 2.0 are as follows :**

1. To increase the **human capital development** of the country. Human capital are the skills, knowledge and experience in an individual or a population.
2. To handle challenge of Malnutrition.
3. Promote **nutrition awareness and good eating habits** for good health and wellbeing.
4. AYUSH programmes can be integrated under Poshan 2.0 for overall wellness and nourishment.

Way Forward

1. **About 70% of the deaths of children's under the age of 5 in India happens just because of malnutrition in child or his mother,** so this programme is right decision.
2. India should **handle the issue of malnutrition as a whole**, instead of handling 1 disease at a time.
3. **Benefits of this programme will depend on its proper implementation.**

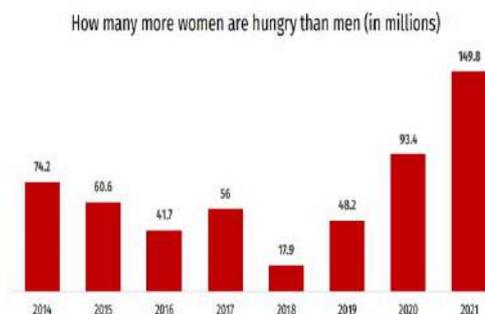| 4.8 | **FOOD SECURITY AND GENDER EQUALITY: CARE** |

Why in News?

On 5th August 2022, a report was released named **"Food Security and Gender Equality: A synergistic understudied symphony"**, which highlighted **a global link between Gender Inequality and Food Insecurity.**

1. The report was released by **CARE** (it's an international humanitarian organisation) which works for **global poverty and hunger**.

How many more women are hungry than men (in millions)

74.2 60.6 41.7 56 17.9 48.2 93.4 149.8
2014 2015 2016 2017 2018 2019 2020 2021

✎ **What are the findings of the report ?**

1. **Growing gender gap in food security:**
   a) The gap between men and women's **food security is growing worldwide.**
   b) As many as **828 million** people were affected by hunger in **2021.**
   c) **Across 109 countries**, as gender inequality increases, **food security goes down.**
   d) Between **2018 and 2021**, the number of hungry women as compare to hungry men **grew by almost 8.5 times.**

2. **Women bear bigger burdens:**
   a) Even when both men and women are food insecure, **women often face bigger burdens**. In this situation, **men are found eating smaller meals and women are found skipping meals**.
   b) In **Lebanon,** at the beginning of the **Covid-19 pandemic**, **85%** of women were found eating smaller meals, compared to only **57 %** of men.

3. **Employed women experienced less food insecurity:**
   a) When women are employed and earning money or when they are directly involved in farming, **they are less likely to experience food insecurity.**

4. **Women are more likely to live in poverty:**
   a) Women are more likely than men to live in extreme poverty because their work is either **underpaid or not paid at all.**

✎ **What are the recommendations in the report?**

1. It is the right time for the world to **understand the link between food security and gender inequality.**
2. Achievement of all the **Sustainable Development Goals (SDGs)** depends upon the achievement of **Goal 5 which says "Achieve gender equality and empower all women and girls by 2030".**

4.9   INDIA'S UNIQUE JOB CRISIS

Why in News?

As per a recent study, there is a reduction **in the number of people employed in agriculture.** Those moving out of agriculture are **working more in construction sites, factories etc.**

Key Terms:

1. **Unemployment Rate:** It's a **percentage of unemployed persons in the total labour force.**
2. **Labour Force:** It's the total number of persons either employed or unemployed in a week just before the date of the survey.
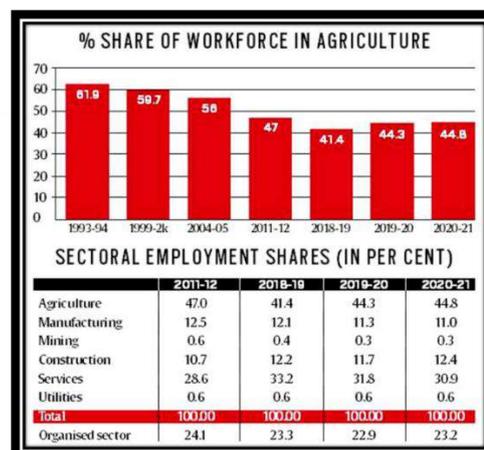
3. **Current Weekly Status (CWS) Approach:** Under it, a person is considered **unemployed if he/she did not work even for 1 hour on any day during the week but was available for work atleast for 1 hour on any day during the week.**

4. **Worker Population Ratio (WPR):** WPR is defined as the **percentage of employed persons out of the total population.**

✎ **Types of Unemployment:**

1. **Disguised Unemployment:** It is a situation where **more people are employed than actually needed to do a particular work.** It is mostly found in agriculture.

2. **Seasonal Unemployment:** It occurs **during certain seasons** of the year, like agricultural labourers in India rarely get work throughout the year.

3. **Structural Unemployment:** It occur because of **mismatch between the jobs available in the market and the skills** of the available workers in the market.

4. **Cyclical Unemployment:** It is a **result of the business cycle**, where **unemployment** rises during **recession (** it's a period of weak or negative growth in GDP) **and declines with the increase of economic growth.**

5. **Technological Unemployment:** It's a kind of unemployment which occurs because of **change in technology.** In 2016, World Bank data predicted that the proportion of jobs that are in danger because of automation in India is **70%** .

6. **Frictional Unemployment**: It's also known as **search unemployment.** It is the **time gap between the 2 Jobs of an Individual** that is, the day when he leaved his last job and the day on which he is starting the new job.

7. It is often considered **voluntary unemployment** because it is not caused due to the shortage of jobs but in fact, the worker himself quit his job in search of better opportunities.

8. **Vulnerable Employment**: This happens when people working informally, **without proper job contracts and thus don't have any legal protection.** These persons are considered 'unemployed' because records of their work are not maintained.

✎ **How much Employment does the Agriculture Sector provide?**

1. In **1993-94,** agriculture accounted for close to **62% of the India's employed labour force.**

2. The labour percentage in agriculture dropped almost **6% points by 2004-05 as compare to 1993-94** and almost **9% points between 2004-05 and 2012-13.**

3. Between 1993-94 and 2018-19, agriculture share in India's workforce **came down from 62% to 41.5%.**

% SHARE OF WORKFORCE IN AGRICULTURE

Year	Value
1993-94	61.9
1999-2k	59.7
2004-05	56
2011-12	47
2018-19	41.4
2019-20	44.3
2020-21	44.8

SECTORAL EMPLOYMENT SHARES (IN PER CENT)

	2011-12	2018-19	2019-20	2020-21
Agriculture	47.0	41.4	44.3	44.8
Manufacturing	12.5	12.1	11.3	11.0
Mining	0.6	0.4	0.3	0.3
Construction	10.7	12.2	11.7	12.4
Services	28.6	33.2	31.8	30.9
Utilities	0.6	0.6	0.6	0.6
Total	100.00	100.00	100.00	100.00
Organised sector	24.1	23.3	22.9	23.2

✍ India's Employment Trends:

1. **Agriculture:** There has been a **reverse trend** in agriculture in the last 2 years. The percentage of people employed in agriculture **rise from 44% to 45% in 2020-21.** Primary reason for this change is **Covid 19 pandemic as it has disrupted other economic activities.**

2. Even the movement of workforce from agriculture that India has seen over the past 3 decades or more **does not qualify as what economists call "structural transformation".**

3. **Structural transformation** would involve the **transfer of labour from farming to sectors** such as **manufacturing and services** – where productivity, value-addition and average incomes are higher.

4. However, the share of manufacturing (and mining) in total employment **has actually fallen.**

5. The surplus labour coming out of the agriculture **is largely absorbed by the construction and services.**

6. The service sector **includes well-paying industries** such as **Information Technology (IT)**, **Business Process Outsourcing (BPOs), Telecommunications, Finance, Healthcare**, **Education** and **Public administration.**

✍ How is the Information Technology sector emerging as a Job Provider ?

1. Between **2020-22**, the **combined employees population** at India's **top 5 IT companies (Tata Consultancy Services, Infosys, Wipro, HCL Technologies and Tech Mahindra)** has gone **up from 11.5 lakh to 15.6 lakh.**

2. That's a jump of **4.14 lakh or nearly 36% in the period post the pandemic**, when most other sectors **were decreasing jobs and reducing salaries.**

3. These 5 companies if put together have more employees than the **Indian Railways** and the 3 **defence services of India.**

4. Much of the IT sector recent success is because of increase in **Exports as they have increased** due to **Covid's increased demand for digitisation**.

5. **India's net exports of software services** have increased from $85 billion in 2019-20 to $110 billion in 2021-22.

✍ So, What could be done to reduce the Unemployment ?

1. Schemes for **increasing the skills of workforce involved in the agriculture** sector should be prioritized by the government.

2. It will provide the **dual benefits** as on one side it will increase the knowledge for efficient farming and on the other hand in case the labour wants to change his career, they can look for other superior areas of employment.

3. Promoting the **labour-intensive manufacturing sectors (where high labour is required) in India** such as **food processing**, **leather and footwear, wood manufacturers and furniture, textiles and garments**.

4. **Decentralisation of Industrial activities (equally divided in all the areas)** is necessary so that people of every region can get employment.

5. **Development of the rural areas** will help in reduction of migration from the rural areas to the urban areas and it will decrease the pressure on the urban area jobs.

✍ Few government initiatives for Employment generation are:

1. **Support for Marginalized Individuals for Livelihood and Enterprise (SMILE)**

2. **PM-DAKSH (Pradhan Mantri Dakshta aur Kushalta Sampann Hitgrahi)**
3. **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**
4. **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**
5. **Start Up India Scheme**

4.10   INDIA, DEMOCRACY AND THE PROMISED REPUBLIC

Why in News?

On 15ᵗʰ August 2022, India will celebrate 75ᵗʰ anniversary of its Independence.

✎ **How India should be judged on its 75th anniversary?**

1. **On the basis of Human Development:** India **can be judged through its performance on human development and not just on its economic development.**
   Currently, India is in the **131ˢᵗ position** (out of 189 countries) in **Human Development Report 2020**, even though the **Indian Economy is the 5ᵗʰ largest in the world.**

2. **Jawaharlal Nehru in his message to the nation on August 15 1947, mentions the aim of India:**
   a) To bring freedom and opportunity;
   b) To fight and end poverty, ignorance and disease;
   c) To build up a prosperous, democratic and progressive nation,
   d) To create social, economic and political institutions that will ensure justice and fullness of life for every men and women.

✎ **What is the status of women in India after 75 years of Independence ?**

1. **Prevalence of High Gender-based inequality**: Gender inequality is widespread in India.
   b) It is **prevalent in every region, religion, caste, social group etc.**
   c) Women are **worse off than men in almost every aspect.**
   d) Women are **less nourished, less educated** and have a **representation in the institutions of governance far lower** than their share in the population.
   e) In India, Women have very **low share in employment** as compared to the other parts of the world.

2. **Progress is made in few areas:**
   a) **Female literacy has increased**
   b) **More women's have participated in the parliamentary elections** than men
   c) Women **representation in local governance has also increased**
   d) **Maternal Mortality Rate (MMR) and instances of female infanticide (killing of girl child) has also decreased.**

✎ **Region wise differences:**

1. **Comparison with China:** China has done far better than India on many development indicators like **health and education**. However, **some of the Indian states have done relatively well on human development indicators as compare to China.**

The **south (e.g., Kerela and Tamil Nadu) and the west of India (Gujarat, Maharashtra).**

2. **Regional differentiation within India in human development is also high**: For instance, data released **by NITI Aayog in 2021** shows multi-dimensional poverty in Bihar to be over 50% while it is almost 1% in Kerala.

✍ What can be the Way Forward ?

At present, where freedom of expression of individuals is under threat, high unemployment, corruption and the distress in agriculture. So, it is necessary for India to create **"social, economic and political" institutions** that can lead to social transformation.

4.11   MANIPUR TO IMPLEMENT THE NATIONAL REGISTER OF CITIZENS (NRC)

Why in News ?

In August 2022, the Manipur legislative assembly decided to implement the National Register of Citizens (NRC) and to establish a State Population Commission (SPC).

1. This decision by Manipur assembly has come after almost **19 tribal organisations wrote to the PM demanding NRC in the state.**
2. These tribal groups are **demanding NRC because they feel that a lot of illegal immigrants from Myanmar and Bangladesh are living in the state.**

✍ What is the National Register of Citizens (NRC) ?

1. **It's an official record of those who are legal Indian citizens.**
2. The register was **1st prepared after the 1951 Census of India** and since then it has **not been updated till now.**
3. Recently, it has been **updated in Assam only and the Indian govt is planning to update it nationally** as well.
4. The **purpose of NRC is to identify** the **'illegal'** immigrants from the **'legal'** citizens.
5. **Registrar General and the Census Commissioner of India** are responsible for conducting NRC.

✍ Why Manipur assembly has accepted the demand for NRC ?

1. As per the data presented in the Manipur assembly, **the population of Manipur has increased significantly from 1971 to 2011.**
2. So, this high increase in population is creating doubts in local people that a lot of non-Indians are living in the state **especially Myanmar's Kuki-Chin Community.**
3. Apart from the Kuki-Chin group, local people have identified a lot **Bangladeshi people, Muslim's from Myanmar as well as Nepalis who have risen in big number in the state.**
4. Manipur is home to **3 major ethnic groups and t**hese ethnic groups are:1) N**on-tribal Meitei community 2) Tribal Naga community 3) Tribal Kuki-Zomi community.**

✍ What are the other protective mechanisms for locals in Manipur ?

1. In **December 2019**, **Manipur became the 4th Northeastern state** to be brought under the **Inner-Line Permit (ILP) system** after **Arunachal Pradesh, Mizoram and Nagaland.**

2. If ILP system is in force in any area of India then any outsider (even an Indian citizen from other state) **can travel into that area with the prior permission only.**

3. Due to the fear of illegal immigrants coming from Bangladesh (East Pakistan formerly), Myanmar and Nepal, **a pass or permit system for Manipur was introduced after Independence** which was later abolished in **1950.**

4. In 2021, Manipur government approved **1961 as the base year for identifying the 'local people'** for the purpose of ILP.

5. Most groups of Manipur are not happy with this base year and demanding to declare **1951** as the base year.

6. In **2021, the Ministry of Home Affairs (MHA) directed Nagaland, Manipur, Mizoram, Arunachal Pradesh and Border Guarding Force (BGF) to check illegal migrants from Myanmar into India.**

✎ What is the status of NRC in other Northeastern states ?

1. **Assam** is the **only state in the Northeast that has updated the NRC of 1951.**

2. Nagaland has also started a similar register with the name **RIIN (Register of Indigenous Inhabitants of Nagaland) in June 2019** but **it has not been completed till now.**

4.12 PRADHAN MANTRI ADI ADARSH GRAM YOJNA

Why in News?

Recently, the Government of India has modified the earlier scheme of 'Special Central Assistance to Tribal Sub-Scheme (SCA to TSS)' and renamed it as 'Pradhan Mantri Adi Adarsh Gram Yojana (PMAAGY)' for implementation during 2021-22 to 2025-26.

✎ What is Pradhan Mantri Adi Adarsh Gram Yojana?

1. This scheme will supplement the efforts of the state governments for **development and welfare of tribal people** by providing '**Special Central Assistance'.**

2. It aims at providing **basic infrastructure** in villages with significant **tribal population.**

3. To ensure an all round development of the selected villages, more focus will remain on **sanitation, education, health and nutrition, agricultural best practices** etc.

4. The villages which will be developed under the scheme will be known as **'Adi Adarsh Gram'.**

✎ Objectives of the scheme:

1. To prepare the **village development plan** based on the needs, potential, and aspirations of the locals.

2. Improving the **infrastructure** in sectors like **health, education, connectivity and livelihood.**

3. The scheme aims to reduce the gaps in **8 prominent sectors of development and these are:**
   i) **Road connectivity (Internal as well Inter village /block)**
   ii) **Telecom connectivity (Mobile /internet)**
   iii) **School**
   iv) **Anganwadi Centres**
   v) **Health Sub-Centre**
   vi) **Drinking water facility**

vii) **Drainage**
viii) **Solid waste management**

✎ What are the basic safeguards provided by the Indian Constitution for scheduled tribes?

1. **The Constitution of India** has not defined the term '**tribe**' anywhere, however, the term '**Scheduled Tribe**' is mentioned in **Article 342 (i).**
2. **Article 342 (i)** says that the **President** may, by public notification, specify the tribes or tribal communities for the purpose of constitution.
3. **The 5ᵗʰ schedule of the constitution** provide for the setting up of a '**Tribal Advisory Council**' in each of the state having scheduled areas.
4. **Article 15(4) provides** special provisions for the **advancement of other backward classes (it includes STs too).**
5. **Article 29 talks regarding the protection of Interest of Minorities (it includes STs too).**
6. **Article 46 says that the** state shall promote with special care, the **educational and economic interest of the weaker sections of the people,** and in particular of the scheduled castes and the scheduled tribes and shall protect them from social injustice and all forms of exploitation.
7. **Article 330:** Reservation of seats for STs in **Lok Sabha.**
8. **Article 332**: Reservation of seats for STs in state **Legislatures.**
9. **Article 243:** Reservation of seats for STs in **Panchayats.**
10. **Article 275:** It provides for the **grant of special funds** by the union government to the state governments for promoting the **welfare of the STs** and providing them with a **better administration.**

✎ What are some other Initiatives taken by government for tribal population?

1. **TRIFED: The Tribal Cooperative Marketing Development Federation of India (TRIFED)** came into existence in **1987**. It is a **national-level apex organization** functioning **under the administrative control of the Ministry of Tribal Affairs.**

The main aim of TRIFED is to **promote the products of the tribals and to provide them with proper platform to sell those products.**

2. **Digital Transformation of Tribal Schools: Ministry of Tribal Affairs (MTA)** has signed an agreement with Microsoft **to support the digital transformation of schools** such as **Eklavya Model Residential Schools (EMRS) and Ashram Schools.**
3. **Development of Particularly Vulnerable Tribal Groups (PVTGs) :** Ministry of **Tribal Affairs** has implemented the scheme for the **"Development of PVTGs"** which covers **75 Particularly Vulnerable Tribal Groups (PVTGs)** for their **overall socio-economic development**.
4. **Pradhan Mantri Van Dhan Yojana:** The **'Sankalp Se Siddhi'** initiative, also known as '**Mission Van Dhan',** was introduced by the central government in **2021**, in line with the PM's aim to establish a **sustainable livelihood for India's tribal population.**
5. **Eklavya Model Residential Schools:** It's a scheme for developing the **model residential schools** for Indian tribals across India. It was **started in 1997.**

5.   ECONOMY

5.1   START-UP INDIA SEED FUND SCHEME (SISFS)

About the Scheme:

1. Aim of the scheme is to build a **healthy Startup ecosystem** in the country for the promotion of innovation and providing opportunities to budding entrepreneurs.
2. **It was Launched by the Ministry of Commerce and Industry in 2021**.
3. SISFS **provide financial assistance to eligible start-ups** (chosen by DPIIT) **[DPIIT is the Department for promotion of industry and internal trade]**

What is the eligibility to get the benefits of the scheme?

A start-up, recognized by DPIIT, **not more than 2 years ago** at the time of application and should not have received more than **10 lakhs of monetary support** under any other Central or State Government scheme.

Features of the Scheme:

1. Grants of up to **5 crores to eligible incubators** (those in the initial phase):
2. Incubators in turn will provide up to **Rs. 20 lakhs** (for proof of concept, sample development, or product trials to startups)

and

up to Rs. **50 lakhs** (for market entry, commercialization, or scaling up) to eligible startups.

Start Up India for a Prosperous India

New Incentives for StartUps

- Self certification complaince
- No inspection for first 3 years
- No income tax on profits for first 3 years
- Mobile app for start-up registration in one day
- Startup India hub as single point contact
- Exemption from capital gains tax on personal property sold to invest in startup
- 80% rebate on patent filing fee
- Bankruptcy Bill 2015 - 90 days to exit business

- 500 tinkering labs
- 35 public-private incubators
- 31 innovation centres at national institute
- Dedicated fund of Rs. 10,000 Cr to promote startups
- Credit guarantee scheme for loans
- 5 new bio clusters and 7 new research parks
- Patent regime and IPR to be simplified

#StartUpIndia

Other initiatives for startups:

1. Startup Innovation Challenges,

2. National Startup Awards,
3. Ranking of States on Support to Startup Ecosystems,
4. Shanghai Cooperation Organization Startup Forum,
5. Prarambh Summit.

5.2 **SMILE-75 INITIATIVE FOR BEGGARS IN INDIA**

Why in News?

In August 2022, the **government of India** has **formulated a inclusive scheme of SMILE (Support for Marginalised Individuals for Livelihood and Enterprise)**.

✎ **About SMILE-75 Initiative:**

1. **Ministry of Social Justice & Empowerment** is **implementing agency** for the initiative.
2. It will **work towards making** our **cities/town and municipal areas begging-free.**
3. Under the **"SMILE-75 Initiative"** 75 Municipal Corporations (MCs) are identified to work.
4. MCs will **work in the spirit of 'Azadi ka Amrit Mahotsav'.** will undertake comprehensive rehabilitation of persons engaged in the act of begging.
5. MCs will **cover several welfare measures for persons** who are engaged in the act of **begging.**
6. The initiative **SMILE-75 aims to address the continuing problem of poverty and beggary across the country.**
7. **Initiative will work towards a strategy** for **rehabilitation of the persons engaged in the act of begging.**
8. It will work **through the coordinated action of various stakeholders.**
   ▪ As, The **Ministry** of Social Justice & Empowerment **understands the important role of Local Urban Bodies, Civil Society Organisations/Non-Government Organisations to address this continuing social issue with great efforts.**

✎ **Beggary in India:**

1. In India **beggary is a serious social problem**.
2. It **arises due to acute** (high) **poverty and unemployment.**
3. **The Bombay Act defines** a **"beggar"** as a **person "having no visible means of survival and wandering in any public place in such condition or manner, as makes it likely that the person exists by asking or receiving charities".**
4. **"Begging"** under the **Act includes** "asking or receiving charities in a public place, whether or not in return of **singing, dancing, fortune-telling, performing or without offering any article for sale".**

✎ **What is the status of Beggars in India?**

1. **Census 2011 says**, there are **4,13,670 beggars** in India overall (**including 2,21,673 men and 1,91,997 women**), more than its previous count.
2. **Uttar Pradesh comes on the top of the list, followed by West Bengal** at number two and **Bihar at number three**.
3. According to the 2011 census, **Lakshadweep has lowest count of beggars** in the country as there are **only 2 beggars noticed in the Union Territory.**

4. There were **2,187 beggars in New Delhi**, the most of any union territory, **followed by 121 in Chandigarh.**
5. **Assam top the list of north-eastern states with 22,116 beggars, while Mizoram came in last with 53.**

5.3   **DIGI YATRA**

Why in News?

In August 2022, Ministry of Civil Aviation discussed 'DIGI YATRA' project.

✍ **About 'DIGI YATRA':**

1. It is a **short form of digital yatra.**
2. It is a **project of government of India to achieve contactless and seamless** (unified) **procedures for verification of passengers at Airports.**
3. DIGI YATRA will **work with the help of Facial Recognition Technology (FRT)**.
   - ▪ **[FRT is a biometric technology which uses unique features of the face to identify and distinguish an individual.]**
4. The **project basically want that any traveller may pass through various checkpoints** at the airport **through a paperless** and **contactless processing, using facial features to establish the identity** which would be **linked to the boarding pass.**
5. **All the privacy issues related to identity of travellers have been taken care of in the system.**

How Facial Recognition Systems Work

1 Capturing and scanning
2 Extracting Facial Data
3 Comparing database
4 Matching and Identifying

6. It will provide a **decentralised mobile wallet-based identity management platform** (means everything will be verified through an app), which is **cost effective and addresses data protection issues in implementation of Digi Yatra.**
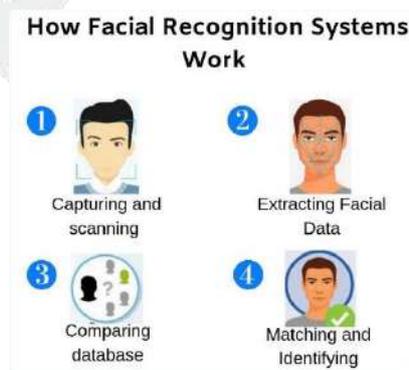
✍ **Proposal for the 1st phase:**

1. **In the 1st phase**, Digi Yatra is proposed to be moved out at two Airports namely **Varanasi and Bengaluru in August 2022.**
2. It will get operated **at 5 Airports namely Pune, Vijayawada, Kolkata, Delhi and Hyderabad by March next year.**

Digi Yatra Foundation:

1. DYF was set up as a **joint project** in **2019 under Section 8 of** the **Companies Act, 2013.**
2. The **objective of the foundation** is to **create a good Digi Yatra Central Ecosystem (DYCE).**
3. Digi Yatra Foundation **will be a pan-India entity.**
4. **DYG will act as the guardian** of the **Passenger ID validation process.**
5. It will **help in developing consensus** amongst the **Stakeholders of Aviation sector in India.**

6. It would also **define the criteria for agreement** and **guidelines for the local airport systems.**

✑ What are the Objectives of DIGI YATRA?

1. To **improve the passenger experience** and offer a **simple and easy experience** to all air travellers.
2. **Achieve better output through better use of existing** infrastructure using "Digital Framework".
3. **Result in lower cost operations,** which can reduce air fares too.
4. **To digitize current manual processes of verification and to bring better efficiencies.**
5. **Improve security standards** of the country and current system performance.
6. "**Digi Yatra**" system with a digital "ID" will be **supported by a strong verifiable government issued identity like AADHAAR.**

5.4   REGIONAL RURAL BANKS

Why in News?

On 2ⁿᵈ August 2022, a meeting was held between the Finance Minister and the heads of the banks to discuss about the reforms in Regional Rural Banks (RRBs).

✑ What are RRBs?

1. RRBs were established in the year **1975** through the **ordinance** (can be used to form or amend a Law when legislature is not in session) of the central government. Later, the **Regional Rural Banks Act, 1976** was passed in the Parliament.
2. RRBs are **financial institutions** which provides **credit facility (loans) for Agriculture and other rural sectors.**
3. The RRBs works in 2 ways: 1**) Like a cooperative society (works in cooperation with the local people) as it is familiar with the rural problems**. 2) **Like a commercial bank in terms of its professionalism and ability to provide credit.**
4. After **2005-06,** the number of RRBs **starts declining from 196 in 2005 to 43 in 2021**, and 30 of the 43 RRBs earned net profits in 2021.

✑ Functions of the RRBs are:

1. To **provide safety to the savings** of its customer's .
2. To **provide credit in rural areas** and increase the supply of money.
3. To **increase the public confidence** in the financial system.
4. To **increase its network** so as to reach every corner of the country.
5. To **provide financial services** (like Banking services, Insurance services etc) to all its customers irrespective of their level of income.

✑ So, What are the Issues Related to RRBs?

1. **Rising Cost:** Cost of operations of **Regional Rural Banks (RRBs)** is more as compared to other banks .The government wants them to work towards increasing their earnings.
2. **Limited Activities:** Many RRBs branches don't have enough work to do, so they are getting into losses. In many rural areas, they mainly offer government schemes only like **Direct Benefit Transfer (DBT)** etc.

3. **Low Internet Banking:** At present only **19** RRBs have internet banking facilities and **37** have mobile banking licenses. Existing regulations allows only those RRBs to provide internet banking facility which maintains minimum **capital to risk-weighted assets ratio (CRAR)** of more than **10%. CRAR** measures a bank's financial stability by measuring its available capital as a percentage of its credit.

What are the Suggestions given by the Government?

1. It has asked RRBs to move towards **digitization and also to provide internet banking services** to its customers.
2. **Increase its credit base further** (give loans to more number of people rather than giving high amounts to limited people) through increased lending to the **Micro, Small, and Medium Enterprises (MSME) sector.**
3. It also suggested **sponsor banks** (who are funding the RRBs) **to form a clear plan to further strengthen the RRBs**.
4. Also suggested to **conduct a meeting of all RRBs** and sharing the best practices with each other.

Reforms done by the Government's for the Banking Sector till now:

1969: Govt. of India **Nationalised** all the banks existing in India. Nationalisation means transferring from private hands to the government.

1981: **National Bank for Agriculture and Rural Development (NABARD)** was established by the central govt. Main aim of establishing NABARD was **to promote agriculture** and increase rural development through **credit support and other activities.**

1991: Liberalisation, Privatisation and Globalisation (LPG) reforms have opened the doors for private sector in banking.

2019: 10 Public sector Banks (PSBs) were **merged** to form **4 PSBs.**

2021: The government has given **Rs 4,084 crores towards RRB recapitalization(providing more funds) in 2021-22**.

What can be the Way Forward ?

1. There is a **need to have a common working plan for RRBs**, so that all of them can provide online banking services to their customers and further increase their reach and profitability.
2. They **need to increase their efficiency** and start various other areas of banking, like providing loans to merchants and other sectors, so that they can **increase their profitability.**

RBI released the Financial Inclusion Index:

Why in News?

On 31st **July 2022, RBI has released the Financial Inclusion Index (FI-Index) for the year 2021- 2022.**

What is Financial Inclusion?

1. It is defined as the **process of providing financial services (like Banking, Insurance etc) timely to the** weaker sections and low-income groups at a low cost.

2. **Opening a simple Bank account is the 1ˢᵗ step towards financial inclusion** as the bank account allows people to store money and send and receive payments.

What is the Financial Inclusion Index?

1. Its a index which includes the **details of Banking, Investments, Insurance, Postal as well as the Pension sector** after consultation with the governments and the respective organisations.
2. It was **developed by the RBI in 2021**, **without any 'base year'** (that is no particular year was fixed for comparison) and **is published in July every year**.
3. Aim is to get the exact data of **financial inclusion across the country.**
4. It marks financial inclusion in a single value **ranging between 0 and 100**, where **0 represents complete absence of financial inclusion** and **100 shows full financial inclusion.**
5. It comprises **3 broad parameters: 1)** Access (35%) 2) Usage (45%) 3) Quality (20%).

What is the Importance of FI Index?

1. **Measures Level of Inclusion:** It provides **information on the level of financial inclusion**.
2. **Development Indicators:** It can be **used directly as way to calculate Development.**
3. **Fulfil the G20 Indicators:** It leads to **fulfilment of G20 Financial Inclusion Indicators** requirements. G20 indicators measures the level of financial inclusion and digital financial services, nationally and globally.
4. **Helps in Research:** It also help **researchers to study the impact of financial inclusion** on society and economy.

Some key initiatives taken by Government to Increase Financial Inclusion in India are:

1. **Pradhan Mantri Jan Dhan Yojana**
2. **Digital Identity (Aadhaar)**
3. **National Centre for Financial Education (NCFE)**
4. **Centre for Financial Literacy (CFL) Project**
5. **Expansion of financial services in Rural and Semi-Urban Areas**
6. **Promotion of Digital Payments**

Advice States to enforce digital generation of DIN (Source: The Hindu)

Why in News?

Recently, **Supreme Court (SC)** has **ordered the GST Council** to issue an advisory to the states regarding the implementation of the system of **Document Identification Number (DIN)**.

1. The State of **Kerala and Karnataka** have already implemented it.
2. The court also noted that the central government has already implemented the **DIN system.**

What is Goods and Services Tax (GST) ?

1. It's an **Indirect tax** system. Indirect taxes are those taxes that are levied or charged on goods and services rather than on income or profits.

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2. GST has **replaced many indirect taxes** in India such as the **Excise duty (imposed on production), VAT (Value Added Tax), Service tax** etc.

3. The **Goods and Service Tax Act was passed in the parliament in March 2017 and came into effect from 1st July 2017.**

4. **GST is a destination-based tax** (it means charged on every stage of the product).

5. GST is a **single indirect tax law for the entire country.**

What is the GST Council ?

1. Itss a **Constitutional body** (formed under the constitution) and was formed under the **Article 279(A)** of the Indian Constitution.
2. Its **work is to take decisions regarding the GST matters.**
3. The **Council includes the members from the central as well as state governments** and consists of the following members:
    a) **The Union Finance Minister as the chairperson.**
    b) **The Union Minister of State who in-charge of revenue or finance as Vice-Chairperson.**
    c) **The Minister in-charge of Finance or Taxation or any other minister nominated by each state governments are its members.**

So, What is Document Identification Number (DIN)?

1. It was **implemented by central government in October 2019.**
2. It is **20-digit electronically generated identification code** that is used for all communications made by income-tax officials to the GST payers.

Key Highlights of the recent Supreme Court order:

1. **Implement the system of DIN** in the states too.

2. **Directions to GST Council:** Court has also ordered the GST council to advise the states in this matter. **AS per Article 279A of the constitution, the GST Council can make recommendations to the states on any matter related to GST.**

✎ Farmer Producer Organisations (FPOs)

What are FPOs?

1. These are **formed and controlled by the farmers** who makes their own policies and take decisions for the betterment of farmers.
2. These **organisations are open to all peoples** who are willing to accept the responsibilities of its membership.
3. FPOs also provides **education and training to their farmer-members**, elected representatives, managers, and employees so that they can contribute effectively to the development of their FPOs.
4. FPOs in **Gujarat, Maharashtra, Madhya Pradesh, Rajasthan and some other states** have shown some good results and farmers here are able to get higher returns for their produce.
   o For example: **A tribal women in the Pali district of Rajasthan formed a producer company and they are getting higher prices for their custard apples.**
5. In 2020, Govt. of India launched a **Central Sector Scheme (Completely funded by central Govt) with the name "Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs)" with a total budgetary support of Rs.6865 Crores**.
6. This scheme will provide **Economies of Scale** (getting more returns with the increase in production), **reduction in cost of production** and **will increase farmer's income.**

✎ Some more Benefits of FPOs are:

1. **Declining Average Land <u>Holding</u> Size:** The average farm size **declined from 2.3 hectares (ha) in 1970-71 to 1.08 ha in 2015-16**. The **share of small and marginal farmers increased from 70 per cent in 1980-81 to 86 per cent in 2015-16.** So, FPOs can motivate farmers for **collective farming** (doing farming together with shared benefits and losses) and can handle productivity issues coming from small farm sizes.
2. **Employment Generation**: It can lead to additional employment generation as the farming will become more beneficial.
3. **Negotiating With Corporates:** FPO can help farmers in getting good prices from the companies, as it allows members to talk as a group.
4. **Inputs benefit**: The FPO can provide low-cost and quality inputs to member farmers. For example: loans for crops, purchase of machinery, fertilizers, pesticides etc.
5. **Social Impact:** Social capital (asset for the society) will be developed in the form of FPOs, as it may lead to improved gender relations and decision-making of women farmers in FPOs. This may reduce social conflicts and improved food and nutritional values in the community.
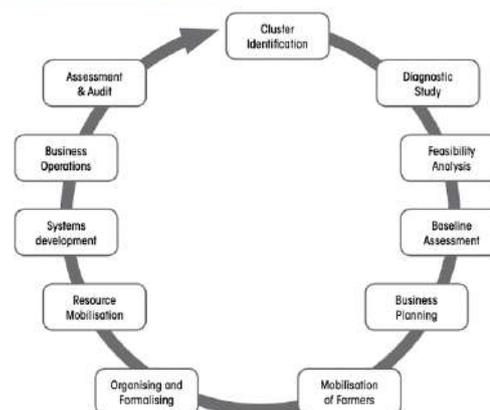
✎ **Again, the RBI has increased Repo rate:**

Why in News?

On 5th August 2022, *RBI's Monetary Policy Committee (MPC) decided to increase the Repo rate by 50 basis points and now it reached to 5.4%.*

1. It will *increase the interest rate of loans given by banks to the public.*
2. RBI Governor has predicted a *GDP growth rate of 7.2% for 2022-23 and inflation rate has been predicted at 6.7% for the year 2022-23.*

✎ **What is Repo Rate?**

1. It's the **rate of interest at which RBI lends money to the banks.**
2. **If the repo rate is increased by the RBI, then the interest rates in market will increase** because now the banks had to pay more interest on the loans they will take from the RBI.

✎ **About Monetary Policy Committee (MPC)**

1. It's a **committee formed by the central government and led by the Governor of RBI.**

2. It was formed under the **Reserve Bank of India Act, 1934.**

3. It was **formed with the objective to decide the policy interest rates (repo rate) to handle inflation.**

4. MPC **meets at least 4 times in a year**.

5.   It has a total of **6 members:**

    a) **RBI Governor** as its **ex officio chairperson**

    b) Deputy Governor in charge of monetary policy

    c) An officer of the bank to be nominated by the central board of the RBI

    d) **3 persons** to be **nominated by the central government.**

6. It was formed on the recommendations of the Urjit Patel Committee.

✎ **Why did RBI hike Repo Rate by 50 bps ?**

To control Inflation: Presently, the inflation rate in India is above 6% (which is above the target of 4%). So, the MPC has *decided to increase the repo rate by 50 basis point.*

✎ **How external factors impacts India?**

1. The **rate of inflation also depends upon global markets and geopolitical developments**

2. Recently, the **US federal reserve has increased interest rates** and it can lead to reduction of FDI in India as US will be more attracting destination for the Investors now.

3. *If the monsoon remained normal and average crude oil price remained at $105 per barrel for the year then the inflation is projected at 6.7 per cent for 2022-23.*

4. *Recently, the International Monetary Fund (IMF) has highlighted recession (continous decrease or negative growth rate) risk in the global economy.*

✍ Crop Insurance Schemes:

National Crop Insurance Portal (NCIP) is the only source of applying for Pradhan Mantri Fasal Bima Yojana (PMFBY).

✍ Pradhan Mantri Fasal Bima Yojana (PMFBY):

1. It was launched in **2016 and is being implemented by the Ministry of Agriculture and Farmers Welfare.**
2. It replaced the **National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS).**
3. Aim of the scheme **is to provide a comprehensive(overall) insurance cover against the failure of the crops and** thus helping in stabilizing the income of the farmers.
4. It **covers all food crops, oilseed crops and horticultural crops** (fruits and vegetables) for which past yield data is available.
5. Premium **is fixed at 2% of the insured amount which is to be paid by the farmers for all Kharif crops (like paddy, maize, bajra etc) and 1.5% for all rabi crops (like wheat, mustard etc).**
6. **In the case of horticultural crops, the premium is fixed at 5%**.

✍ Bharat Bill Payment System (BBPS):

Why in News?

In August 2022, RBI has allowed BBPS to approve cross-border (from outside India) bill payments.

1. It will **benefit senior citizens and families of persons who are dependent on remittances from abroad**. Remittances are the funds transferred by migrants to their home country.

2. Till now, **BBPS** was **available only to the 'residents living in India'.**

BBPS

1. **It was stated in 2013.**

2. It was an initiative of the **RBI.**

3. **National Payments Corporation of India (NPCI)** is its implementing body.

4. BBPS is a **one-stop payment platform for all bills.**

5. It provides **"Anytime Anywhere" bill payment service to customers across the country** with certainty and safety of transactions.

6. **Payments through BBPS can be made using cash, transfer cheques and electronic modes.**

7. **Bill payment outlets and banks** will work as operating units and will carry out these transactions on the behalf of customers.

✎ **About NPCI**: National Payments Corporation of India (NPCI):

1. NPCI was an **initiative taken by the Reserve Bank of India (RBI) and Indian Bank's Association (IBA)** to **handle the retail payment and settlement systems in India.**

2. It was **founded in 2008** under the **Payment and Settlement Systems Act, 2007.**

3. NPCI was started as a **'not for profit' company under section 8 of Companies Act 2013.**

4. Its **headquarter is located in Mumbai.**

5. Presently, NPCI is promoted (helping NPCI) by **10 major promoter banks** and these are:

   a) **State Bank of India**

   b) **Punjab National Bank**

   c) **Canara Bank**

   d) **Bank of Baroda**

   e) **Union Bank of India**

   f) **Bank of India**

   g) **ICICI Bank**

   h) **HDFC Bank**

   i) **Citibank**

   j) **HSBC**

✎ **Food Inflation:**

Why in News ?

In August 2022, UN Food and Agriculture Organization (FAO) has released Food Price Index (FPI).

✎ **About Food Price Index (FPI):**

1. It is a measure of the **monthly change** in **international prices** of a **basket of food commodities.**
2. **2014-2016 is fixed as the 'Base Year' for comparison.**
3. It was introduced in **1996** to monitor developments in the **global agricultural market.**
4. FPI reached an **all-time-high of 159.7 points in March 2022 which means the food prices have increased highly. Biggest reason** for it can be **Russian invasion of Ukraine** in February 2022.
5. Between **March 2022 and July 2022,** the FPI has **declined by 11.8%.**

✎ **What are the Reasons for Fall in FPI between March to July 2022 ?**

1. **Black Sea Trade Route**: After the signing of the UN backed agreement for unblocking of the Black sea trade route, the shipments of Russian food and fertilizers have started.

2. **Lift of Ban on Palm Oil:** Indonesia, since May 2022, has lifted its ban on palm oil exports.

3. **Soyabean Crops:** The US, Brazil, Argentina and Paraguay are set to harvest bumper soyabean crops.

4. **Pandemic Effect:** The supply barriers (restrictions for supply) caused by Covid-19 pandemic has also led to the movement of migrants in their home areas and it led to increase in production of food crop.

5. **Good Monsoon**: Rainfall during the current monsoon season from June 2022 to August 2022 has been 5.7% above the long-term average for this period. Almost all agriculturally dominant areas other than UP, Bihar, Jharkhand and West Bengal have received good rains so far.

✍ What are the Causes of Recent Food Inflation?

1. **Weather:** It included **droughts in Ukraine (2020-21)** and **South America (2021-22)**, which especially impacted **sunflower and soyabean crops** and the March-April 2022 **heat wave which have destroyed India's wheat crop.**

2. **Covid-19 Pandemic: The pandemic's supply-side impact** was felt the most in **Malaysia's oil palm plantations**, where harvesting of fresh fruits was **done mainly by migrant labourers** from Indonesia and Bangladesh.

   But, as Covid-19 resulted in **many of them going back to home** and **output from the world's 2ⁿᵈ largest palm oil producer and exporter fell.**

3. **Russia-Ukraine War:** It led to coming down of exports from these 2 countries. In 2019-20 both accounted for **28.5% of the world's wheat, 19% of corn, 34% of barley and 78% of sunflower oil exports.**

4. **Export Controls: Export controls** were 1ˢᵗ imposed by **Russia in December 2020** due to **domestic food inflation**.

Shortage concerns at home led to similar actions in **palm oil by Indonesia** (the world's No. 1 producer and exporter of palm oil) and in **wheat by India** during March-May 2022.

✍ How global prices of food affects domestic prices?

1. The transmission of the **global inflation** to **domestic food prices** basically depends on **how much of a country's consumption/production is imported/exported.**

2. Such transmission is evident in **edible oil and cotton,** where up to **2/3ʳᵈ of India's consumption of edible oil is imported** and **1/5ᵗʰ of its production of cotton** is exported.

3. In the case of **wheat**, the **heat wave** from March 2022 severely impacted the crops. Both **public stocks (procured by govt) and overall domestic availability of wheat** is under pressure, even the open market prices of wheat have risen.

4. Centre has decided to **remove wheat allocations** and **offers more rice** under its flagship **'Free-grains scheme'.**

5. **Sugar** is the 1 commodity where **retail prices haven't gone up much**, even after record exports by mills. The reason for it is that **production has also gone in record numbers.**

Way Forward

1. There should be **a consistency in the import policy** as it will send **appropriate market signal in advance.**

2. More accurate **crop forecasts using satellite, remote sensing and GIS techniques** should be done to indicate shortfall/surplus in a crop year much in advance.

3. Moreover, **a decade old Consumer Price Index (CPI) with the base year of 2011-12** that gives nearly **half of the weight to food items needs to be revised** and **updated** to reflect the change in food habits and lifestyle of the population.

✍ Open Network for Digital Commerce (ONDC)

Why in News?

In August 2022, the government launched 'Open Network for Digital Commerce (ONDC)' **with an aim to** provide more convenience to buyers as well as sellers.

1. **E-commerce (electronic commerce) is the buying and selling of goods and services or the transmitting of funds or data through the internet.**

2. **Indian e-commerce industry is currently dominated by the 2 U.S companies named Amazon and Flipkart.**

What is ONDC?

1. ONDC is a **freely available government platform that aims to make the e-commerce sector more convenient by moving it from a 'platform-centric model (like amazon) to an open network'** for buying and selling of goods and services.

2. Under ONDC, if **a buyer registered on 1 e-commerce site (for example: Amazon) then he can purchase goods from a seller on another participating e-commerce** site also (for example: Flipkart).

3. **Presently, buyers and sellers have to be on the same app for a transaction which happens through the same platform**. For example, a buyer needs to go to Amazon, to buy a product from a seller on Amazon.

4. ONDC is **a not-for-profit organisation.**

5. **ONDC is not an e-commerce regulatory platform** and **all existing digital commerce applications and platforms can voluntarily choose to adopt** and be a part of the ONDC network.

6. The project to integrate e-commerce platforms through a network will be done by the **Quality Council of India.**

7. After the coming of the ONDC, **it will be simpler and easier for small businesses to be discoverable over the e-commerce network** and **they can conduct more business.**

8. But experts have pointed out some **issues in implementing ONDC such as getting enough number of e-commerce platforms** to sign up on ONDC, along with issues related to customer service and payment.
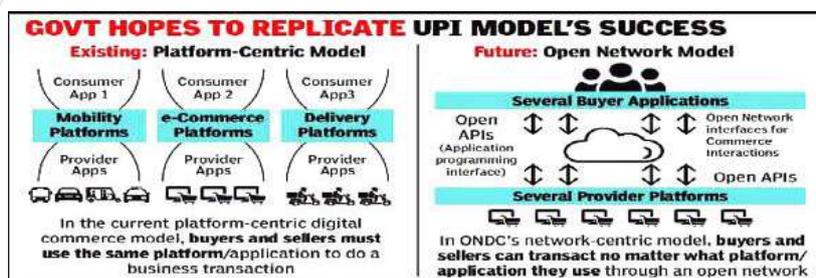
✍ What is the Significance of ONDC ?

1. **On ONDC, buyers and sellers** can do business irrespective of the fact that they are attached to any 1 specific e-commerce portal.

2. **This can give** a huge boost to small online retailers **and new entrants. However, if it is made mandatory then this could be problematic for large e-commerce companies, which have their own processes and technologies.**

3. **Aim of ONDC is to provide** equal-opportunity to all and is expected to make e-commerce more inclusive and accessible **for customers as they can discover any seller, product or service by using any application or platform, thus increasing their freedom of choice.**

4. **It is assumed that in the next 5 years, the ONDC will bring almost 90 crore users and 12 lakh sellers on the network, enabling** 730 crore additional purchases.

5.5   UDYAM PORTAL

Why in News?

In last 25 months till July 2022, Around **1 crore** Micro, Small and Medium Enterprises **(MSMEs) have registered on the Udyam portal.**

✍ What are MSMEs?

1) This term was **introduced by the Government of India in Micro, Small, and Medium Enterprises Development Act of 2006.**
2) As per this act, MSMEs are the **enterprises involved in the processing, production, and conservation of goods and supplies.**
3) According to the MSME Development Act, 2006 the MSMEs are **classified into two classes:**

a) **Manufacturing Enterprises** (industries that makes or transforms goods)

b) **Service Enterprises** (include everything else: banking, communications, wholesale and trade etc.)

4) The MSME sector is a **major contributor to the socio-economic development and GDP (Gross domestic product) of the country.**
    [GDP is production of goods and services in a country during a certain period]
5) The sector has also **contributed greatly with to development of private businesses,** especially **in semi-urban and rural areas of India.**

Existing and Revised Definition of MSMEs

Existing MSME Classification			
Criteria : Investment in Plant & Machinery or Equipment			
Classification	Micro	Small	Medium
Mfg. Enterprises	Investment<Rs. 25 lac	Investment<Rs. 5 cr.	Investment <Rs. 10 cr.
Services Enterprise	Investment<Rs. 10 lac	Investment< Rs. 2 cr.	Investment<Rs. 5 cr.
Revised MSME Classification			
Composite Criteria : Investment And Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing & Services	Investment< Rs. 1 cr. and Turnover < Rs.5 cr.	Investment< Rs. 10 cr. and Turnover < Rs.50 cr.	Investment< Rs. 20 cr. and Turnover < Rs.100 cr.

Source: Times of India

✎ What is Udyam Portal?

1) It was **launched on 1st July, 2020 by the Union MSME ministry.**
2) It's an **online system for registering MSMEs**.
3) Portal is linked to the databases of **the Central Board of Direct Taxes (CBDT) and Goods and Services Tax Network (GSTN).**
   [**Note**: **CBDT manages policy and planning of direct taxes** in India. Direct Taxes include income tax, corporation tax etc.
   GSTN is a **network that manages contact between taxpayers**, central/state governments, and **other stakeholders.**]

✎ Significance of Udyam Portal :

1) Udyam registrations are **important for MSMEs to utilize the benefits of schemes for the Ministry of MSME and for Priority Sector Lending from banks.**

2) It will lead to growth of MSMEs, which **will contribute to the GDP, exports, and employment generation** in the country.

3) As it is **fully online, does not require any documentation**, and is a **step towards Ease of Doing Business for MSMEs.**

✎ Related initiatives:

1) Scheme of Fund for Regeneration of Traditional Industries **(SFURTI).**
2) A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship **(ASPIRE).**
3) MSME Innovative Scheme.

5.6 INDIA AND ITS DREAM OF BECOMING SOLAR POWER

Why in News?

In August 2022, Government of India has set the **target to expand India's renewable energy installed capacity to 500 GW by 2030.**

✎ What is Renewable Energy?

It is the **energy generated from the natural resources** that **does not get depleted when used, such as wind or solar power etc.**

✎ What is the Present Status of Renewable Energy in India?

1. **The total installed** (Operational) **capacity for renewable energy in India is 151.4 GW.**
2. **Installed capacity for Renewables from different sources:**
   - Wind power: 40.08 GW
   - **Solar Power: 50 GW**
   - Biopower: 10.61 GW
   - Small Hydro Power: 4.83 GW
   - Large Hydro: 46.51 GW

✎ India and its Present Solar Power capacity:

1. India is **gifted with vast solar energy potential.**
2. The **energy of almost 5,000 trillion kWh per is incident over India's land area which is huge if utilised better.**
3. **45 solar parks** of **average capacity 37 GW have been approved in India.**
4. **3 solar parks** are included **in the top 5 operational solar parks of 7 GW capacity in the country.**
   - Pavagada (2 GW),
   - Kurnool (1 GW)
   - Bhadla-II (648 MW)
5. The **world's largest renewable energy park of 30 GW capacity solar-wind hybrid project is under installation in Gujarat.**

✎ What are the Challenges?

1. India **doesn't have enough units and PV cell manufacturing capacity.**
2. There is gap between **manufacturing capacity and production of solar power generation in India.**
3. There is **lack of modern technology adoption** and **only few manufacturing units are able to generate efficient solar power.**
4. India has **shortage of the raw material needed for the Solar power generation.**
   - For example, the **silicon wafer**, a **most expensive raw material**, is **not manufactured in India.**
   - **India imports 100% silicon wafers** and around **80% cells**.
   - **Key materials** like **silver and aluminium metal pastes** for making electrical contacts, **are also almost 100% imported.**

✎ Solar energy Initiatives of which India a part:

6. **National Solar Mission:** It is one of the **key missions of govt. of India for better solar power generations.**
7. **INDC's target:** It targets installing **100 GW grid-connected solar power plants by the year 2022.**
   [India's Intended Nationally Determined Contributions (INDCs) target to reduce the emission intensity of its GDP by 33 to 35% from 2005 level by 2030.]
8. **International Solar Alliance (ISA):** It was launched by **Prime Minister of India** and the **President of France in 2015** for better use of solar energy.
9. **One Sun One World One Grid (OSOWOG):** It is cross-border power grid plan **which aims to transfer solar power generated in one region to feed the electricity demands of others.**

✎ Government Schemes:

1. **Modified Special Incentive Package Scheme (M-SIPS), a scheme** of the Ministry of Electronics & Information Technology. The **scheme mainly provides a subsidy for capital expenditure on Pv cells.**
2. **PLI scheme to Support Manufacturing of high-efficiency solar PV modules** by **providing Production Linked Incentive (PLI) on sales of such solar PV modules.**

3. Govt. has **initiated many other schemes such as:**
   ▪ Solar Park Scheme
   ▪ Canal bank & Canal top Scheme
   ▪ Bundling Scheme
   ▪ Grid Connected Solar Rooftop Scheme

Way Forward

1. Government **should increase the indigenous manufacturing capacity** of **basic raw materials needed for solar power plants.**
2. **Private sector should be encouraged** to participate in **solar power generation sector to ensure the availability of financial resources.**
3. There should be **additional investment to improve research and development** in solar power generation sector **so that better solution of the issues can be obtained.**
4. India should **upgrade its technology in the solar power generation units so that they can function with their full capacity.**
5. Government should **aware people about the benefits of solar power,** which will **increase its demand** and that will **help in setting up a good market for power generators.**

5.7   OUTBOUND TOURISM OF INDIA

Why in News?

In august 2022, a **report with name 'Outbound Travel and Tourism - An Opportunity Untapped',** was released which **shows India's outbound tourism will be of value USD 42 billion by 2024.**

✎ **What is outbound tourism?**

Outbound tourism is the **travelling 'out' of the home country** for the tourism.

✎ **What are the Findings of the Report?**

1. The Indian outbound travel market is **one of the fastest growing markets in the world.**
2. **Growing economy, young population, and growing middle class(financially), makes India** one of the **most well-paid outbound tourism markets** in the world.
   ▪ According to report **20%** of all the **travellers from India goes to Europe.**
   ▪ **10 % travel to Australia and New Zealand.**
   ▪ **Major part** of the outbound tourism **towards Southeast Asia.**
3. **Indians spent approximately USD 12.6 billion in outbound trips much less as** compared to **USD 22.9 billion in 2019.**

   ▪ **[Reason for decrease in spending could be due to the pandemic].**

✎ **What are the Recommendations of the report?**

1. Government can look at steps like **increasing direct connections** (transportation etc.) **to popular and upcoming destinations for better tourism.**

2. **Foreign cruise vessels (ships) should be allowed to include India as a destination to stop** which **will encourage both inbound and outbound tourism** as well as increase revenue for Indian ports.
3. **Positive response should be given to of the foreign tourist's policies**, which will **build a good Image of India globally.**
4. India should establish **bilateral relations** (between two countries) **with tourist-friendly countries for both inbound and outbound tourists.**

✍ **India and its tourism status:**

1. **Tourism contributes approx. 9-10% to India's GDP** (Gross Domestic Product).
2. **Indian tourism ranked 10th** in terms of its **contribution to World GDP.**
3. In 2021, India has **40 sites listed under 'World Heritage List' (WHL), which is 6th highest (32 cultural, 7 natural and 1 mixed site) in the world.**
4. **[World Heritage List is a list of important sites of the world, which have significant historic or environmental impact]**
5. <u>Dholavira</u> **and** <u>Ramappa Temple (Telangana)</u> are the latest ones to get listed in WHL.
6. **Tourism sector contribute to 8.0 % of the total employment** in the country.

✍ **Significance of good Tourism:**

1. Growth of tourism will **help in growth of service sector as large number of businesses are involved in airlines, hotel, surface transportation, etc.**
2. **When a tourist comes from other countries comes to India, they bring** their home currency which helps India in getting **Foreign Exchange.**
3. Tourism growth will **help in protection of National Heritage** and **Environment** by bringing **focus on importance of sites and the need to conserve them.**
4. **Tourist spots will be valued and respected globally** which will give India a **sense of pride.**
5. Growing tourism will help in **improving the development of basic infrastructure like maintaining toilets, sanitation, guest rooms.**
6. It **helps in bringing India on the global map of tourism**, earning appreciation, recognition and **improving cultural exchange.**
7. **Tourism is** considered as a **soft power** and it will **help in promoting people to people connect** and promotes **friendship between India and other countries.**

✍ **Challenges in the growth of Tourism:**

1. There are a **lot of infrastructures related problems** like insufficient roads, water, sewer, hotels and telecommunications etc., which **discourages tourist to come to India.**
2. There is **shortage of skilled manpower** in the Tourism Industry in India as **there are lack of professional guides.**
3. There is a major **issue of Seasonality** in Tourism, as the tourism sector depends upon particular season and **many areas do not generate any income during off season for example, Kashmir.**
4. Travel and tourism are **highly taxed** in India, which **makes India an expensive destination** for some low-income countries.
5. **Strict visa procedures** and **delays** in getting visa further discourage tourists.
6. There have been incidents of tourist being robbed, killed, raped etc., hence the **safety of the tourists** is also **an issue.**

Way Forward:

1. Government should **focus on developing infrastructure like hotels, guest rooms. Toilets etc.**
2. There should be **proper marketing** (advertisements) **of Indian tourism and its diversity** to attract tourists from the world.
3. **India must focus on areas which have great tourism potential but are less explored** due to problems like poor marketing, less connectivity etc.
   For example**, North-eastern region.**
4. **Private sector should be incentivised** to make infrastructure in less visited areas like areas with tough geographical conditions like Ladakh **etc.**
5. Government should **create a national tourism authority & Advisory Council to address issues** related to tourism industry.

5.8　　**DECLINE IN THE COUNTERFEIT (FAKE) CURRENCY**

Why in News?

In August 2022, the **government said that the value of counterfeit currency in the banking system has reduced** from Rs 43.47 crore in 2016-17 to about Rs 8.26 crore in 2021-22.

✎ **What is Counterfeit Currency?**

1. Counterfeit currency is the **printing or manufacturing of fake money.**
2. Because of the value of the money, **high level of technical skill required to imitate (copy) it.**
3. Counterfeiting is different from other acts of imitating frauds and treated as a separate crime under **section 489A of the Indian Penal Code (IPC)**
4. Counterfeiting is the **oldest technique used by fraudsters to cheat individuals by their fake money.**

✎ **What are the Threats from Counterfeiting?**

1. **FICN (Fake Indian Currency Notes)** can be **used by external sources** to damage India's economy by giving false payments of the valuable things.
2. It is seen as a form of **"economic terrorism" practiced by** Economic terrorists.
3. The circulation of a large amount of fake currency **increases the money in circulation,** which **can increase the demand** for goods and **hence increasing inflation**.
4. Further, the demand rise **may create a shortage of goods impacting the supply chain of the economic activities.**
5. **No return policies of banks** are another issue that **occurs when banks reject the fake notes and do not recover the losses.**
6. Firms which are involved in daily cash transactions **face heavy losses and discourages business deals.**
7. Counterfeit currency results in **loss of public confidence in the government and currency.**

✍ **Government measures which led to decline in the counterfeit currency:**

1. In 2016 **Government has demonetised Rs. 500 and Rs. 1,000 notes to discourage the use of high-denomination (Big value) notes for illegal transactions and to stop Counterfeiting.**
   - **[Demonetisation** is the act of removing the status of legal tender from a currency unit say Rs.500 **note.]**
   - **[Legal tender is the money recognised by law.]**
2. The **Council of Scientific and Industrial Research (CSIR)** has developed **a bi-luminescent security ink in the notes, which glows in red and green colours** when two different lights made to fall on it.
3. Government has established a **Terror Funding and Fake Currency (TFFC) Cell to focus on terror funding and fake currency cases.**
4. **FICN Coordination Group (FCORD)** has been formed by the government to share the required intelligence/information among the security agencies.
5. A Memorandum of Understanding **(MoU)** (Basically an agreement between two countries) has been signed **between India and Bangladesh to counter smuggling and circulation of fake currency notes.**
6. **Security at the international borders** has been **strengthened** by using **new surveillance technology.**

5.9   **FINANCIAL INCLUSION INDEX 2020-21**

Why in News?

In August 2022, **RBI** released the **Financial Inclusion Index 2020-21**

✍ **What is Financial Inclusion?**

1. It is **defined as the availability and equality of opportunities to access financial services.**
2. These **include banking, loan facilities and insurance products.**
3. It **refers to a process by which especially vulnerable groups** and **weaker section** can **have access to cheap, easy and timely financial services and products.**
4. **Banks help in financial inclusion by enabling people to store, send & receive payments through bank accounts.**

✍ **What is the Financial Inclusion Index?**

1. It was **initiated by the RBI in year 2021.**
2. **FII is published in July every year**.
3. **It was initiated without any 'base year'.**
   [Base year is year which is used for comparison of information and figures with the current year]
4. Index contains the **details of Banking, Investments, Insurance, etc.**
5. **RBI works in consultation with the government** and the **related agencies** (banks, ATMs etc.) while making this index.
6. It **Aims is to get information** on **Financial Inclusion rate** in the country.
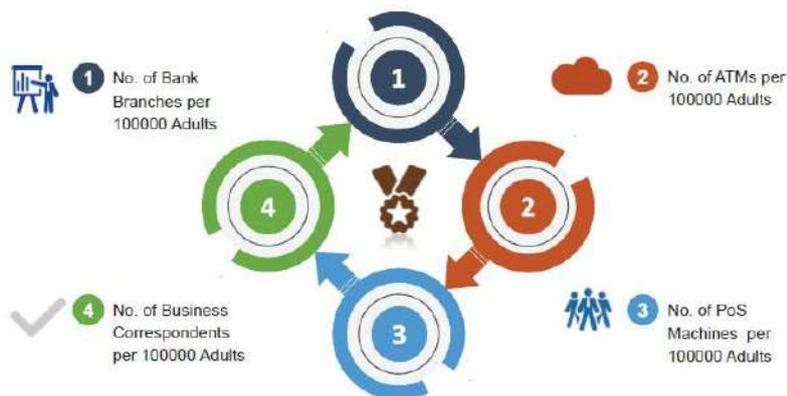
7. Index indicates financial inclusion by single value **ranging between 0 and 100.** Where **0 represents complete financial exclusion** and **100 shows full financial inclusion.**

✎ **Parameters used for FII assessment:**

1. There were in **total 97 parameters.**
2. The **3 broad parameters that FII used are:**
   ▪ **Access** (35%)
   ▪ **Usage** (45%)
   ▪ **Quality** (20%)

Figure VI.2-Broad Indicators to Measure Access to Financial Services

1. No. of Bank Branches per 100000 Adults
2. No. of ATMs per 100000 Adults
3. No. of PoS Machines per 100000 Adults
4. No. of Business Correspondents per 100000 Adults

✎ **Significance of FII:**

1. The **updated data from FII will be used in policy making** for further development of financial inclusion.
2. FII will **help in assessment of the role of financial inclusion in poverty alleviation.**
3. A **good rating at FII will help attracting businesses in India** as it will **help in ease of doing business.**
4. It provides **information on the level of financial inclusion**.
5. It can be **used directly as way to calculate Development.**
6. It leads to **fulfilment of G20 Financial Inclusion Indicators** requirements.
   ▪ [G20 indicators measures the state of financial inclusion and digital financial services, nationally and globally.]
7. It also helps **researchers to study the impact of financial inclusion** on society and Economy.

✎ **Initiatives taken by Government to Increase Financial Inclusion:**

1. **Digital India programme to making more and more people able to use digital services like payment apps, internet banking etc.**
2. **Aadhar Card as Identity, which is helpful in getting Direct Benefit Transfer of government subsidies and grants.**
3. **Pradhan Mantri Jan Dhan Yojana for opening bank accounts make the**
4. **National Centre for Financial Education established by government of India.**
5. **Centre for Financial Literacy Project which help in implementing the programmes related to digital literacy.**
6. **Expansion of financial services in Rural and Semi-Urban Area Promotion of Digital Payments**

| 5.10 | **CENTRE RELEASES ₹1.16 LAKH CR. TO STATES AS GST COMPENSATION CESS** |

Why in News?

In August 2022, **Central government released** funds as **Goods and Services Tax (GST) compensation cess** to help **State governments, who did not get enough tax revenue.**

✎ **About Goods and Services Tax (GST):**

1. GST is a **comprehensive, multi-stage, destination based domestic tax.**
2. It **applies on the consumption of goods and services.**
3. It was **introduced through the Constitution (101st Amendment) Act, 2016** for the 'One Nation, One Tax, One Market' regime.
4. It **gets levied (applied) at every value addition point** in **Goods and Services.**
5. **several indirect Central and State/UT level taxes** on Goods& Services gets **merged under GST.**
6. **Some taxes are still out of its ambit such as:**
   Excise Duty on Alcohol, Property Tax; Stamp Duty, Petroleum crude, Diesel, Petrol, Aviation Turbine Fuel, Natural Gas, Electricity Duty, Basic Custom Duty, etc.
7. **Based on inter-state and intra-state,** it **has 4 components:**
   - **Central GST (CGST)**
   - **State GST (SGST)**
   - **Union Territory GST (UTGST)**
   - **Integrated GST (IGST)**
8. **IGST is applicable on inter-state supply of goods and services** while **others are intra-state**. It is **governed by the Centre** and **divided between respective states.**

✎ **About Compensation cess:**

1. **States are guaranteed compensation for any loss in tax collection below 14% growth (base year 2015-16).**
2. It is done **for the first 5 five after 2015.**
3. It was **paid bi-monthly**.
4. GST Compensation Cess is **collected on supply of select goods or services or both.**
5. **GST compensation is paid out of Compensation Cess** every 2 months by the **Centre to states.**
6. It was specified by the **GST (Compensation to States) Act, 2017.**
   - [GST Act 2017: **All the taxpayers**, **except** those **who export specific notified goods** and those who have **opted for GST composition scheme**, are **liable to collect and remit the GST compensation cess** to the central government.]
   7. **Compensation Cess Fund** was also established and the **cess collected** and the **amount recommended by the GST Council** would be **credited to the fund.**

✎ **15th Finance Commission's recommendations for compensation cess:**

1. **Horizontal Devolution (allocation between the states)**: The commission suggested **12. 5%** weightage to demographic performance**, 45%** to

income, **15%** each to population and area, **10%** to forest and ecology and 2.5% to tax and fiscal efforts.

2. **Vertical Devolution (Union to States):** States' share in the total GST collection will be **41%** for the **5-year period starting 2021-22.**

✑ GST Significance and Achievements:

1. GST has **promoted economic federalism through GST Council.**
2. It has **encouraged Ease of Doing Business through simplification of business processes** and **electronic tax fillings**.
3. **Real-time data reporting** has become easy **as GST allows tax administrators** to **monitor tax compliances** and **potential revenue leakages.**
4. GST **helps in exploring the unexplored areas of data analytics** and **audit through easy integration** with **other departments, regulators etc.**
5. **Increase in tax base from 63.9 lakh taxpayers** in **2017 to 1.38 crore in 2022**.
6. **Increased collection with GST** is **top contributor in central government revenues** (₹5.9 lakh crore).

5.11 COOPERATIVES ON GEM PORTAL

Why in News?

In August 2022, Cooperatives are added to the government e-marketplace **(GeM) portal, allowing** them to **store or acquire products** like other government agencies.

What was the earlier status?

Until now, **cooperatives were purchasing from the open market.**

Why this move?

1. Adding cooperative to GeM **will provide a huge platform** to **sell cooperative products to a large pool of government buyers.**
2. The **GeM portal** will be v**ery useful in bringing in transparency** in the cooperative sector.
3. It will **help in increasing the trust of farmers** and **milk producers** on the **committees and their members due to increased transparency.**

What is GeM?

1. **It** is a **one-stop portal** for the **online procurement** (to purchase and store) **of goods and services**.
2. It has been **developed by** the **Directorate General of Supplies and Disposals** (Ministry of Electronics).
3. It is a 1**00 percent government owned Section 8 company** which is established **under the Department of Commerce, Ministry of Commerce and Industry** for **procurement of goods and services** by **Central and state** government **organisations.**

✎ About cooperatives:

1. It is a **voluntary association of individuals** having **common needs** who **come together for common economic interests.**
2. It works **on the basis of the principle of voluntary and open membership, Autonomy to members**.
3. 'Ministry of Co-operation' a separate ministry has been **created by the Central Government for realizing** the vision of **'Sahkar se Samriddhi' (Prosperity through Cooperation).**
4. **Constitutional provisions related to cooperatives:**
5. Cooperatives **come under the 'state list' of the 7ᵗʰ schedule.**
6. **Forming a cooperative** is a **fundamental right** under **Art19(1)(c).**
   - The word **"cooperatives"** was added after "unions and associations" in **Article 19(1)(c) in Part III of the Constitution**.
7. It is **duty of states to promote cooperatives**, Art 43-B of directive principle of **state policies says so.**
8. **97ᵗʰ amendment Act 2011 added a new part PartIX-B regarding cooperative working in India.**

✎ History of cooperatives:

1. The **1ˢᵗ credit cooperative society** was **formed in Banking in 1903**.
2. Cooperatives **got a legal status with** the enactment of the **Cooperative Credit Societies Act, 1904**.

5.12   DIGITAL CURRENCY OR CRYPTOCURRENCY

Why in News?

In August 2022, **United Nations Trade and Development Body (UNCTAD)**, said that **7% of India's population owned Digital Currency in 2021.**

- **India was ranked 7ᵗʰ among the top 20 global economies** list **for digital currency ownership as share of population.**
- United Nations Conference on Trade and Development (UNCTAD) was **established in 1964**. It works **to promote a development-friendly environment into the world economy.**

✎ What is cryptocurrency?

1. It is a **digital currency** that does **not depend on** on any **central authority to support or maintain it.**
2. Digital currency also **commonly known as private currency.**
3. **Transaction** and **ownership data** is **stored in a digital ledger and for this Distributed Ledger Technology (DLT) is used.**
   For example: Blockchain, etc.
4. **Under DLT**, data is **stored in multiple places** at the **same time.**

✍ **Features of Digital Currencies:**

1. Cryptocurrencies **does all operations** (lend, sell, buy, or borrow) **without an identity** of a person or even a bank.
2. **Though it works without identity but** all records of its **operations get stored in a sort of big digital book** that **anyone can access, which makes it honest.**
3. It **can't be stolen easily** or seized **due to high** level of encoding **(security code).**
4. As it is operated digitally, it **can be used anywhere in the world.**
5. The **cost to send crypto to convert it into regular currency, is cheaper** than other mediums of transfer for same cause for example, check or wire.
6. **Due to lack of regulation and maintenance** these currencies are **highly volatile** (Price fluctuations).
7. Cryptocurrency **does not exist in physical form** (like paper money) and is **not issued by central authority.**
   - However, **many governments are working to create** a cryptocurrency of its own **for ex., India** is looking forward to launch its **CBDC.**
8. Cryptocurrencies are **usually of decentralized nature,** as they are not regulated by central governments.

✍ **India and Cryptocurrency:**

1. **2009**: **First** cryptocurrency, **Bitcoin** launched in **2009** by **Satoshi Nakamoto.**
2. **2018: RBI and other regulated agencies** were **banned from** supporting **cryptocurrency transactions.**
3. **2019: Inter-ministerial committee recommended ban on all** private cryptocurrencies.
4. **2020: Supreme Court** stated **it is unconstitutional to ban** the operations of **cryptocurrencies.**
5. **2021: Cryptocurrency and Regulation of Official Digital Currency Bill, 2021** was introduced.

Hence, currently Cryptocurrencies **are unregulated** but **not illegal** in India.

✍ **RBI and Digital Currency:**

1. RBI is exploring various **DLT (Distributed Ledger Technology) for better operation** to launch Central Bank Digital Currency (CBDC).
   - **Blockchain** is just one type of **distributed ledger.**
2. **Central Bank Digital Currency** will be a legal tender.
3. CBDC also can be **converted and exchanged with similarly denominated (of same value) cash.**

✍ **Benefits of Cryptocurrency:**

1. **Integral security:** If you use false name to steal, the **ledger systems hide the identities.**
2. **Low transaction cost:** Very **low fees and charges for transactions as compared to traditional currencies.**

3. **Lack of interference from the banking system:** As these currencies are **not regulated by government** hence, they **fall out of the coverage of banking system guidlines,** resulting into **low interference from government policies.**
4. **Universal recognition:** Lots of **cryptocurrencies are recognised and acceptable in many nations.**

✎ **Challenges associated with cryptocurrencies:**

1. **Despite of high security there are risks in form of** Cyberattacks on wallets, exchange mechanism fraud (Crypto jacking).
2. **As** the cryptocurrencies are **not regulated** by central **government,** hence these **can't be traced** by governments which **makes them easier to use** for Illicit Trading**, Criminal Activities, & organised crimes.**
3. **If large numbers of** investors **invest in digital currencies rather than rupee** the **demand of** the latter (**rupee) will automatically fall** and can cause **loss rupee value.**
4. There is a problem with digital currencies, that is **lack of Liquidity which results into lower acceptability.**
5. Digital **currencies are Vulnerable to the price fluctuations**, making them **unstable** currencies.
6. There is **no proper dispute settlement mechanisms** and **control, which makes it less consumer friendly.**

Way Forward

1. India **should learn from the best practices in the world in crypto field** and should **take safeguards, measures and regulatory structure** from them.
2. India **needs to speed up the process of passing of the Cryptocurrency regulation bill.**

✎ **Some popular Cryptos of the world:**

1. **Bitcoin:**
   ▪ It was introduced in 2009.
   ▪ Bitcoin was **created by** "**Satoshi Nakamoto**".
   ▪ It is **world's first successful cryptocurrency.**
2. **DOGECOIN:**
   ▪ It was **introduced in 2013.**
   ▪ Dogecoin was **created by Jackson Palmer and later Billy Markus.**
3. **Ethereum:**
   ▪ It was **launched in 2015.**
   ▪ Ethereum was **created by Vitalik Buterin.**
4. **Litecoin:**
   ▪ It was **introduced in 2011** and **created by Charlie Lee.**
   ▪ Litecoin is **unique from Bitcoin** as **it can produce a greater number of coins and its transaction speed is faster**.
5. **Stellar Lumen (XLM):**
   ▪ It was **introduced in 2015** and **created by Jed McCaleb.**
   ▪ Stellar is a **decentralized computer network** that **operates using blockchain technology.**

5.13   DIGITAL LENDING ECOSYSTEM

Why in News?

In August 2022, the Reserve Bank of India **(RBI) introduced a framework for regulating the digital lending ecosystem in the country.**

✎ What is Digital Lending?

1. Digital Lending **involves lending** (loaning) **of money to borrower through web platforms** or **mobile apps**.

2. Digital lending operations **use technology and software for user and lender verification.**

3. It **operates at very low cost** and **also ensure speedy loan processes.**

4. **Digital lenders are of 3 kinds:**
   - Those **regulated by the RBI.**
   - Those **not regulated by RBI**, **authorised by some other** statutory/regulatory **provisions**
   - Entities lending **outside the purview of any statutory/ regulatory provisions and also not regulated by RBI.**

5. **Lending Service Providers (LSPs) works in partnership with Non-Banking Financial Companies (NBFCs)** who pay credit to the customer using the platform of service provider, and makes it a multi-sided platform.

Digital Lending Platform
Digital Lending includes a Platform that matches the credit needs of a borrower with the lending objectives of a lender.

Lenders   Platform Provider   Borrowers

6. The latest set of regulations are on the basis of recommendations of **Working Group on 'Digital Lending including lending through online platforms and mobile apps' (WGDL).**

✎ About WGDL:

1. The **working group will evaluate digital lending activities**.
2. **Identify the potential risks by unregulated digital lending to financial stability of the country.**
3. WG will also **analyse regulated entities and consumers.**
4. **It will act as advisory body for regulatory changes to promote growth of digital lending.**

✎ What are the new regulations?

1. **Only those entities will be allowed to perform lending which are either regulated by the RBI or have permission to operate under a law.**
2. The RBI has directed that **all loan processes** and repayments should be done **directly between** the bank accounts of the **borrower and the entity.**
3. **Before operating** the lending service, lenders have to **inform the borrower** in a simplified format **about all the fees, charges as well as the annual percentage rate**

(APR) of interest on the loan. This would **help borrowers to make better comparisons** of the lenders.

- **APR is charge for borrowing a loan and it includes a processing fee, penalties and all other charges associated with it.**

4. According to the new guidelines **LSPs cannot raise the credit limit of their customers without prior agreement.**

5. There **should be a proper dispute resolving framework** and entities involved in digital lending **would have to appoint a complaint resolving officer.**

✎ Regulation of Data under the guidelines:

1. All **data collected by the apps should be "need-based"** and **must be used only with the prior and clear consent of the borrower.**

2. Users are also **allowed to revoke previously granted consent.**

3. The **user's information which will be required and stored must be told in the privacy policy during enrolment.**

4. RBI has said that **user consent would be compulsory for sharing any personal information with a third-party.**

✎ Issues related to Digital Lending:

1. As technology is **vulnerable to cyberattacks and hacks,** there is possibility of **leakage of user data.**

2. Major section of **people in India are not aware about the digital lending and** hence its benefits can not be fully realized in the country.

3. There is **no solid legal framework in case of disputes between lender and borrower** which is one of the major issues.

4. **Poor digital literacy** is one major issue for digital lending, as **only 27% of our population know how to use internet services.**

5. There are **high possibilities of uninformed interest hikes and data misuse** without prior consent of user in the digital ending cases.

✎ Significance of these guidelines:

1. **These regulations would help in solving various problems related to Tech-Fin such as low maintenance, old technology.**
   - Tech-Fin are **companies that are tech-based service providers, say e-commerce, but also offer financial services.**

2. The **digital lending may have small share in the economy of country at present**, but it can potentially **become important players soon.**

3. **The guidelines will help in reducing rising malpractices** (abuses) **in the digital lending ecosystem.**

✎ Benefits of Digital lending ecosystem in the country:

1. Digital lending will **help in establishment of paperless economy.**

2. Digital lending operations are **more transparent as compared to the banking,** as all the relevant information is got stored.

3. The new **applications** in the market which offers digital lending are very **customer friendly** hence, **makes the lending process easier and faster.**

4. Easier and faster lending will **help in ease of doing business (EoDB)** in the country **and will attract more FDI.**

6. ENVIRONMENT

6.1 ECO-FRIENDLY ALTERNATIVE FOR SINGLE USE PLASTIC WRAPPERS

Why in News?

In August 2022, a Goa-based **startup offers a homegrown biodegradable polymer** as **an alternative to single-use plastic (SUP) wrappers** such as shampoo sachets.

✎ **More about the News:**

1. **LaFabrica Craft Private Limited** is a company based in Goa that **designs eco-friendly products for common plastic packaging** items such as **fully biodegradable shampoo sachets** and **chutney packets using natural biopolymer.**

2. **Material used**: derived **from organic substances such as corn and tapioca starch, seaweed, and casein** (a cow milk protein).

3. **Other plastic alternatives**: bamboo, banana fibre, coconut husk, and paper or cardboard.

What is SUP?

It refers to **those plastic items which are used only once for some purpose** (e.g., plastic spoons, straws used for eating, drinking).

✎ **Why do we need such alternatives?**

1. Government is **encouraging such alternative** to SUP **because of recent SUP ban under Plastic Waste Management (PWM) Amendment Rules, 2021.**

2. It is banned **due to its heavy impact on environmental, economic and physical health.**

3. Those **SUP items which have less usefulness** and **high littering potential** are banned from **1st July, 2022.**

4. According to the ban guidelines, **manufacture, import, storage, distribution, sale and use of SUP is prohibited.**

5. There are various range of items that are **notified by MoEFCC under Plastic Waste Management (PWM) Amendment Rules, 2021. Such items include:**
   - **Plastic Sticks-** earbuds, balloon sticks, plastic flags, candy sticks, ice- cream sticks etc.
   - **Cutlery items**- plates, cups, glasses, forks, spoons, knives, straws etc.
   - **Packing/ Wrapping Films- used in sweet boxes, invitation cards, cigarette packets etc.**
   - Other items like banners **less than 100 microns**, thermocols etc.

✎ **Harmful impacts of SUP:**

1. **On Environment:**
   - It takes **long time to decompose** so it **gets collected in soil** and **water** over a period of time.
   - Its **production leads to the release of greenhouse gases** as these are manufactured using fossil fuels.
   - It causes **harm to wildlife as animals and birds, as they get entangled (stuck) in plastic debris**, and **some die upon feeding on SUP items.**
   - It **leads to destruction of coral reefs by** getting **deposited on them**.
   - It **acts as medium for the transportation of chemicals and Persistent Organic Pollutants (POPs).**
   - **Burning** of plastic waste can **cause air pollution.**

2. **On Economy:**
   - **Decline in tourism due to decrease in** aesthetic **beauty** caused **by plastic mess.**
   - **Blockage of drains and sewers.**
   - **Marine plastic** debris **obstructs ships.**
   - It negatively **impacts fishing industry.**

3. **On health:**
   - It leaks **into food chain through packaging.**
   - **Toxins in food** and **water disrupts normal hormonal functions** and can be **cancer causing.**

✎ **Statistics related to Plastic Pollution in India:**

1. **3.5 million tonnes of plastic waste are generated annually.**
2. **Per capita plastic waste generation has almost doubled** over the last 5 years.
3. **Only 60% of plastic waste gets collected** from the country.
4. The **'Global Plastics Outlook: Policy Scenarios to 2060' report** was released recently by **OECD** which has **predicted that use of plastics and plastic waste will almost triple globally because of economic and population growth** and **half of all plastic waste will reach landfills with less than 1/5th being recycled.**

Way Ahead:

1. **Government should impose taxes** on **plastic packaging to reduce their demand** and promote reusability.
2. India should **bring policies to improve product design** to **make them more durable** and to **encourage reuse and recycle.**
3. Increase the **availability and affordability of biodegradable plastics** and **SUP alternatives** by **encouraging manufacturing through** the **promotion of innovation, offering tax benefits, etc.**
4. **Improving waste collection, recycling and investing** in sanitary landfills to eliminate any leakage of plastic waste.
5. **Identify and target priority regions** of origin and distribution of plastics.

6.2   FLOOD FORECAST IN MAHANADI RIVER

Why in News?

In August 2022, the **Indian Meteorological Department (IMD)** has **forecast a heavy rainfall causing the flood situation in the Mahanadi River, Odisha.**

- The **low-pressure area is expected to form** over the **north Bay of Bengal and trigger heavy rainfall at a few places in Odisha and Chhattisgarh.**

 What is the India Meteorological Department (IMD)?

1. IMD was **established in 1875.**
2. It is an **agency of** the **Ministry of Earth Sciences.**
3. It is the **principal agency responsible for meteorological observations, weather forecasting and seismology.**

 About Mahanadi River?

1. The Mahanadi River system is the **3rd largest river of peninsular India after Godavari and Krishna.**
2. **It is the largest river of Odisha state.**
3. The catchment area of the river **covers areas of Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand and Maharashtra.**
4. Mahanadi is **surrounded by the Central India hills** on the north, by the **Eastern Ghats** on the south and **east and by the Maikala range** in the west.
5. Mahanadi river **has its origin in Chhattisgarh to the south of Amarkantak, and it rises from a place near Sihawa, near Raipur.**
6. Its left bank tributaries are Seonath, the Hasdeo, the Mand and the Ib.
7. **Right bank tributaries of Mahanadi River are Ong, the Tel and the Jonk as they join it from right.**
8. The **Central Government constituted Mahanadi Water Disputes Tribunal in 2018.**
9. Three **important urban centres** in the river basin are **Raipur, Durg and Cuttack.**

Mahanadi River Basin

 Major Dams/Projects on Mahanadi:

- **Hirakud Dam:** longest dam of India.
- Ravishankar Sagar
- Dudhawa Reservoir
- Sondur Reservoi
- Hasdeo Bango and
- Tandula are other major projects.

 Importance of Mahanadi River:

1. Mahanadi basin, **has a favourable industrial climate, because of its rich mineral resource** and **adequate power resource**.

2. **Iron and Steel plant** at Bhilai.
3. **Aluminium factories** at Hirakud and Korba.
4. **Paper mill** near Cuttack.
5. **Cement factory** at Sundargarh.
6. There are many other **industries based mainly on agricultural produce are sugar and textile mills depend upon Mahanadi River.**
7. **Mining of coal, iron and manganese** are other industrial activities.

✎ What should be way forward to handle the flood like situation?

1. There should be better **coordination in agencies and reservoir management authorities** to **ensure the timely opening of dam spillways** and **create water holding capacity.**
2. A **comprehensive flood management plan** is also **needed for better** Disaster preparedness.
3. **Planned urbanisation can help in reducing the impact of disasters.**
   - **For example, Japan** faces earthquakes and Tsunamis more than other countries but with better urban planning they are able to fight these disasters.
4. **A clear watershed** (crisis) **management and emergency drainage plan** should be there in policy and law.

### 6.3　UN TO SIGN TREATY ON OCEAN BIOLOGICAL DIVERSITY

Why in News?

In August 2022, India and other member countries of the UN has agreed on an agreement to conserve marine biodiversity in the high seas.

- **It is one of its kind agreements.** (Never happened before)

✎ What are High Seas?

1. The **high seas comprise nearly 45% of the Earth's surface.**
2. The **high seas are the parts of the ocean that are not included in either** of the **exclusive economic zones, territorial sea** or **internal waters of a State.**
   - **[Exclusive Economic Zone is an area of the sea in which a state has special rights** regarding the exploration and use of marine resources, including energy production from water and wind.**]**
3. The high seas are **open to all States**, whether c**oastal or land-locked.**
4. **Freedom of the high seas work out under the conditions laid down by this Convention and by other rules of international law.**
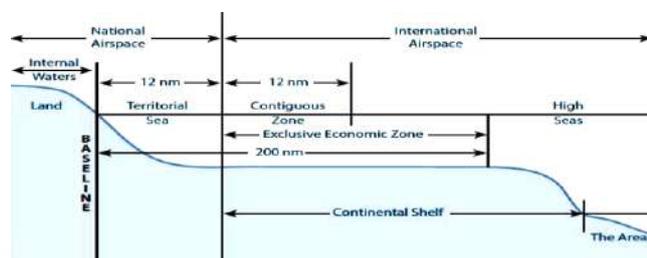
✎ Why do we need the Ocean Diversity Pact?

1. The **agreement will give clarity on the rights of companies that undertake exploration for biological resources** in the high seas.

- For example, do companies have absolute rights on any discovery or extraction in these regions or should they have to share their gains, in terms of intellectual property with **UN?**

2. **Lack of monitoring and surveillance** are violating the rights under open seas.
3. There are **requirements for undertaking environmental impact assessments**, to **control the excessive impact of developmental activities on the ocean biodiversity.**
4. There is **no single global mechanism to establish Marine Protected Areas (MPAs)** outside States territorial seas hence, this treaty will help in bridging the policy gaps.
5. Studies on **sustainable utilisation of deep-sea bio-resources** is will be the main focus of the treaty, which is requirement of the time for sustainable development.

✍ About the Treaty:

1. The **agreement is expected to be the final in a series**.
2. set in **motion since 2018 to draft an international legally binding instrument** under the **1982 United Nations Convention on the Law of the Sea (UNCLOS).**
3. The **treaty aims** to **address the conservation and sustainable use of marine biodiversity.**
4. **The treaty will be applicable on the areas of the ocean which are beyond the limits** of **national maritime zones.**
5. It **will also address issues of marine genetic resources**, which includes:
   - Questions on benefit-sharing of resources
   - Measures such as area-based management tools
   - Environmental impact assessments
   - **Transfer of marine technology**
6. The agreement also **decides the rights of companies that will do exploration for biological resources in the high seas.**
7. With **advancement in biotechnology** and **genetic engineering**, several **companies see potential in exotic microbes** and **other organisms under sea, which will be attracted by this treaty.**
8. **Deep ocean** and **could be used for drugs, vaccines and a variety of commercial applications.**
9. The **treaty seeks to protect our global oceans**, **from the impact of industrial fishing, climate change** and other **extractive industries.**

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

1. UNCLOS is a short form **for the United Nations Convention for the Law of the Sea.**
2. The **convention is also sometimes referred to as the Law of the Sea Convention or the Law of the Sea treaty.**
3. UNCLOS **came into operation** and **became effective from 16th November 1982.**
4. **India became a signatory** to the UNCLOS in 1982.
5. It r**eplaced the 4 Geneva Conventions of April, 1958.**
6. [These **4 Geneva conventions were also about the territorial sea**, the **continental shelf**, the **high seas**, and **fishing and conservation of living resources on the high seas.]**
7. **As per UNCLOS**, the **sea is divided into 4 parts:**

   - **Territorial waters**

- ▪ **Contiguous Zone**
- ▪ **Exclusive Economic Zone (EEZ)**
- ▪ **Continental Shelf**

8. It **defines a distance of 12 nautical miles (approx. 22 km)** from the **baseline as Territorial Sea limit**.

9. It also **defines a distance of 200 nautical miles as Exclusive Economic Zone (EEZ) limit**.

6.4   **WILDLIFE (PROTECTION) AMENDMENT BILL 2021**

Why in News?

In July 2022, **Lok Sabha** passed the **Wildlife (Protection) Amendment Bill, 2021**.

✎ **Wildlife (Protection) Act, 1972:**

1) Currently, the Act has **six schedules (lists).**

- • 1 schedule **for protected plants** (1),
- • 4 schedules for **specially protected animals** (4)
- • 1 for vermin species (one).

2) **The Bill reduces the total number of schedules to four by:**

a. **Schedule I** for species that will enjoy the **highest level** of protection.

b. **Schedule II** for species that comes under **lesser degree** of **protection.**

c. **Schedule III** covers plants.

d. It removes the schedule for **vermin species.**

{Vermin refers to **small animals that carry diseases** and destroy food.}

e. This bill **adds a new schedule for** specimens listed in the Appendices under **CITES (scheduled species).**

✎ **What is the Wildlife (Protection) Amendment Bill 2021?**

1) It was **introduced by** the **Minister of Environment, Forest and Climate Change (MoEFCC) on 17th December 2021.**
2) This bill **tries to amend the Wild Life (Protection) Act, 1972.**

Bill seeks to **increase the species protected under** the law and implement the **CITES.**

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

1) CITES is an **international agreement between governments.**

2) It **works to safeguard that international trade in varieties of wild animals and plants, does not affect the survival of the species.**

3) CITES needs countries to **regulate the trade of all listed specimens through permits.**

4) The convention **also says to regulate the ownership of living animal** species.

✎Authority given to govt. by the Bill:

1) **The Bill gives power to central government to elect a Management Authority,** which grants **export or import permits** for trade of species.
2) **Every person involved in trade** of a scheduled species **must report** the details of the transaction **to the Management Authority.**
3) The Bill **prohibits** any person from modifying (changing) or removing the identification mark of the specimen.
4) Govt. may establish a **Scientific Authority,** which gives advice for the **survival of the traded specimens.**

✎ Ther important features of the Bill:

1) It **empowers the central government** to regulate or prohibit the import, trade, possession or proliferation of **invasive alien species.**
   [Invasive alien species are **plant or animal species which are not native to India** and **whose introduction may badly impact wildlife or habitat**.]
2) The central government may give authority to an officer to **seize** (to take hold) **and dispose of the invasive species.**
3) The Bill ask to appoint a **Chief Wildlife Warden to manage all sanctuaries in a state.** The Chief Wildlife Warden is appointed by the **state government.**
4) The Bill requires that **actions of the Chief Warden must be in line with the management plans for the sanctuary.**
5) State governments may declare areas close to **national parks and sanctuaries** as a **conservation reserve,** for protecting flora and fauna, and their habitat.
6) **6)The Bill empowers the central government to also notify a conservation reserve.**
7) The **WPA Act 1972** prescribes imprisonment terms and fines for violating the provisions of the Act.
   a) **The Bill increases these fines.**

Type of Violation	1972 Act	2021 Bill
General violation	Up to Rs 25,000	Up to Rs 1,00,000
Specially protected animals	At least Rs 10,000	At least Rs 25,000

6.5   FEASIBILITY OF CARBON REMOVAL BY COASTAL RESTORATION

Why in News?

In **July 2022**, a study raised **concerns about the efficiency of restoring coastal habitats to balance carbon emissions.**

What is coastal habitat or ecosystem?

The coastal ecosystems occur where the land meets the sea and that includes a diverse set of habitat types like **mangroves, coral reefs, seagrass beds, estuaries and lagoons, backwaters,** etc.

✍ Why it is important to maintain and restore these habitats?

1. The coastal ecosystem offers a variety of services
2. Education and research,
3. recreation,
4. tourism (e.g., diving, games, etc.)
5. Habitat for fish and shellfish, maintenance of fisheries.
6. Sandy Beaches.
7. Sand and minerals for economic activity.
8. water catchment, and purification.
9. Coastal protection, erosion control, protection from storm surges and tsunamis, prevent seawater intrusion.

Coastal Ecosystem Services
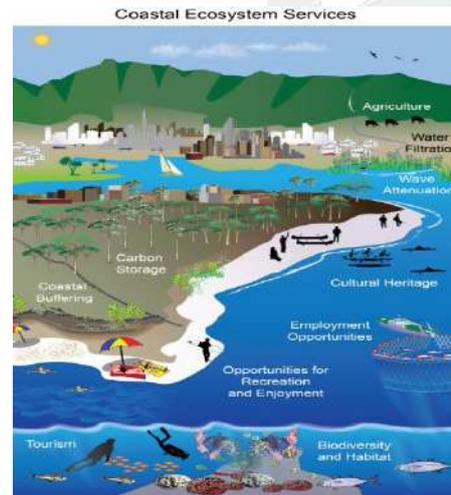
✍ What are the Findings of the study?

- There's **a real** risk associated with the coastal ecosystem **in mitigating emissions** that have been massively oversold.

- It is extremely **difficult to work out a reliable figure for carbon accumulation by coastal ecosystems under current conditions.**

- There is a very weak **basis for calculating the future carbon balances**.

✍ What are the Causes of Uncertainty?

1) Estimates of the rate at which **blue carbon** habitats remove CO_2 from the atmosphere vary widely.

   [Blue Carbon refers to carbon sinks held by coastal, aquatic, and marine vegetation, marine organisms, and sediments.]

2) **There are errors in the dating process of fossil fuels by making sediments seem younger,** and carbon burial rates greater than they really are.

   [Carbon dating is a **radiometric dating method**. It used to estimate the **age of carbon-bearing materials up to about 58,000 to 62,000 years old.]**

3) Much of the carbon buried in coastal sediments comes from soil swept from the land and carried by rivers. This is called **Imported Carbon.** The **proportion of 50% imported carbon near the sediment surface increased to 80% in deeper layers.**

   [Since the deeper value represents the habitat's long-term **carbon burial** rate, the direct contribution of a restored habitat to removing carbon **may be much less important than thought.]**

4) Turning an **oil palm plantation back into a mangrove forest** or **flooding a coastal area** to make a saltmarsh should help the land accumulate carbon.

   But that same **land could also release more methane (also known as marsh gas) and nitrous oxide** both powerful greenhouse gases leaving **no net climate benefit.**

5) There are **calcifying animals (having Skelton made up of calcium carbonate) and plants which grow in these habitats,** particularly **seagrass meadows.**

- The strap-like leaves of seagrass are often covered by a white crust of shelled worms.

- When these organisms **make their calcium carbonate covering, CO_2 is produced.**

What are the Recommendations of the studies?

1) Blue **carbon habitats (marshes, swamps) should still be protected** and restored, as they have benefits for climate adaptation, coastal protection, food provision, and biodiversity conservation.

2) Every effort should still be made to stop, the worldwide loss of coastal vegetation.

3) The **priority must be to double down on emission reductions,** only **using carbon removal methods to help achieve net zero** where their **success is certain.**

6.6   ARIDITY ANOMALY OUTLOOK INDEX: IMD

Why in News?

In July 2022, Indian Metrological department has released the **Aridity Anomaly Outlook (AAO) Index**, which says at least **85% of districts face arid conditions across India.**

What is Aridity Anomaly?

Aridity is water stress that plants feel **in the absence of water** or moisture. Whereas, **anomaly is term used to indicate the deviation (difference) from the normal or standard value.**

What is the Aridity Anomaly Outlook Index?

1) The index monitors **agricultural drought, a situation where rainfall and soil moisture are insufficient to support healthy crop growth.**\
2) It is Developed by the **India Meteorological Department (IMD).**

Characteristics of the Index:

1) This is a **real time** (which gives information of present time) Index.
2) The Aridity Index (AI) is calculated **for weekly or two-week periods** and for each period aridity anomaly is calculated.
3) Negative **(-) values show a surplus** of moisture while **positive (+) values show moisture stress.**

Key terms used as parameter for index:

1) **Actual evapotranspiration**: It is the quantity of water that is actually removed from a surface by evaporation and transpiration.
2) **Potential evapotranspiration** is the maximum attainable or achievable evapotranspiration for a given crop due to evaporation and transpiration.

These terms require temperature, wind and solar radiation values to get the required information about moisture present.

✎ Significance of the Index:

1) **Impacts of drought** in agriculture can be better analysed with information of index.
2) In the **tropics where there is wet and dry seasons** are part of the climate regime, it will **help in analysing** the requirements for crop growth.
3) Both **winter and summer cropping** seasons **can be evaluated using this method.**

✎ What are the Findings?

1) While **660 are facing** different degrees of aridity — **mild, moderate and severe,** only **63 districts out of 756 are non arid.**
2) **196 districts** are in the grip of a **'severe' degree of aridity** and **65 of** these are **in Uttar Pradesh (highest) followed by Bihar(2nd highest).**
3) Other districts facing **'severe arid' conditions** are **Jharkhand, Haryana, Madhya Pradesh, Delhi, Telangana, Maharashtra, Andhra Pradesh, Jammu and Kashmir, Punjab, West Bengal, Rajasthan, Karnataka and Tamil Nadu.**
4) The SPI (Standardised Precipitation Index) also **highlights a persisting rainfall deficit in these areas in the last six months.**
5) Arid conditions have impacted the ongoing kharif sowing, as the area sown under kharif crops as of July, 2022, was reduced by **13.26 million hectares as compared to previous year(2021).**
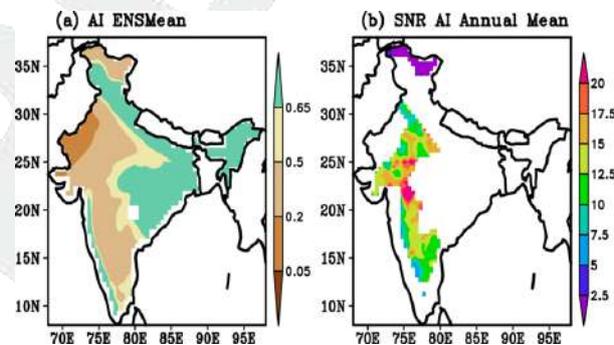
✎ What is the Standardised Precipitation Index (SPI)?

1) This is also an index used to **characterize meteorological drought on different timescales**

   On **short timescales**, the SPI is **closely related to soil moisture**, while at **longer timescales**, the SPI can be **related to groundwater and reservoir storage.**

2) It is managed by the **Indian Institute of Technology, Gandhinagar (IIT-G).**

6.7   ILLEGAL MINING OF MINOR MINERALS IN INDIA

Why in News?

A study in 2022, says that **India has neglected the issue of illegal mining, which damages the environment and causes revenue loss.**

✎ What is Illegal Mining?

1. **Illegal mining is the mining activities** that happen without the permission of the state.
2. These **permissions are** often granted in the form of **land rights**, **mining licenses**, and **mineral transportation permits** etc.

✎ What are Major and Minor minerals?

1. **Major Minerals:**
   - These are those minerals which are written in the MMDR Act,1957.
     [MMDR Act, 1957: It **regulates the mining sector in India and tells the requirement for granting mining leases** (land on rent) **for mining operations**.]
   - Common major minerals are Calcite, Clay, Coal, Quartz etc.
2. **Minor Minerals:**
   - These are the minerals **written in the Minor Mineral concession rules.**
   - Common minor minerals are **Limestone, Decorative stones etc.**

✎ Status of Illegal mining of minor minerals in India:

1. **Demand for minor minerals such as sand and gravel** has crossed **60 million metric tons** in India.
2. There are **stricter laws for major minerals as compared to minor minerals** resulting into **increasing incidents of illegal mining of minor minerals.**
3. The United Nations Environment Programme **(UNEP) has ranked India and China** as the 2 countries where illegal sand mining is affecting environment badly.

✎ Issue with the mining of Minor Minerals:

1. Unlike major minerals, the **powers to frame rules about the mining of the minor minerals lies exclusively** (only) **with the State governments,** hence there are **federal disputes in the way towards healthy mining.**
2. There are **confusions in Environmental Impact Assessment (EIA) rules which led to lack of implementation of these rules.**

   [EIA is a framework which makes observations and tell how much bad impact a developmental project can put on the environment**]**
3. **The Yamuna riverbed in UP** is **badly affected** by the increasing demand for soil.
   - Such **effects can also be seen** in the beds of the **Godavari**, the Narmada and the Mahanadi basins.
   - In the Narmada basin, **sand mining has reduced the population of fishes from 76%** between 1963 and 2015.
4. The report of the **National Green Tribunal (NGT**) has said that **states has failed to follow the minerals mining regulations and laws.**
   - As **U.P. is losing revenue from 70% of mining activities** because only **30% area is legally mined.**
     [NGT is a **government tribunal working for environmental conservation** in India]

✎ Reasons for poor obedience of rules:

1. **There is poor governance** to follow up of rules **due to weak institutions**.
2. There is **lack of state resources** (financial &manpower) **to ensure the implementation of rules.**
3. **Regulatory laws** to handle the mining sectors are also **uncertain and weak.**

4. **Monitoring of mining sites** and **agencies** related to mining is very poor **resulting in possibilities of illegal mining.**

5. **Evaluation mechanisms** (to identify which site can be mined, what are possible threats to a site) is **also not efficient** (proper).

6. There is **huge a burden of pending litigation** (disputes related to mining activities) which **affects the ability of the state to focus** on **mining properly**.

✍ Constitutional Provision Related to Mining:

1. **According to Constitution** of India it is **state governments will have the authority on the minerals located within their boundaries.**

2. Similarly, **central government has authority on minerals within the exclusive economic zone of India (EEZ).**
   - **[EEZ are zones exclusively protected through various grants and easy taxes for their economic development]**
   - [Mines & Minerals (Development and Regulation) (**MMDR) Act of 1957 was framed by keeping above written points in the mind**]

3. The **central government has the ownership on all offshore minerals.**
   - **[Offshore minerals are those minerals which are extracted from the sea or ocean floor in the Indian maritime zone** (the zone of the seas on which Indian government has ownership)**]**

6.8 SOIL MAPPING DONE BY FAO

Why in News?

In august 2022, **Food and Agriculture Organization (FAO) started a project to map soil nutrients** digitally in sub-Saharan Africa (SSA) and central America.

What is FAO?

1. The **Food and Agriculture Organization (FAO)** is an agency of the **United Nations.**
2. **It works for** the **international efforts to defeat hunger issues.**
3. Its goal is to **achieve food security** for all and make sure that people have **regular access to enough high-quality food to lead active healthy lives.**
4. FAO **has 195 members** - **194 countries** and the **European Union (EU).**

✍ What is Soil Mapping?

1. **Soil Mapping** is the process of **defining natural bodies(minerals qualities etc.) of soils.**
2. **It classifies soils into different units and zones.**
3. It do so by **capturing the soil property.**

✍ Benefits of the Soil Mapping:

1. It will **increase the understanding of what types of nutrients** our **soils and crops need.**
2. Further, it **will reduce waste when applying fertilizers increase their effectiveness by pre- preparation on extra produce.**
3. **It will help in achieving food security by increasing production.**

About the Project:

1. The project is implemented by **Food and Agriculture Organization (FAO).**
2. It would **help in the maintenance** of the **soil databases and soil information systems** as public goods to be used by policymakers.
3. The **private sector and farmers can generate long-term benefits from it.**
4. It will also **improve the flexibility to handle the fertilizer markets (prices etc.)**

6.9   5 WETLANDS GET INTERNATIONAL IMPORTANCE TAG

Why in News?

In July 2022, **5 more wetlands of India have found place in list of Ramsar sites**, **bringing** the **number** of such sites **to 54.**

✎ What is wetland?

1. Wetlands are **ecosystems that consists water**, seasonally or permanently.
2. They include **mangroves**, **marshes, rivers, lakes, deltas, floodplains and rice-fields**, **coral reefs**, marine areas.
3. **Marine areas not deeper than 6 metres** at low tide **come under wetlands.**
4. They occupy **6% of the Earth's land surface.**
5. **40% of all plant and animal species live in wetlands.**

✎ What are these New Ramsar Sites?

1. Karikili Bird Sanctuary (Tamil Nadu):

- It is **spread over a 5-kilometre broad belt.**
- **Many rare species are found in Karikili** such as **grey heron, open-billed stork, darter, spoonbill**, white lbis, night herons, grebes, grey pelican **etc.**

2. Pallikaranai Marsh Reserve Forest (Tamil Nadu):

- It is One of the **last remaining natural wetlands.**
- Pallikaranai is **one of the few natural coastal aquatic habitats that qualify as a wetland in India.**

3. Pichavaram Mangrove (Tamil Nadu):

- It is **One of the last mangrove forests** in the country.
- It **has an island of huge capacity** of water **covered with mangrove forests.**

4. Sakhya Sagar (Madhya Pradesh):

- It was **created from the Manier river in 1918.**
- Sakhya Sagar is located near **Madhav National Park.**

5. Pala Wetland in Mizoram (Mizoram):

- It **falls under the Indo-Burma biodiversity hotspot** and **is therefore rich in animal and plant species.**
- The lake is a **major component of the Palak Wildlife Sanctuary** and provides a **great support to its biodiversity.**

✍ What is Ramsar Recognition?

1. A Ramsar site is a **wetland of international importance under the Ramsar Convention.**
2. Ramsar Convention is **also known as** the **'Convention on Wetlands'.**
3. The Convention was **signed in 1971 at city of Ramsar in Iran.**
4. Ramsar recognition is **the identification of wetlands around the world,** which are of international importance, especially **if they provide habitat to waterfowl (about 180 species of birds).**
5. There is **international interest in conservation of such wetlands** and a **sensible use of their resources.**

6.10 RAMSAR CONVENTION

✍ About the Convention:

1. Ramsar Convention is a **convention on conservation of wetlands.**
2. It was **signed in 1971 in the Iranian city of Ramsar.**

What is wetland?

1. Wetlands are **ecosystems that consists water**, seasonally or permanently.
2. They include **mangroves**, **marshes, rivers, lakes, deltas, floodplains and rice-fields**, **coral reefs**, marine areas.
3. **Marine areas not deeper than 6 metres** at low tide **come under wetlands.**
4. They occupy **6% of the Earth's land surface.**
5. **40% of all plant and animal species live in wetlands.**

✍ Evolution of Ramsar Convention:
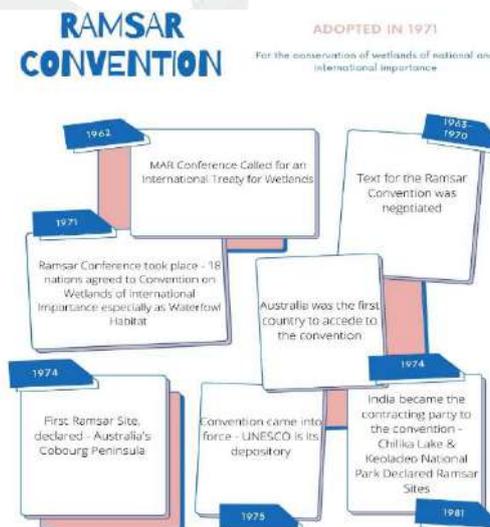
✍ What is the purpose of the Ramsar Convention?

The convention works on **3 pillars which tell about the purpose of the Ramsar Convention:**

1. **Wise Use** – To work towards the wise use of all wetlands
2. **List of Wetlands of International Importance** – To recognize suitable wetlands under the Ramsar List to effectively manage them.

3. **International Cooperation** – To bring cooperation internationally over the transboundary wetlands, shared wetland systems and shared species.

✎ **Criteria for Ramsar site recognition:**

To be Ramsar site a place **must meet at least 1 of the criteria as defined by the Ramsar Convention, 1961.** The criteria as mentioned in the convention are as follow:

1. A **wetland should be Supporting vulnerable, endangered, or critically endangered species.**
2. It(wetland) should **regularly support 20,000 or more waterbirds**.
3. It should be an **important source of food for fish.**
4. Wetland **should be a Spawning ground** (Place where eggs are laid deposited by fish, frog, mollusc etc.)
5. It should be a **migration path of important species**.
6. **Static or flowing, fresh, brackish or salt, including areas of marine water.**
7. It **does not include river channels, paddy fields, human-made water bodies/ tanks specifically constructed for drinking water purposes.**

✎ **India and its Ramsar sites:**

▪ India has **added 10 more Ramsar sites taking the number of such sites to 64.**
▪ **New Ramsar Sites are:**

1. Karikili Bird Sanctuary (Tamil Nadu):

▪ It is **spread over a 5-kilometre broad belt.**
▪ **Many rare species are found in Karikili** such as **grey heron, open-billed stork, darter, spoonbill**, white lbis, night herons, grebes, grey pelican **etc.**

2. Pallikaranai Marsh Reserve Forest (Tamil Nadu):

▪ It is One of the **last remaining natural wetlands**.
▪ Pallikaranai is **one of the few natural coastal aquatic habitats that qualify as a wetland in India.**

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▪ The lake is a **major component of the Palak Wildlife Sanctuary** and provides a **great support to its biodiversity.**

6.11   OCEAN THERMAL ENERGY PLANT (OTEC) IN LAKSHDWEEP

Why in News?

In August 2022, **National Institute of Ocean Technology (NIOT)**, has **established** an **OTEC** with a **capacity of 65 kilowatts (kW) in Kavaratti, Lakshadweep.**

About the plant:

The plant is **1ST of its kind**, as it will **generate drinking water from sea water using domestic technology, green energy** and **environmentally friendly processes.**

What is Ocean Thermal Energy Conversion (OTEC)?

1. OTEC is a **process for producing energy by using the power from thermal gradients** (temperature difference between ocean surface waters and deep ocean waters)

   - Oceans are **huge heat tanks** as they **cover almost 70% of Earth's surface.**

2. There are **2 types of OTEC technologies.**

Closed cycle method:

- In this method **working fluid is ammonia.**
- **Ammonia is pumped through** a **heat exchanger for evaporation** and **the steam runs a turbine.**
- Cold water turns the vapours into fluid again by condensation process.

Open cycle method:

- **In this method** the **warm surface water** (not ammonia in this case) is **forced in a vacuum chamber** and **converted to steam which runs the turbine.**
- The **steam is then condensed using cold ocean water.**

How does an OTEC Plant Work?

1. **Sun heats the surface water** of the ocean **due to which** in **tropical regions** (where sun rays fall for longest period of time and makes the region hot), **surface water gets much warmer than deep water.**
2. This temperature difference can be **used to produce electricity and purify ocean water.**
3. OTEC systems **use a temperature difference of at least 77°F to power a turbine to produce electricity.**
4. OTEC systems **use seawater as the working fluid** and can use **condensed water to produce pure water.**

Ocean Thermal Energy Plant
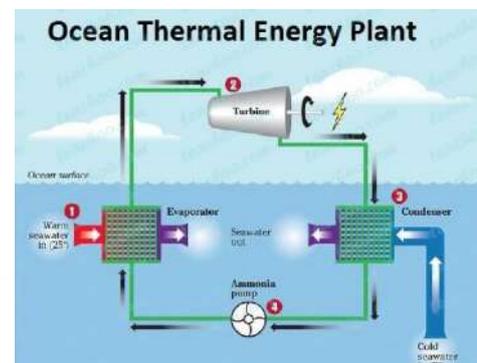
India and its OTEC Potential:

1. India has a **type of geography** which **gives it huge potential to generate ocean thermal energy,** as India is surrounded by Oceans from 3 sides.

2. **India has 2000 kms of coast length along the South Indian coast,** where a **temperature difference of above 20°C is available throughout the year.**
3. The **total OTEC potential around India is estimated as 180,000 MW.**
   Significance of OTEC:
1. It produces **clean environmentally friendly renewable energy.**
2. **OTEC can produce energy at all times, unlike solar plants** which can't work at night **and wind turbines** which only work when it's windy.
3. Production renewable energy **will bring down the import of energy fuels, which is great for our economy.**

6.12   COASTAL EROSION AND INDIA

Why in News?

Ministry of Earth Science (MoES) recently informed that **34% of coastline is under varying degrees of erosion for past 28 years.**

✎ **What is Coastal erosion?**

1. It is the **long-term removal of sediment and rocks** from **the coastline due to natural activities like wave action, tides, currents, wind-driven water etc.**
2. **According to a report** 'National Assessment of Shoreline Changes along Indian Coast' **published by National Centre for Coastal Research (NCCR), human activities** like construction of coastal structures, beach sand mining, offshore dredging etc. **have also activated coastal erosion.**

✎ **About National Centre for Coastal Research (NCCR)**

1. **It is an attached office of Ministry of Earth Sciences (MoES)**
2. **It is monitoring shoreline erosion since 1990.**
3. NCCR **uses techniques like geographic information system (GIS)** and **remote sensing data etc.**
4. From **1990 to 2018** a **total of 6907.18 km long coastline of India** has been **analysed.**

✎ **Status of Coastal Erosion in India:**

1. **26%** is **of the total coastline is very unstable** and vulnerable to erosion whereas **40% is in stable state.**
2. **Most** of the soil erosion has been seen **in West Bengal followed by Kerala, Tamil Nadu, and Gujarat.**

✎ **Impacts of coastal erosion:**

1. **Loss of fertile** land and **Agri culturable land.**
2. Coastal erosion **Impacts the plants and animal life** as it **disturbs their habitat** such as **marshes, mangroves etc.**
3. It **Impacts the tourism by decreasing** the aesthetic (Scenic) **beauty of a place.**
4. coastal habitats are famous for their fishing culture but **this erosion affects the fishing industry badly and hence the economic condition of the people.**

6.13   SHOONYA CAMPAIGN FOR POLLUTION FREE TRANSPORTATION

Why in News?

In August 2022, **NITI Aayog** and **Rocky Mountain Institute (RMI)** of **India** have launched the **Shoonya Campaign.**

[**RMI** is an **independent nonprofit organization** founded in **1982.**]

[**NITI Aayog** is **think tank of India for policy making** on national issues.]

✎ **About Shoonya Campaign:**

1. It is an initiative to promote **zero-pollution transfer vehicles.**
2. The Campaign will achieve this target **by working with consumers and industry.**
3. It **aims to increase adoption of Electric Vehicles (EVs) in the urban areas.**
4. It will **create consumer awareness** about the **benefits of zero-pollution transfer vehicles.**
5. A **corporate branding** and **certification programme** also **launched to recognise and promote industry's efforts towards adoption of EVs.**
6. It will **help e-commerce companies to distinguish their offerings** from their competitors.
7. An **online tracking platform will share the campaign's impact through various type of data**.
   - **For example**: Vehicle kilometres electrified, carbon savings, criteria pollutant savings and other benefits from clean delivery vehicles.

✎ **Need of EVs:**

1. **Urban load vehicles account for 10% of transportation-related CO_2 emissions in India**, and **these emissions are expected to grow by 114% by 2030. Hence, adoption of EVs can be a solution to the problem.**
2. **EVs emit 15-40% less CO2** compared to traditional vehicles, **making it to cause lesser pollution.**
3. EVs have **lower operational cost hence make it a transport medium which can reach to masses.**
4. **Shifting towards EVs** will **help** India **to reduce oil dependency.**
5. EVs will **help in solving the challenge of energy shortage also, EVs do not require petrol diesel etc.**
6. M**oving towards renewable and clean sources of energy like will have long lasting environmental benefits.**

✎ **Challenges:**

1. India is **technologically lacking in the production of electronics that** are very important and **work as raw materials for EV industry**, such as **batteries, semiconductors, controllers**, etc.
2. Poor infrastructure as **lack of clarity over AC versus DC charging stations**, grid (power station) **stability and range anxiety** (fear that batteries will soon run out of power) are other **factors that affects the growth of the EV industry.**
3. **Battery** is the single of **most important component of EVs and** India **does not have any** known **reserves of lithium** and **cobalt** which are **required for battery production.**

4. India is **dependent on countries like Japan and China for the import of lithium-ion batteries.**

5. In **EVs adoption and manufacturing** higher levels of **skills are needed** and **India lacks at training courses for such skill** development.

✎ Initiatives Taken by Government for EVs:

1. National Electric Mobility Mission Plan (NEMMP):

- **NEMMP** was launched in 2013 by government of India.
- It **aims to achieve national fuel security by promoting hybrid** (mix of fuel vehicle and hybrid vehicle) **and electric vehicles in the country.**

2. FAME Scheme:

- The Indian government has created **Faster Adoption and Manufacturing of Hybrid & Electric Vehicles for manufacturers.**
- This scheme encourages manufacturers to adoption of EVs through incentives.
- It **mandates the adoption of EVs, with a goal of reaching 30% EV penetration** (reach) **by 2030.**

3.National Mission on Transformative Mobility and Battery Storage:

- The mission will **make the strategies and give recommendations for transformation of vehicles to EV.**
- It will also **speed up manufacturing programmes for EVs,** EV Components and Batteries.

4.Fiscal Incentives:

- Government provides a lot of **financial help to** manufacturers for the growth of the production and consumption of EVs and charging **infrastructure.**
- There are many ways **such as income tax rebates, exemption from customs duties, etc.**

Way Forward:

1. Government should **aware people about the benefits of EVs.**
2. There should be **increased investment in research and development in field of EVs for better solutions of the technical problems associated.**
3. Government should **encourage private sector participation to increase the manufacturing capacity of EVs** in the country.
4. India **should learn from the best practices in the world for EV**

6.14   THE NEW US BILL ON CLIMATE ACTION

Why in News?

In August 2022, the **U.S. Senate approved a Bill titled the Inflation Reduction Act (IRA) 2022 with a focus on climate,** healthcare and tax provisions to address inflation.

✎ What is climate change?

1. It **refers to long-term shifts in temperatures** and **weather patterns**.

2. These shifts **may be natural, such as through variations in the solar cycle**.

3. Since the 1800s, **human activities** have been the **main cause** of climate change, mainly **due to burning fossil fuels like coal, oil and gas.**

4. **Burning fossil** fuels **generates GHGs** which **causes greenhouse effect** that **leads to increased average temperature of earth's surface.**

✎ What are the provisions for climate change in the bill?

1. There is a package to make **shift towards clean energy possible.**
2. The **Bill makes the largest American investment** which will **make the U.S. a leader in clean energy.**
3. It includes **packages worth $39 billion for the clean energy transition.**
4. The bill will **encourage renewable energy through heavy tax credits for wind and solar energy projects and electric vehicles.**
5. It **provides facility of the lower tax to low and middle-income households.**
6. The bill also **aims to boost the domestic production of heat pumps and critical minerals as they can be alternative to fossil energy.**
7. The bill **impose tax on large and profitable companies to meet the investment in clean energy projects.**
8. The bill will also **impose a fee on methane leaks from oil and gas drilling.**
9. At the same time, the Bill also **aims at more investments in fossil fuels**, to **use them in sustainable manner** and **stop their overexploitation.**
10. The **federal government will offer land for onshore and offshore drilling**, as the **bill looks to expand oil and gas drilling** for greater renewable energy generation.

✎ Issues with the Bill:

Fossil fuel supporters and fossil industry criticize the bill as it does not **take into account the communities** that are **dependent on the fossil fuel industry for their income.**

Workers of the coal plants also **against** the bill **as they earn from** working in **these plants** and there is **no provision for their re-employment** in the new bill.

✎ How does the Bill help the U.S. achieve its climate targets?

1. The bill will **help U.S. to get closer to climate target of reducing 50-52% emission below 2002 levels by 2030.**
2. According to an estimate the **bill can reduce the greenhouse gas emissions by 31 to 40% by 2030.**
3. The bill can **help U.S. to compete with China in terms of renewable production,** as currently China is leading producer of Solar energy.
4. It will help in huge number of **domestic job creation.**

✎ Significance of the bill globally:

1. The Bill **can prove to be a turning point for global climate action** as the U.S. **is one of the largest emitters of greenhouse gases globally.**
2. It is a simple **step toward achieving the climate target** agreed upon in the **Paris Agreement, which states that global temperature should be limited to below 2°C.**

3. Though the **Bill is not enough to address the climate crisis,** still such **initiatives to reduce greenhouse gas emissions by global leaders can be a benchmark for other large emitters**.

Similar climate packages announced by other countries:

1. **Japan:** In 2022, **Japan announced its 'Invest in Kisida'** plan which **aims for a $1.1 trillion investment to boost the Japanese economy**.
   - Through this plan, **country aims to shift to clean energy** and **achieve a 46% reduction** in **greenhouse gas emissions by 2030.**
2. **European Union (EU):** In 2021, **the European Union (EU) proposed a similar 'Fit for 55' plan to reduce emissions by 55% by 2030.**

India's target for climate change:

1. **5 Nectar Elements (Panchamrit)**:
   - Reach **500 GW Non-fossil energy capacity** by 2030.
   - **50% of its energy requirements** from renewable energy by 2030.
   - **Reduction of total projected carbon emissions** by 1 billion tonnes from now to 2030.
   - **Reduction of the carbon intensity** of the economy by 45% by 2030, over 2005 levels.
   - Achieving the **target of net zero emissions** by 2070.

6.15 ROCK AGAMA

Why in News?

In August 2022, **Indian Institute of Science (IISc),** Bengaluru released a study to understand several **environmental factors** (including urbanisation) that affect the **peninsular Rock Agama.** (South Indian Rock Agama)

About Peninsular Rock Agama:

1. It is a **type of garden lizard.**
2. It has a **strong presence in the southern India.**
3. **Its scientific name is Psammophilus dorsalis.**
4. Rock Agama is **large in its size**, **coloured** in **orange and black.**
5. It is **majorly found in India (Asia).**
6. In India **mainly found in states of Tamil Nadu, Chhattisgarh, Kerala, Andhra Pradesh, Karnataka, Bihar**.
7. These lizards **belong to the Precocial Species.**
   - [Precocial species are those **in which the young are relatively mature and mobile from the moment of birth**.]

Protection Status of Rock Agama:

1. **IUCN Red List:** Least Concern
2. **Wildlife Protection Act 1972: N/A** (not added)

What has the Study Revealed about the Lizard?

1. Lizards **need warmth from external sources like** a **warm rock** or a **sunny spot** on the wall as they **do not generate their own body heat.**

2. Presence of Rock Agma **indicates which parts of the city are warming,** and their numbers **show how the food web is changing.**
3. These lizards **eat insects and are in turn eaten by raptors, snakes** and **dogs,** they **cannot live** in places where there are no insects.
4. These are **important components** of a **healthy ecosystem as they provide many services, including pollination.**
5. Hence, the **presence of rocky agamas shows a good model system to understand other aspects of the ecosystem.**

✎ **Threats to Rock Agama:**

1. **Habitat loss** and **other such features of urbanisation** have **affected** the presence of the **animal in urban centres.**
2. The **rock agama depends on rocky scrub habitats which** are being **converted into buildings and plantations.**

✎ **Conservation of the Rock Agama:**

They are **found mainly in rocky places** and warm spots. Hence, **conservation efforts must focus on conserving rocky patches** even **while refreshing landscapes by planting trees.**

6.16 FLOOD LIKE SITUATION IN KERALA AGAIN

Why in News?

Kerala once again (Similar to the one in 2018) is under the threat of a **flood-like situation.**

What do we know about Floods?

1. It is an overflowing of water onto land.
2. It can happen due to various reasons such as:
    ▪ **Heavy rains**
    ▪ When o**cean waves come on shore.**
    ▪ When **snow melts quickly**
    ▪ **W**hen **dams break.**
3. Floods **may last for days,** weeks, or longer.
4. Floods are the one of the **most common weather-related natural disasters.**

✎ **Reasons for frequent Floods in Urban Areas?**

1. **Unplanned urban development**
2. **Encroachments** (occupying excess space)
3. **Failure of flood control structures** (Poor infrastructure)
4. **Unplanned reservoir** (water holding tank or basins) **operations**
5. **Poor drainage** infrastructure
6. **Deforestation**
7. **Land use change** and **deposits in riverbeds increases floods.**
8. **Poor waste management** also **increases the problem** by **blocking drains, canals and lakes.**
9. **Lack of focus on pre disaster management** and **largely been on post-flood recovery and relief.**

10. Many **reservoirs and Hydro-electric plants** have **lack of flood level measuring techniques**, which is a **very important component for flood forecast.**

11. **None of the 6 states** (Gujarat, Karnataka, Kerala, Maharashtra and Tamil Nadu) agreed with the recommendations of Gadgil Committee (2011).

[The **Madhav Gadgil committee** recommended 6 states to declare **approx. 1,30,000 sq. km area as environmentally sensitive zone** (where construction is prohibited)].

Way Forward

1. There should be better **coordination in agencies and reservoir management authorities** to **ensure the timely opening of dam spillways** and **create water holding capacity.**

2. A **comprehensive flood management plan** is also **needed for better** Disaster preparedness.

3. **Planned urbanisation can help in reducing the impact of disasters.**
   For example, Japan faces earthquakes and Tsunamis more than other countries but with better urban planning they are able to fight these disasters.

4. **A clear watershed** (crisis) **management and emergency drainage plan** should be there in policy and law.

6.17   CONSERVATION OF COASTAL ECOSYSTEM

Why in News?

Recently, the **Comptroller and Auditor General (CAG)** of India tabled a report in Parliament which contains the observations from an audit of **Conservation of Coastal Ecosystems from 2015-20**.

✍ What is coastal habitat or ecosystem?

The coastal ecosystems occur where the land meets the sea and that includes a diverse set of habitat types like **mangroves, coral reefs, seagrass beds, estuaries and lagoons, backwaters**, etc.

✍ Why it is important to maintain and restore these habitats?

1. The coastal ecosystem offers a variety of services
2. Education and research,
3. recreation,
4. tourism (e.g., diving, games, etc.)
5. Habitat for fish and shellfish, maintenance of fisheries.
6. Sandy Beaches.
7. Sand and minerals for economic activity.
8. water catchment, and purification.
▪ Coastal protection, erosion control, protection from storm surges and tsunamis, prevent seawater intrusion.

✍ Background of conservation of coastal ecosystem in India:

1. **Environment Protection Act, 1986**

- The government has **issued notifications under the Environment Protection Act 1986** to **regulate activities** along India's coasts particularly **regarding construction.**

2. **Different zones**
   - **The Coastal Regulation Zone Notification (CRZ) 2019** implemented by the Ministry categorizes the **coastal area into different zones to manage infrastructure activities and regulate them.**

✎ **Coastal Regulation Zone:**

1. Coastal Regulation Zone **(CRZ) notification** was **issued in 1991 for the 1ˢᵗ time under the section 3 of Environment Protection Act, 1986** of India.
2. Coastal Regulation Zone (**CRZ) is measured up to 500m from the High Tide Line (HTL) of coastal land** and a up to **100m along banks of creeks, lagoons, estuaries, backwater and rivers**.
3. **CRZ along the coast of the country has been placed in four categories:**
   - **CRZ-1**: These are **ecologically sensitive areas**, which are **important in maintaining the ecosystem of the coast**. They **lie between low and high tide lines**. Exploration of natural gas and extraction of salt are permitted.
   - **CRZ-2**: These areas **are urban areas located in the coastal areas.**
   - **CRZ-3: Rural and urban localities** which **fall outside the 1 and 2. Only certain activities related to agriculture** and **public facilities are allowed in this zone.**
   - **CRZ-4: This lies in the aquatic area up to territorial limits. Fishing and allied activities** are **permitted in this zone**. No **Solid waste should be let off in this zone.**

✎ **Institutions responsible for coastal conservation:**

1. **There are 3 institutions responsible for the implementation of the CRZ are:**
2. **The National Coastal Zone** Management Authority (NCZMA) at the Centre.
3. **The State/Union Territory Coastal Zone** Management Authorities (SCZMAs/UTCZMAs) in every coastal State and Union Territory
4. **The District Level Committees (DLCs)** in every district that has a coastal stretch and where the CRZ notification is applicable.

✎ **Role of above 3 bodies in the evaluation of Coastal ecosystem:**

1. These bodies **examine the CRZ clearances passed by the government,** and check **if they are as per procedure.**
2. They also observe if the **project developers who were once given the clearance** are **following the conditions or not.**
3. They also play an important role in fulfilling the **project development objectives under the Integrated Coastal Zone Management Programme (ICZMP) and to make them** successful.
4. They also **evaluate the measures taken up by the government** towards achieving the targets under **Sustainable Development Goals (SDG)**.

✎ **Role of CAG in this evaluation:**

1. **Constitutional mandate:**

- Unlike other bodies who evaluate the coastal management programmes the CAG has a **constitutional mandate to investigate publicly funded programmes and it also make report on the programmes.**

2. Pre-audit studies:

- The **CAG also conducts pre-audit studies** to evaluate the **CRZ violations** in the **coastal stretches.**

✎ **Major findings of the audit report/ Major issues:**

1. **National coastal zone management authority (NCZMA) still not a permanent body:** The **Environment Ministry hadn't notified NCZMA** as a permanent body and it was being reconstituted every few years.
2. **Absence of Expert Appraisal Committees:**
3. Many times, during project discussions the Expert Appraisal Committees was not even present
4. **Lack of members strength:** There were also e**xamples of the members of the EAC being less than 1/2 of the total strength** required during the discussions.
5. **Non constitution of States coastal zone management authority (SCZMA):** The SCZMA **had not been reconstituted in Karnataka** and there was **delayed reconstitution in the States of Goa, Odisha and West Bengal.**
6. **Lack of participation from locals:** District Level Committees of **Tamil Nadu lacked participation from local traditional communities.**
7. **False approval:** There were **cases of projects approval even though there were shortages in the Environment Impact Assessment (EIA) reports.**

✎ **State specific problems:**

1. **Tamil Nadu didn't have a strategy** in place **to conserve the Gulf of Mannar Islands.**
2. **In Goa**, there was **no system for monitoring coral reefs and no management plans to conserve turtle nesting sites.**
3. **In Gujarat**, instruments **procured to study the physicochemical parameters of soil and water** of the **inertial area of the Gulf of Kutch weren't used.**
4. **Sea patrolling for inspection in Gahirmatha Sanctuary, in Kendrapara, Odisha** did not happen.
5. **A research laboratory at Dangmal, Kendrapara District, Odisha** constructed in 2016 **has not been made practical till date.**
6. **There was no website** to **distribute the information related to the NCZMA.**

6.18   NAGAR VAN YOJANA

Why In News?

Recently, Nagar Van Yojana was discussed in the Parliament.

✎ **About the scheme:**

1. It was **launched in the year 2020** by **Govt of India.**
2. **Ministry of Environment, Forest and Climate Change** oversees the implementation of the Scheme.
3. It aims to develop **200 urban forests across the country** in the next **5 years that is till 2025.**
4. **Warje Urban Forest in Pune (Maharashtra)** will act as a role model for the scheme.
5. The scheme focuses on **people's participation with** the forest department, municipal bodies, NGOs, corporates etc.
6. These urban forests will be developed on the **existing forest land of the city or any other vacant land** given by local urban bodies.
7. Finances for the scheme will be paid from the **Compensatory Afforestation Fund (CAF). Compensatory afforestation** means that every time a forest land is converted for non-forest purposes such as mining or industry, the user pays for planting trees over an equal area of non-forest land and this fund is known as CAF.

6.19   ENERGY CONSERVATION (AMENDMENT) BILL, 2022

Why in News?

On 3rd August 2022, the Ministry of Power presents the **Energy Conservation (Amendment) Bill 2022** in the Lok Sabha.

1. The bill proposes to **amend the Energy Conservation Act 2001**.
2. Last time this act was amended in **2010 and it** introduced changes such as **incentivising (rewarding) the use of clean energy** by issuing carbon saving certificates.
3. Clean energy is the energy coming from **renewable sources** (like solar energy, wind energy etc) as well as that **doesn't cause pollution** in the environment.
4. Carbon saving certificates are issued to those who **uses less energy than they are allowed to use.**

✎ What are the Provisions of the Energy Conservation Act, 2001?

1. It gave the power to the central govt. **to issue the rules and standards regarding energy efficiency** for appliances.
2. The act established the **Bureau of Energy Efficiency (BEE)** and the 2010 amendment of this act increased the tenure of the Director General of the Bureau of Energy Efficiency from **3 to 5 years**.
3. **BEE decide the qualifications required for energy auditors**. Energy auditors works to monitor and review the power consumption of various industries.
4. The govt. can **issue Energy savings certificates** to those industries which consume less Energy than they are allotted.
5. These certificates can be sold to those consumers who consumes high energy than they are allotted.
6. The act allows the central govt to prohibit the manufacture, sale, purchase or import of any particular equipment unless it confirms to the rules issued atleast 1 year before the manufacture of the product.
7. Consumers who **utilises excess energy will be penalized according to their excess consumption.** Any appeals against any such order passed by the central or state government will be heard by the appellate tribunal **under the Electricity Act, 2003.**

✎ What are the proposed changes in the act ?

1. Defining the '**minimum share of renewable energy**' to be used by industrial units.
2. This consumption **can be done either directly from a renewable energy source like installing solar cells** or indirectly through the power grid (by connecting through main power line).
3. To give more power to the institutions such as the **Bureau of Energy Efficiency.**
4. To promote the use of '**Green Hydrogen**' as an alternative to the **fossil fuels** used by industries. Green hydrogen is **produced by separating water into Hydrogen and oxygen. Biggest benefit of green hydrogen is that it doesn't release polluting gases during burning.**
5. This amendment **also proposes to include larger residential buildings under energy conservation rules** to promote sustainable houses because currently, only large industries and their buildings comes under this act.

✎ Objectives of the Proposed Amendments:

1. To **reduce India's power consumption coming through fossil fuels** and it will minimize the country's carbon emissions too.
2. To develop **India's carbon market where carbon trading certificates can be traded.**
3. To increase the adoption of **clean technology like solar cells on a large scale.**
4. **To meet India's 'Nationally Determined Contributions (NDCs)' before 2030** as they are mentioned in the **Paris climate agreement of 2016.** NDCs are the **targets announced by countries under Paris Agreement** to reduce their Greenhouse gases (GHGs) emissions.

✎ What are the India's commitments towards the issue of climate change ?

1. India has committed to reduce the carbon emissions by **35 % of his economy by 2030 as compare to 2005 levels** and it is the part if India's NDCs too under the Paris climate agreement.
2. It has also promised **to achieve over 40% of its power generation from non-fossil fuel energy sources by 2030.**
3. To reduce its CO_2 emissions to **550 metric tonnes (Mt) by 2030, India has committed to create an additional carbon sink (taking carbon out from Environment) for 3 billion tonnes** of CO_2 and it can be done through **increasing its tree and forest cover.**
4. India has revised its NDCs at the **Conference of Parties (COP) 26 Summit** which was held in Glasgow in 2021.
5. **India's 5 new climate targets are:**
   a) To increase its non-fossil energy **capacity to 500 GW by 2030.**
   b) To meet **50 % of India's power demand through renewable energy** sources.
   c) To reduce the **carbon emissions of the Indian economy by 45 % as compare to 2005 levels.**
   d) To **restrict India's total carbon emissions to 1 billion tonnes between 2021 to 2030**
   e) To achieve a target of '**Net 0' carbon emissions by 2070.**

✎ Measures taken by India to reduce its Carbon emissions are:

1. In **Budget 2022-23**, the government has given **Rs 19,500 crores** to increase **domestic solar power equipments manufacturing in India.**

2. **By promoting blending of fuel**. Blending is the process in which **Ethanol is mixed with petrol or Diesel** and it can lead to less carbon emissions.

3. To achieve clean transport, governments at every level is **promoting the Electric Vehicles (EVs).**

4. Issuing **Green Bond's** regularly. These bonds are issued to collect the funds will have a positive impact on the Environment.

6.20   AATMANIRBHAR IN DIAMMONIUM PHOSPHATE (DAP)

Why in News?

As part of the **AatmaNirbhar Bharat** initiative, Govt. is working to promote self-sufficiency in Fertilizers.

✎ What are Fertilizers?

1. These are the substances which are **supplied to the soil to increase it's productivity.**
2. The fertilizers contain the **essential nutrients** required by the plants such as **Nitrogen, Potassium and Phosphorus**.
3. Fertilizers can increase the **water holding capacity of the soil.**

✎ What is Diammonium Phosphate (DAP) ?

1. It is the 2nd **most commonly used fertiliser in India after urea.**
2. Farmers normally apply this fertiliser just before sowing of crop, as it is **high in phosphorus (P) that helps in root development.**
3. DAP has **46% Phosphorus** and **18% Nitrogen** in it and it is the preferred source of Phosphorus for farmers.
4. While **Urea** is the **preferred source of Nitrogen** containing **46% Nitrogen** in it.

✎ Initiatives taken by Govt. to resolve DAP Dependency on other countries are:

1. In 2022 only, an Indian company purchased 45% equity share in **Baobab Mining and Chemicals Corporation (BMCC)** which is **a rock phosphate mining company located in Senegal.** Under the agreement, the mining will be done in Senegal and production of DAP will be done in India.
2. Govt. is partnering with the industry to increase investments so that the country can get security in Fertilizers Supply.
3. Department of Mining and Geological Survey is **planning to do an exploration to find more potassic ore resources** in **Rajasthan's Satpura, Bharusari and Lakhasar and in other states like Uttar Pradesh, Madhya Pradesh, Rajasthan, Gujarat, Andhra Pradesh, and Karnataka.**

✎ Importance of Fertilizer Industry for India:

1. **Agriculture** is 1 of the most important sector in India. It contributes almost **20% to the country's GDP.**
2. Around **47% of India's population is engaged in agricultural activities.**
3. The agricultural sector largely depends on the **fertilizer industry,** which manufactures some of the **most important nutrients required for the production of crops.**

4. Fertilizer Industry also provides **employment** to a very large population.

✎ **Issues with the Fertilizer sector:**

1. India largely depends on **phosphate rock** for the production of fertilizers and these rocks are found mainly in **Rajasthan and Madhya Pradesh only.**
2. **India imports 90% of its phosphate from other countries.**
3. **Blackmarketing of Urea** is also a big issue as it increases the price for farmers.
4. Very few domestic companies are engaged in fertilizer production. **Indian Farmers Fertiliser Cooperative Limited (IFFCO)** is the largest fertilizer manufacturer and marketer in India.
5. **National Fertilizer Limited** is the 2nd largest fertilizer producer in India.

6.21　　**MSP BENEFITS AND ITS CONCERNS**

Why in News?

Recently, NITI Aayog has conducted a study titled **"Efficacy of Minimum Support Prices on farmers"** .

1. In the study, it has been found that MSP declared by the government has **encouraged 78% of the farmers** covered under the study for adopting improved methods of **farming such as high yielding varieties of seeds, organic manure, chemical fertilizer, pesticides and improved methods of harvesting etc**.

✎ **About NITI Aayog (National Institution for Transforming India)**

✎ **Background:**

1. From **1950s**, **Planning commission** was the main planning body of the Govt. of India and it used to **make 5 year plans for the country.**
2. But Planning commission was more a **centralised body** (all the planning and decisions are taken at top level) and with **states have a very little or no role in formulation of plans.**
3. So, with time it was felt that this **centralised way of planning is not giving much results as India is a very large as well as diverse Country**, so states should have more role in making of Plans and Policies.
4. Finally, on **1st of January 2015**, a new body with the name **NITI Aayog was formed by Govt. of India by replacing the Planning Commission.**
5. This body comes into existence with a focus on **'Bottom –Up' approach** (plans will be formed by consulting the states and area experts too).
6. Another vision of NITI Aayog is '**Maximum Governance, Minimum Government'** and **promoting the idea of 'Cooperative Federalism'** (where centre as well as all states works in cooperation with each other).

✎ **Composition of NITI Aayog**:

1. **Chairperson:** Prime Minister (PM)
2. **Vice-Chairperson:** Is appointed by the PM.
3. **Governing Council:** Chief Ministers (CMs) of all the states and Lt. Governors of the union territories.

4. **Regional Council:** To address specific regional issues, it comprises CMs and Lt. Governors of that region and it is chaired by PM or anyone nominated by him.
5. **Adhoc Membership:** 2 member from leading research institutions on rotational basis.
6. **Ex-Officio membership:** Maximum 4 members from the union council of ministers to be nominated by PM.
7. **Chief Executive Officer:** Appointed by PM for a fixed period and should not be below the rank of secretary to the Government of India.
8. **Special Invitees:** Experts, Specialists nominated by PM from time to time.

Objectives of the NITI Aayog are:

1. To promote the idea of cooperative federalism through regular support to the states and recognizing that **"Strong States make a Strong Nation".**
2. To work on **areas that are specifically given to it** and try to **include the issue of national security in economic strategy and policy.**
3. To give special attention to the sections of our society that may be at **risk of not benefitting much from our economic progress.**
4. To provide **advice and encourage partnerships between key national and international like-minded Think Tanks**, as well as educational and policy research institutions.
5. To create **a knowledge, innovation and business support system through cooperative approach.**
6. To offer a platform for **resolution of Inter-departmental conflicts** and issues in the govts of different states.
7. To work for the **overall development of the country and not just in economic terms.**

What is Minimum Support Price (MSP) ?

1. It's the **rate at which the government purchases crops from the farmers.**
2. It is generally announced around **1.5 times more than the cost of production done by the farmers**. This **rule was declared in the budget of 2018.**
3. The **Commission for Agricultural Costs & Prices (CACP)** recommends MSP for almost **22 crops** but for **sugarcane it is recommended by Fair and Remunerative price (FRP).**
4. **CACP is an attached office of the Ministry of Agriculture and Farmers Welfare.**
5. 22 crops having MSP are:
   a) **7 cereals**: Paddy, Wheat, Jowar, Bajra, Barley, Maize and Ragi.
   b) **5 Pulses:** Gram, Arhar, Moong, Urad and Lentil.
   c) **7 Oilseeds**: Groundnut, Rapeseed/Mustard, Toria, Soyabean, Sunflower, Sesamum, and Sunflower seed oil.
   d) **Cash Crops**: Raw Cotton, Copra, Raw Jute.

History of MSP system in India:

1. It was **started in India in 1965 due to food shortage.**
2. The idea was to **incentivize farmers to increase production** by adopting **High Yield Variety (HYV) seeds and technology** for cereals like wheat and rice.
3. Another objective of the policy was to **ensure reasonable food prices** for the public by providing food grains through **the Public Distribution System (PDS) .**

4. On the recommendations **of LK JHA Committee, the Agricultural Price Commission** was set up in the year **1965** (which was **later renamed as the Commission for Agriculture Costs and Prices (CACP)** .The role of the Agriculture Price Commission was to advice the government on agriculture price policies.

What are the factors that are taken into account by CACP before recommending the MSP of any crop?

1. **Cost of production**.
2. The **supply and demand** situation in the market.
3. **Market price** trends (domestic as well as global).
4. Its **effects on consumers, environment** etc
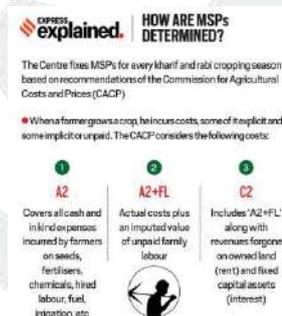
✍ What are the Issues in the current MSP policy ?

1. **Cost of production:** The support **prices that are being provided are not increasing at par with the cost of production.** A rating agency, **CRISIL** pointed out that the increase in MSP has fallen between2014-17.
2. **Limited Procurement:** As against the official announcement of MSP for 23 crops, **only 2 crops (rice and wheat) gets more attention** as these are distributed under **NFSA (National Food Security Act).**
3. **Limited farmers are getting benefits of MSP:** **Shanta Kumar Committee** in its report in 2015, stated that **only 6% of the farmers are getting benefits under MSP**.
4. **No relation with Prevailing price of the market:** The current MSP system has **no relation with the prices of the domestic market**. Its sole objective is to fulfil the requirements under NFSA.
5. **Role of Middlemen:** MSP system is also **dependent on middlemen, commission agents** which makes it more headache for farmers.
6. **Issues in WTO**: India's **MSP scheme has been challenged by many countries in the WTO.** For example, Australia has complained of the MSP on wheat, US and EU complained of sugarcane and pulses MSP.
7. **Interference in market:** It **disturbs the free market**. It favours some particular crops over the others.

6.22   INDIA AND SDG 13

Why in News?

On 5ᵗʰ August 2022, Union Minister for State (Environment, Forest & Climate) in a written reply in Rajya Sabha said that India is constantly achieving its Sustainable Development Goals (SDGs).

✍ What is Sustainable Development?

Its the **development that is being done in the present without compromising the needs of the future generations.**

So, What are Sustainable Development Goals (SDGs)?

1. Also known as **'Global Goals'.**

2. They were adopted by the **UN in 2015** to make an **appeal to the world to work sincerely towards the major issues the world is facing today** like Poverty, Climate Change, Health to all etc and **to ensure that by 2030** all the people in the world enjoy peace and prosperity.

3. SGDs are divided between **17 Goals** which are further sub-divided into **169 Targets.**

4. These goals are **interlinked with each other** and betterment in any 1 area will affect the outcomes in others too.

✎ 17 SDGs are as follows:

India in recent years has made huge efforts in achieving the **Goal 13th of the SDGs.** This goal talks **regarding the 'urgent action to handle climate change and its impacts'.**

✎ How has India progressed in achieving the climate action goals?

1. Even having no binding obligations under the **United Nations Framework Convention on Climate Change (UNFCCC)**, in **2009 India announced its goal to reduce the emissions by 20-25% of its GDP by 2020** in comparison to 2005 levels and **India has achieved this even before 2020.**

2. India achieved a **24% reduction in emissions intensity** of its GDP between 2005 and 2016.

3. For the **Paris Agreement of 2016**, India submitted its **Nationally Determined Contributions (NDCs)** to UNFCCC in 2015 fixing few targets for the period 2021-2030 and these are:

   a) Reducing **the emissions intensity of its GDP by 33 to 35% by 2030 from the 2005 level.**

   b) To develop **almost 40% electric power installed capacity from non-fossil fuel based energy resources by 2030.**

   c) To create an **additional carbon sink** (removing carbon from the environment) of 2.5 to 3 billion tonnes of CO_2 through additional forest and tree cover by 2030.

   d) The other targets are related to **balanced lifestyles; climate-friendly growth paths; climate change adaptation; climate finance and technology.**

   e) India has also pledged **to achieve 'Net 0' emissions by 2070** .

✎ What is National Action Plan on Climate Change (NAPCC)?

1. Other than the above-mentioned targets, the Government of India is also implementing the **'National Action Plan on Climate Change' which provides a policy framework for all climate related actions.**

2. It has **8 core Missions** in specific areas like: **1) Solar energy 2) Energy efficiency 3) Sustainable habitat 4) Water 5) Sustaining Himalayan ecosystems 6) Green India 7) Sustainable agriculture 8) Strategic knowledge for climate change.**

3. **33 States and Union Territories** have prepared **State Action Plan on Climate Change (SAPCC)** keeping in mind the objectives of NAPCC.

4. The climate change related plans in the states and union territories of India are being supported through **National Adaptation Fund for Climate Change (NAFCC). This fund was specially formed to deal the issue of climate change.**

Way Forward

1. **Achieving the SDGs in a country as diverse as India will definitely be a difficult task but not unachievable.**

2. **We need to clearly set the priorities and plans which are locally relevant and people -centric also.**

3. **People's participation need to be promoted and encouraged at every level.**

6.23   BHITARKANIKA NATIONAL PARK

Why in News ?

Recently, the Bhitarkanika National Park has reached a saturation point (full capacity) in terms of crocodile population and further increase in crocodile population can lead to more human-crocodile conflict.
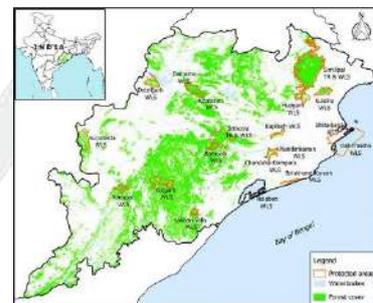
✎ About Bhitarkanika National Park:

1. It is spreaded in an area of **672 Kms** in **Orissa.**
2. It is the **2ⁿᵈ largest Mangrove ecosystem** of **India**. A **mangrove** is a **shrub** or a **tree** that grows in **coastal saline** or **brackish water.**
3. This **national park is a network of canals which are connected with waters from rivers** like **Brahmani, Baitarani, Dhamra and Patasala**.
4. Its closeness with the **Bay of Bengal** makes the **soil of the area enriched with salts.**
5. **It is the breeding place for salt water crocodiles.**
6. The **Gahirmatha beach** which forms the boundary of the park in the east is the **largest colony of the olive ridley sea turtles.**
7. Bhitarkanika is also home to **8 varieties of Kingfisher bird**.

✎ What are the Issues?

1. **Rising Conflict:** Almost **50 people have been killed by crocodiles since 2012** in and around the park, while **25 crocodiles died** during the same time after entering human settlements or getting caught in fishing nets.
2. **Territorial Reptile:** Crocodile is a **territorial aquatic reptile,** that means **too many crocodiles can't live in a small area as there will be increased competition for food, mating partners etc**

✎ About Crocodile Conservation Project:

1. The **crocodile conservation project in Bhitarkanika** was started in **1975**.
2. Its main objective was **to protect the crocodile's natural habitat and to rebuild the population quickly through breeding**.
3. **Odisha is the only state of India that have all the 3 species of Indian crocodiles (Saltwater, Gharial and Mugger). So,** crocodile conservation programme was 1ˢᵗ implemented in Odisha only.

Way Forward

1. There is a **need to take steps for the control of crocodile population.**
2. The government should take measures for the **redistribution of crocodiles into wetlands of entire mangrove forests of Bhitarkanika and Mahanadi river system.**

6.24   **PRE-SUMMIT OF TIGER RANGE COUNTRIES**

Why in News?

In August 2022, India hosted the Pre-Summit meeting of Tiger Range Countries (TRCs).

1. The **Tiger Range Countries Summit is scheduled to be held at Vladivostok, Russia** on September 2022.
2. India's **National Tiger Conservation Authority** has also **decided to declare the guidelines for the reintroduction of tigers.**
3. These guidelines can be used by other tiger range countries also.

✑ What are the Highlights of the Meeting?

1. The **meeting was attended by 11 tiger range countries except China and Indonesia.**
2. There are **13 Tiger Range Countries (TRC) and these are: 1) India 2) Bangladesh 3) Bhutan 4) Cambodia 5) Lao PDR (People's Democratic Republic) 6) Malaysia 7) Myanmar 8) Nepal 9) Russia 10) Thailand 11) Viet Nam 12) China 13) Indonesia.**
3. India is trying to bring all tiger habitats within the country under the tiger reserve network.
4. The meeting aims to **finalise the declaration on tiger conservation to be adopted at the upcoming summit.**

✑ Key points related to Tiger are:

1. **Scientific Name:** Panthera tigris
2. **Indian Sub Species:** Panthera tigris tigris.
3. **About:** It is found from **Siberian temperate forests (located near Russia) to subtropical and tropical forests of the Indian subcontinent and Sumatra (located near Indonesia).**
4. It is the **largest cat species** and a member of the **Genus Panthera.**
5. Traditionally, **8 subspecies of tigers have been recognized, out of which 3 are extinct:**
   i) **Bengal Tiger:** Indian Subcontinent
   ii) **Amur tiger:** Amur Rivers region of Russia and China, and North Korea
   iii) **South China tiger:** South and Central China.
   iv) **Sumatran tiger:** Sumatra, Indonesia.
   v) **Indo-Chinese tiger:** Continental south-east Asia.
6. **Extinct Tiger species are:**
   i) **Caspian tiger:** Turkey through central and west Asia
   ii) **Javan tiger:** Java, Indonesia
   iii) **Bali tiger:** Bali, Indonesia
7. **Threats: Habitat destruction, Habitat fragmentation (size reduction) and Poaching (Hunting).**
8. **Protection Status:**
   a) **Indian Wildlife (Protection) Act, 1972: Schedule I**

      b) International Union for Conservation of Nature (IUCN) Red List: Endangered.

      c) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Appendix I.

9. **Tiger Reserves in India**
   a) **Total Number**: 53
   b) **Largest**: Nagarjunsagar Srisailam Tiger Reserve, Andhra Pradesh
   c) **Smallest**: Bor tiger reserve in Maharashtra

✍ So, What is the Status of Tiger Population ?

1. **In World**: There are currently between **5500 tigers in the wild (living in open forests) worldwide**, as per the latest data by the International Union for Conservation of Nature (IUCN).

   Tiger population is stable or increasing in the countries like **India, Nepal, Bhutan, Russia and China.**

2. **In India:** It is home to **over 70 % of the global tiger population. In, St. Petersburg Declaration on tiger conservation (2010), India declared to double its tiger population by 2022** but it has **achieved that target in 2018 only.**

According to the tiger census (2018) – which is conducted once every 4 years – India has a tiger population of **2,967.** The **Manas Tiger Reserve** in **Assam** has **2.4 tigresses for every tiger and it is a good indicator for the future of tiger in India.**

✍ Steps Taken by India for Tiger Conservation are:

1. **Project Tiger:** Project Tiger is a **Centrally Sponsored Scheme** (funds shared between central and state govts) of the **Ministry of Environment, Forest and Climate Change (MoEFCC) launched in 1973**. Its **objective was to protect and conserve tiger from any kind of threats.**

2. **National Tiger Conservation Authority (NTCA):** Its a **statutory body** (formed under a law) under the **MoEFCC** and was **established in 2005 after** the recommendations of the Tiger Task Force.

3. **Conservation Assured/Tiger Standards:** Its a set of criteria which allows tiger sites to check if their management will lead to successful tiger conservation.

✍ What is the Significance of Tiger Conservation?

1. The tiger is **a unique animal because it plays a very big role in the health and diversity** of an ecosystem.

2. Tiger is at the top **of the food chain and keeps the population of wild animal's** (mostly large mammals) under check. Thus, Tiger helps in **maintaining the balance between prey herbivores (like Deer, goat etc) and the vegetation** upon which they depend.

3. Therefore, Tiger Conservation is not just about saving a beautiful animal. It is about **making sure that we can live a little longer as the forests provide us many ecological services** like **clean Air, Fuel, Fodder etc.**

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7.   SECURITY

7.1   1.1 BILATERAL AIR SERVICE OF INDIA

Why in News?

In July 2022, India has signed a **bilateral air service agreement with 116 countries including neighbouring Bangladesh, Afghanistan**.

What are Bilateral Air Services?

The bilateral air services agreements **allow two counties to mutually determine and regulate frequency and capacity of air services, pricing and other commercial aspects.**

India's Open Sky Policy:
1) The **National Civil Aviation Policy (2016)** allows the government to enter into an **'open sky' air services agreement on a reciprocal basis with SAARC nations** (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.) also with countries **beyond a 5,000 kilometre radius from New Delhi.**

2)It implies that **nations within 5,000 kilometre of distance** need to enter into a **bilateral agreement to determine mutually the number of flights** that their airlines can operate between the two countries.

3)**India has open sky agreements with Greece, Jamaica, Guyana, Finland, USA, Japan**, etc.

4)The degree of "sky openness" **depends on the freedoms of the air in the country granted to foreign airlines. There are 9 such freedoms according to the 1944 Convention on International Civil Aviation**

7.2   OPERATION SKYLIGHT

In August 2022, Indian Army for the first time did **"Skylight Mega-Exercise",** to **test its capabilities and also how can it be better in space area.**

✎ **About Skylight Mega Exercise:**
1. It is a **5-day long satellite communication exercise.**
2. It was **conducted by Indian Army.**
3. The main **aim of the exercise** was to see **how the satellites will work, when the actual war situation will arise.**
4. The **Exercise was an All-India exercise**.
5. It **had covered high areas of northern Indian border** with China and Pakistan, which are often remain disputed.

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6. Exercise **had discussed various technical and operational issues in the communication area for the better efficiency of the army.**
7. Indian Space Research Organisation **(ISRO) and** Defence Research & Development Organisation **(DRDO) also participated** in Skylight Mega-Exercise.

About GSAT-7B Satellite of Indian Army: (a communication satellite under making for Indian army)

1. The **GSAT-7B satellite will be an Indian made satellite.**
2. There will be **advanced security features in the satellite.**
3. Satellite will **support the communication needs of the army arranged on the ground in faraway and difficult areas.**

7.3   HIM DRONE-A-THON' PROGRAMME

Why in News?

In August 2022, Indian army has launched Him Drone-a-thon' programme.

✎ About the programme:

1. Program is **aimed to increase opportunities to the Indian drone ecosystem to develop the capabilities of drone** for meeting **requirements of frontline troops** (army men).
2. The '**Him Drone-a-thon' is a pan India programme.**
3. The **Indian Army** in collaboration with the **Drone Federation of India** has launched this programme.
4. It will **work by connecting all stakeholders including industry, academia, software developers and drone product manufacturers.**

✎ Activities planned under the programme:

1. **The activities planned include:**
    ▪ **Interactions** and **idea sharing between users**, development agencies, academia.
    ▪ **Visits by development agencies to operational locations to understand** the ground **perspective & requirements of troops.**
    ▪ **On-ground trials** and actual conduct & **evaluation of drone products.**

✎ Significance of the Programme:

1. The Indian Army said that this initiative is **in line with Make in India** in **defence manufacturing.**
2. The **Indian Army's support to the indigenous drone ecosystem** is **based on the principle** that '**good available indigenously' is better than the 'best available globally'.**
3. The indigenous industry will have **adequate expertise to develop world class** products in this field.
4. **India has prohibited import of drones** but **import of drone components** are **exempted to encourage domestic drone manufacturing.**

India's drone collection:

- Heron [ISRAEL]
- Predator [USA]
- Sea Guardian [USA]
- Fire-Fly 'loitering munition' [ISRAEL]
- Harpy and Harop loitering munition [ISRAEL]
- Rustom – 2 [INDIA]
- CATS Warrior [INDIA]

7.4   BUTTERFLY MINES

Why in News?

The UK Ministry of Defence, during ongoing **war in Ukraine**, has **said** that it is possible that **Russian military may use PFM-1 series 'Butterfly Mines'** in the **Donetsk and Kramatorsk.**

✎ **What is Butterfly Mine?**

1. It is a **very sensitive** anti-personnel landmine.
2. **An applied force of 5 kg** is enough to **explode the mine.**
3. It is **extremely dangerous, even for small children.**
4. The **major difference between PFM-1 & PFM-1S is that the latter one comes with a self-destruction mechanism which gets activated within one to 40 hours.**
5. They can be **dropped from helicopters** or through **ballistic dispersion** using artillery and mortar shells.

6. They **remain hiding in ground without exploding** and **later explode on coming in contact.**

✎ **What are the findings of the Intelligence Assessment by UK?**

1. Russia might have planned **anti-personnel mines** to discourage **freedom of movement along its defensive lines in the Donbas (Donetsk & Luhansk).**
2. These mines have the **potential to kill a large number of civilians and soldiers.**

3. In Donetsk and Kramatorsk, Russia has likely planned **PFM-1 and PFM-1S scatterable anti-personnel mines.**
4. The **PFM-1 and PFM-1S are** commonly referred to as **'Butterfly mines' or 'Green Parrots'.**
5. These **names** are derived **from the shape and colour of the mines.**

✎ **Detection of the mines:**

▪ These mines are difficult to detect because **they are made of plastic and can escape from metal detectors.**

✎ **Technical Specification of these mines:**

1. They **are in polyethene plastic** and **have 2 wings, one of which is heavier than the other.**
2. The **thicker wing is the pressure activatior for the main fuse** which is contained **in the central body of mine.**
3. The **thinner wing acts as a stabiliser for the mine** when it is air-dropped, **hence it is given name butterfly.**

✎ **Conventions on Anti-Personal Mines:**

1. The **anti-personal mines are banned by** international convention on land mines **(ICLM)**
2. **Russia and Ukraine are not signatories to ICLM, hence they still anti-personal mines.**
3. There is a **1996 Amended Protocol II to the Convention on Certain Conventional Weapons** (but not anti-personal mines) **the Landmines Protocol** to which **Russia and Ukraine are signatories.**

8. CULTURE

8.1 'MISTAKEN IDENTITY': DEITY WORSHIPED AT HINDU TEMPLE BELONGS TO BUDDHISM, SAID BY MADRAS HC

Why in News?

On 4th August 2022, Madras High Court (HC) passed a judgement which says that **Thalaivetti Muniyappan** temple located near **Salem (Tamil Nadu)**, where a local deity is worshiped as per Hindu rituals, will be treated as a Buddhist temple from now.

✎ About Gautam Buddha:

1. Born in **6th century at Lumbini** which is presently located in Nepal.
2. He belongs to **Shakya tribe** and his father was the head of this tribe.
3. Leaved home **(this incident in buddhism is known as Maha-nishi-kraman)** at a very early age in **search of truth** and got **Enlightenment (gyan)** at the age of almost 35 in **Bodhgaya** (Bihar).
4. He has given **4 Noble Truths** which are:
   b) **Everyone is suffering.**
   c) **There is cause of suffering.**
   d) **Cause of suffering is 'Trishna' which means Desire.**
   e) **This suffering can be ended by following 8 fold paths.**
5. **8 Fold paths of Buddha are:**
   a) **Right Understanding**
   b) **Right Thought**
   c) **Right Speech**
   d) **Right Action**
   e) **Right Livelihood**
   f) **Right Effort**
   g) **Right Mindfulness (awareness)**
   h) **Right Concentration.**
6. He **died** (known as **Maha-pari-nirvana** in buddhism) in **Kushinagar(UP).**
7. Some **famous Mudra's of Gautam Buddha** are:

✎ Some Key features of the sculpture of Thalaivetti Muniyappan are:

1. The inspection report said that the sculpture is **made of hard stone.**

2. The sculpture is in a **seated position known as 'Ardha-padmasana' on a lotus.**
3. The hands are resting in **'Dhyana mudra'.**
4. The head shows the features **of the Gautam Buddha such as curly hair, long ears etc**
5. However, **due to human error or some other reason, the head is not positioned properly** and it is slightly twisted towards the left side of the body.
6. **Height of the sculpture is almost 108 cms**.
7. **The back side of the sculpture is flat without any artistic work.**

   RECALLING 'QUIT INDIA MOVEMENT'

Why in News ?

On 9th August 1942, the biggest mass movement of the Indian freedom struggle that is 'Quit India Movement' was launched. This year marks 80 years of the 'Quit India Movement' or 'Bharat Chodo Aandolan'.

✍ **What are the causes that led to Quit India Movement ?**

1. **World War 2**: Involvement of India in World War 2 **without consulting the Indian leaders.**

2. **Failure of Cripps Mission (March 1942)**: British government sent **Sir Stafford Cripps** to India to get the cooperation of Indians in the World War 2. This mission **failed because the members of the mission were not ready on the demand of providing complete freedom to India.**

   3.**Shortage of essential commodities**: There was a **widespread anger in the Indian public** due to the shortage of essential commodities and rising prices of salt, rice etc.

   4.**Prevalence of Anti-British sentiment**: The **sentiments in the large Indian public was anti-British** (against the Britishers). The masses were demanding complete independence from the British rule.

✍ **Phases of Quit India Movement:**

1st phase: It started from Azad Maidan, Bombay. The 1st phase of the **movement had no violence**. It began with **civil disobedience, boycotts and strikes but the British government quickly suppressed it.** Almost all members of the Congress Committee, including **Gandhiji were arrested and kept in jail till 1945** without any trial.

2nd phase: In its 2nd phase, the movement **shifted to the interior parts of the India.** The 2nd phase of the movement took a **violent and aggressive turn**. Gandhiji gave a call for 'Do or Die'. Any building or office which stands as the symbol of the British was attacked. Communication systems, railway stations & tracks, telegraph poles and wires were also targeted.

3rd and the last phase: In the last phase of the movement, there was **the formation of many independent national or parallel governments** in many parts of the country, such as Ballia (UP), Satara (Maharashtra), Tamluk (West Bengal) etc.

✍ **What were the gains of the Quit India Movement ?**

1. **Women empowerment:** This movement had the **active participation of the women. Aruna Asif Ali** hoisted the national flag on the **Gowalia tank maidan**, **Usha Mehta** helped in setting up the **underground radio station to spread awareness about the movement.**

2. **Rise of future leaders:** This movement also gave some future prominent leaders such **as Biju Patnaik, Aruna Asif Ali, Ram Manohar Lohia, Sucheta Kriplani,**

J.P. Narayan etc. These leaders were helping the movement through underground activities.

3. **Rise of nationalism**: A greater sense of **unity and brotherhood emerged due to the Quit India Movement**.

✎ <u>What were the failures of the Quit India Movement ?</u>

1. **Britishers were supported by the princely states, British Indian army, Indian civil services, viceroy's council (which had Indians in the majority), Indian imperial police etc.**

2. **The Hindu Mahasabha, Rashtriya Swayamsevak Sangh (RSS) & Muslim League also opposed the Quit India Movement.**