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Topic 1. YELLOWSTONE NATIONAL PARK

Important for subject: Environment



Yellowstone Celebrates Its 150th Birthday on This March

Yellowstone National Park


- Yellowstone NP is an American national park situated within the west of United States, largely in the northwest portion of Wyoming and stretching across Montana as well as Idaho.
- Yellowstone is one of the very first park to be designated a national in the US and is widely believed as the first national park anywhere in the world.
- The park is famous for its wildlife and numerous geothermal features including Old Faithful geyser which is one of the most well-known.
- Although it encompasses a variety of biomes However, the subalpine forest is by far the most prolific. The subalpine forest is part of the South Central Rockies forests eco region.
- It also marks the single point where the three major rivers that comprise the Western U.S. converge.
- The streams of the Snake-Columbia basin, Green-Colorado basin, and Missouri River Basin all begin with glaciers on the Continental Divide as it flows across the

Yellowstone plateaus and peaks.


- Yellowstone Lake is one of the largest lakes with high elevation within North America and is located above the Yellowstone Caldera, the largest super volcano in the world.
- The caldera is thought to be an inactive volcano. It has erupted at a massive force multiple times over the past 2 million years.
- Over 50% of all geysers as well as hydrothermal features are located in Yellowstone which is fuelled by the continuing volcanism. Lava flows and the rocks that result that result from volcanic eruptions cover the vast majority of the area of Yellowstone.

Topic 2. ASIATIC CHEETAH

Important for Subject: Environment



The fastest land animal in the world, Cheetah, declared extinct in India in 1952, will find a new home in the Kuno-Palpur National Park (KNP). African cheetahs are being brought under an intercontinental translocation project between India and Africa (mainly from South Africa and Namibia). It comes under the 'Action Plan for Introduction of Cheetah in India' under which 50 of these big cats will be introduced in the next five years.




Three potential wildlife sanctuaries that would support cheetah population

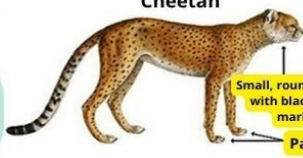
- Kuno-Palpur**
Area: 344.686km²
Part of Kathiawar-Gir dry deciduous forests
- Shahgarh**
Area: About 4,000km²
A fenced region close to India-Pakistan border
- Nauradehi**
Area: 1,197km²
Spreads over the southern area of Vindhya Range of hills

Cheetah relocation Sites

Asiatic Cheetah with 'red eyes'





Cheetah



Small, rounded head with black "tear marks"

Partially exposed claws

Cheetah Tear Marks Act Like Sunglasses: Cheetah primarily hunt during the day, unlike other big cats, the tear marks help to reflect away the sun's glare, making it easier for them to focus on hunting their prey.

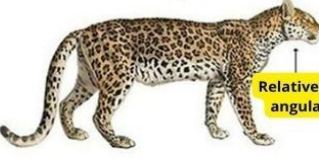



Solid black spots


Cheetah: IUCN (Asiatic- Critically Endangered; African-Vulnerable)

- African Cheetah are Bigger in size as compared to Asiatic Cheetah, have darker color. Asiatic Cheetah (only 40-50 survive in Iran) usually have 'Red Eyes'.

Leopard



Relatively Small, angular head

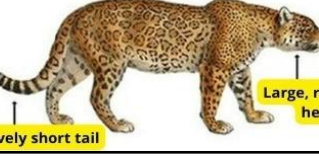


Small, densely packed rosettes

Leopard: IUCN: Vulnerable


- India has about 12000 leopard (largest number in MP) and there has been "60% increase in the population count of leopards in India from 2014 estimates"

Jaguar



Large, rounded head

Relatively short tail



Large rosettes with central spot

Jaguar: IUCN: Near Threatened

- The largest cat in the Americas, the Jaguar has the strongest bite force of all wild cats, enabling it to bite directly through the skull of its prey. Melanistic (black) Jaguars are common and are often called black panthers.
- A **black panther** is the melanistic colour variant of the leopard (*Panthera pardus*) and the jaguar (*Panthera onca*).

In Iran the country of Iran, the endangered Asiatic Cheetahs die at 10 months old

- Iran's sole Asiatic Cheetah cub was killed on February 28, despite weeks in treatment

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to treat kidney disease.

- Pirouz at the age of 10 months was the only remaining one of his three-legged litter. Asiatic Cheetahs.
- Iran has been trying for a long time to save the Asiatic Cheetahs, one of the world's most critically threatened species. It is believed that the United Nations is helping the government to intensify efforts to save the species.
- The Asiatic Cheetah is a quick cousin to the African cat, was once found across in the Red Sea to India. The number of animals has decreased over the past century, to between 50 and 70 animals that remain in Iran. This is down from as high as 400 animals in the 1990s.
- The decline in numbers was because of poaching and hunting its principal prey gazelles and an increase in its habitat.
- Cheetahs are also struck by vehicles and killed in dog fights as shepherds are granted permission to graze their livestock in areas where cheetahs live in Africa Cheetah.
- IUCN status- Vulnerable
- Status of CITES status Appendix I of this List. This List is comprised of species that migrate and have been deemed at risk of extinction across the entirety or at least a large portion of their habitat.
- Habitat Between 6,500 and 7,000 African Cheetahs roaming on the open plains.
- Physical characteristics larger in size when compared with Asiatic Cheetah.
- Asian Cheetah IUCN Status- Critically Endangered.
- CIES(Appendix I) Appendix I of the list
- Habitat - 40-50 only in Iran.
- Physical characteristics The HTML0 is smaller and paler than the African Cheetah. With more fur, shorter head, and a smaller neck. Most often, they have red eyes. they are more cat-like in appearance.

Topic 3. FOSSIL FUELS FIRMS FAILED TO CURB METHANE EMISSION

Important for Subject: Environment

Based on the report of the International Energy Agency's (IEA) annual Methane Global

- The Tracker Report, which tracks fossil fuel firms emit 120 million metric tonnes of methane to the atmosphere in 2022. This is only a tiny bit less than the record highs that were recorded in the year prior.
- The report states that 75 percent Methane emission from the energy industry could be decreased with the aid of inexpensive and easily accessible technology.
- The application of these measures would not cost more than 3 percent of the net earnings earned by the gas and oil industry in 2022. However, fossil fuel companies have yet to adopt any significant action on the problem.
- It is estimated that the industry of energy contributes to approximately 40 percent of all methane emissions that result from human activities because natural gas and oil companies release methane into the air after natural gas has been burned or vented. The greenhouse gas can also be released via the leaks that occur of valves and other devices during the extraction, drilling and transport process.
- It also mentioned that 80 percent of the options available to limit methane's release can be adopted by fossil fuel companies for cost.

Methane:

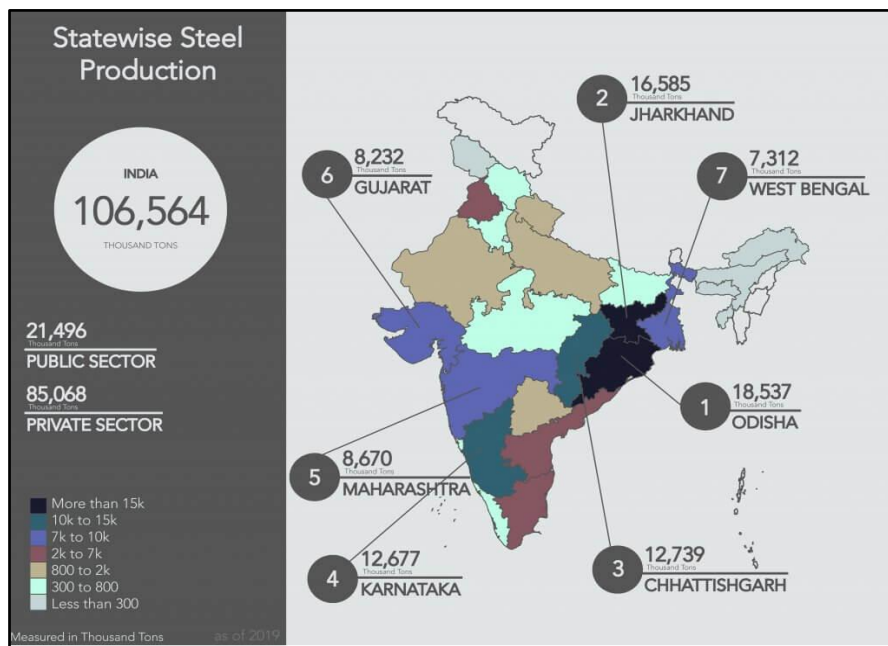
- Methane may be the the simplest hydrocarbon. It's composed of a carbon atom and the four hydrogen atoms (CH₄). Methane is a potent greenhouse gas. It's flammable, and is used as fuel throughout the world.
- Based on the UN, 25 per percent of the climate change the world is experiencing right now is caused by methane the greenhouse gas that is also a constituent of natural gas.
- Methane is very short-lived in comparison to carbon dioxide.
- Methane is a greenhouse gas and is eight times more powerful as carbon dioxide in regards to its global warming potential.
- About 40 percent of methane released comes naturally produced and around 60% of methane is generated by human-caused sources which include the agriculture of rice, livestock farming biomass burning, and more.
- It is responsible for the creation of Ozone at ground level, which is a potentially

hazardous air pollutant.

- The previous year it was reported that in the year 2000, the US National Oceanic and Atmospheric Administration (NOAA) stated that methane levels in the atmosphere rose by 17 parts-per billion in 2021, surpassing the previous record of 17 parts per billion set in 2020.

Topic 4. INDIA'S IRON AND STEEL INDUSTRY IS CAPABLE OF EMITTING LESS AND PRODUCING MORE

Important for Subject: Environment



CSE highlights the necessity for more efficient planning, the latest technology and adequate funding to enable the sector to make the necessary shift in our stressed-by climate world.

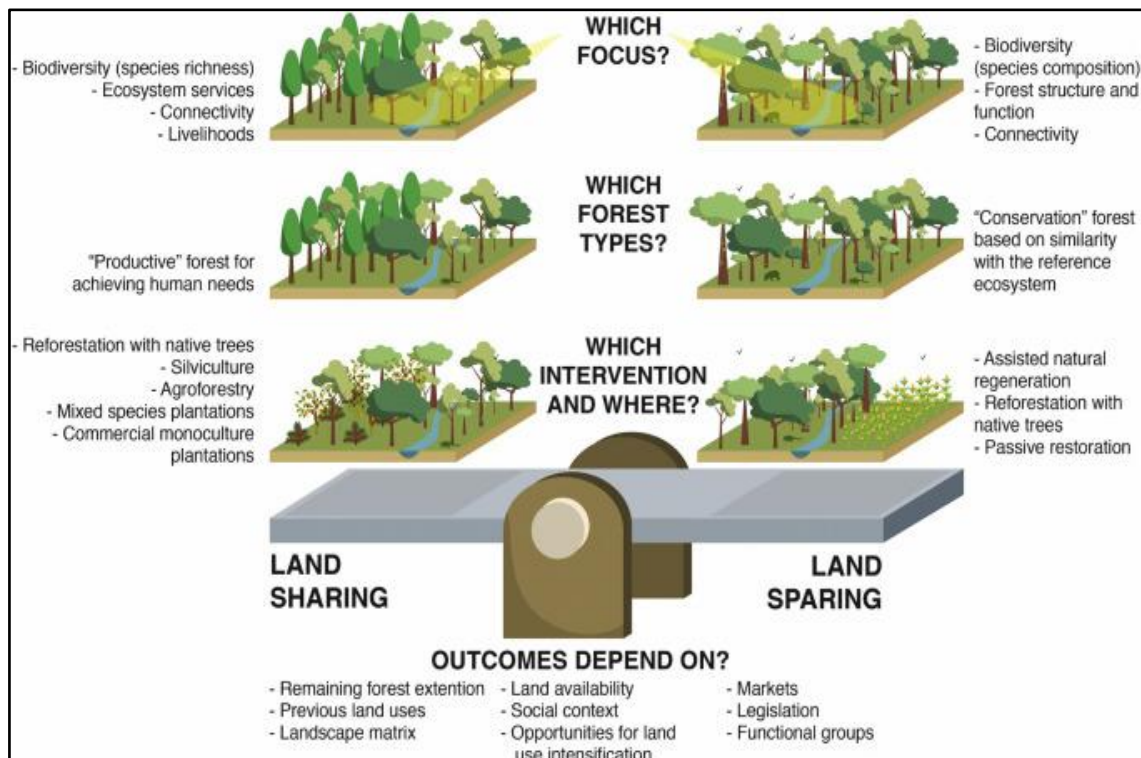
- India's steel and iron sector could produce less carbon dioxide and also increase output while doing so according to a new study by the Delhi-based non-profit organization, Centre for Science and Environment (CSE).
- The steel and iron industry is one of the difficult to quantify with respect to emissions of greenhouse gases(GHG) emissions. However, at the same time, it's an crucial contribution to the economic development of the country.
- Globally the sector is responsible for 7 percent of all GHG emissions In India the sector's share is 5 percent (as as per the most recent Biennial Review Report (BUR) sent to UNFCCC in the year 2016).

- The industry of steel and iron is emitter-intensive. The latest analysis suggests that it's possible to reduce CO₂ pollution from our steel and iron sector by a significant amount by 2030, as well as more than doubling the production of steel in India.
- The report also offered a range of suggestions for achieving these two objectives. They included moving to cleaner fuels, boosting the amount of scrap steel used and installing carbon capture utilization and storage (CCUS) as well as organizing the financing needed to switch to new technologies and fuels.

Carbon Capture, Utilization and Storage (CCUS):

- The CCUS technology is developed for the purpose of capturing CO₂ emissions generated by the burning fossil fuels.
- It is able to absorb 85-95% in CO₂ emissions in the air.
- The process begins with the capture of CO₂ that is compressed process to create a dense liquid. This facilitates storage and transport of the CO₂ that has been captured.
- The dense fluid is transported through pipelines and is then injected into an underground storage area.
- Captured CO₂ may also be utilized as an ingredient in various industrial processes, such as bicarbonates.
- CO₂ captured by CCU technology is converted to fuel (methane and Methanol) refrigerants, fuels and construction materials. The gas captured is utilized to fire-fighting equipment and pharma, food and beverage industry and also in the agriculture sector.

Topic 5. A SHARED UNDERSTANDING OF FOREST LANDSCAPES IS THE FOUNDATION FOR RESTORATION



Important for Subject: Environment

An essential component of solutions based on nature is the restoration of landscapes particularly Forest Landscape Restoration (FLR).

Forest Landscape Restoration (FLR):

- A landscape-based approach to forest restoration will attempt to meet goals that benefit a broad range of stakeholders and also ecological, social, as well as economic components within the forest landscape.
- This is distinct from afforestation or activities to reforest which have the primary goal of increasing the amount of green or the restoration of green cover.
- Restoration of landscapes is the procedure of restoring ecological function and enhancing human wellbeing across forests that have been degraded or cleared.
- Restoration of the forest landscape is a way to engage communities in developing and executing mutually beneficial actions for the improvement of landscapes
- The forest landscapes are getting particular focus in recent years because they are the

only ones in solving the triple problem' that the natural environment faces in the present that is the climate crisis as well as environmental pollution and loss of biodiversity.

- Restoring the ecological balance is the method of helping the restoration of an ecosystem that was damaged, degraded or damaged.
- Ecosystems are living organisms made up of animals, plants and microorganisms that interact with their physical environment an operational unit.
- The communities they inhabit can get destroyed, degraded as well as destroyed by the activities of humans.
- "damage" refers to an extreme and evidently harmful effect on an ecosystem , such as the selective logging of roads, selective road building poaching, or the invasion by non-native animals.
- The term "degradation" refers to the ongoing human impact which result in the loss biodiversity as well as disruption to the structure as well as composition and function.
- Examples include long-term effects of grazing, over-fishing or hunting pressure and the persistent invading of non-native species.
- Destruction is the most serious level of impact. It is when destruction or degradation eliminates the macroscopic life form and often destroys the physical environment.
- Ecosystems are destroyed due to such actions as clearing land urbanization, coastal erosion, urbanization and mining.
- Ecological restoration is a process to start or accelerate the recovery of ecosystems following destruction, damage, or loss.
- 18/24 Restoration professionals do not do the actual work of ecosystem restoration.
- They provide the necessary conditions to recover so that the animals, plants and microorganisms do the work of healing themselves.
- Helping to recover can be as easy as removing an invading species or the reintroduction of a species that has been lost or even a function that was lost (like fire) or as complicated as changing landforms, planting vegetation, altering the hydrology, and then reintroducing wildlife.
- The purpose in ecological restoration is restore an ecosystem that has been damaged to its previous course but not to return it to its historical state. The ecosystem might not be able to recover to its previous condition, as current ecological conditions that

include climate change in the world, could result in it developing along an unnatural path, just similar to how these very same circumstances could alter the course of unaffected ecosystems nearby.

- The role of history is crucial in restoration, however current circumstances should be considered too.

Topic 6. WORLD WILDLIFE DAY

Important for Subject: Environment



March 3 is the 50th anniversary celebration of the Convention on International Trade in Endangered Species of Wild

- Fauna and Flora (CITES) in 1973.
- March 3 is World Wildlife Day.
- In 2013 the year 2013, 2013 the United Nations General Assembly (UNGA) declared March 3 as UN World Wildlife Day to highlight and increase awareness about conserving the wild animals of the world and plants.
- This day was chosen because this is the anniversary of CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora which was signed in 1973.
- The theme this year is "Partnerships for Wildlife Conservation'.
- March 3 is an anniversary that marks 50 years of CITES its establishment.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora CITES is an international treaty that States along with regional and economic integration groups sign to voluntarily.

- The goal is to ensure that the trade of animals and plants doesn't jeopardize the survival of these species.
- It was created in response to the 1963 resolution that was adopted at an assembly with members from the International Union for Conservation of Nature (IUCN).
- It equips private, public and non-governmental organizations with expertise and resources that allow the advancement of humanity, economic development and conservation of nature to occur all in one place.
- The CITES Secretariat is managed through UNEP(The United Nations Environment Programme) and is located in Geneva, Switzerland.
- It serves an coordination, advisory, and facilitating function in the work in the Convention (CITES).
- The Conference of the Parties to CITES is the highest organ of decision-making of the Convention and is comprised of all of its Parties.
- While CITES has the effect of being legally binding on Parties but it does not substitute for national laws. Instead, it creates a framework that must be adhered to by each Party which is obliged to develop its own national laws for ensuring that CITES is followed on a national scale.

Functions:

- The CITES operates by making international trade specimens of chosen species to specific control measures.
- All export, import, re-export or introduction into the ocean of species covered under the convention has to be authorised by an authorization system.
- Each Partie in the Convention has to designate at least one of the Management Authorities in charge of overseeing the licensing system as well as at least one of the Scientific Authorities to advise them on the impact of trade on the status of the species.
- Appendices I II, III, and Ito to the Convention are the lists of species with different levels or kinds of protection from over-exploitation.

Appendix I:

- It includes species that are most threatened among the animals and plants listed in

CITES.

- These species are threatened by the extinction of these species and CITES bans the international trade in the specimens belonging to these species, except in cases where the intention behind this importation isn't commercial, like to conduct research.
- In such circumstances, trade can occur if allowed by the grant either an import permit as well as one for export (or an export certificate that is re-exported).

Appendix II:

- It includes the species which are not necessarily threatened by the extinction of species but they could be in the event that trade is tightly monitored.
- International trading in Appendix-II specimens species can be authorized through the issuance the export license or re-export certification.
- A permit to import is not required for these species in CITES (although permits are required in some countries that have adopted more stringent measures that CITES will require).

Appendix III:


- It's a list of species which are listed at the request of the Party which already has a system of regulation for the trade in the species, and requires the cooperation from other countries to avoid illegal or unsustainable exploiting.
- International trading of specimens of species mentioned in this appendix is only permitted upon the presentation of appropriate licenses or certifications.

Criticism:

- The fact that wildlife can be traded increases the legitimacy of their movements and increases the likelihood of illegal trade.
- Many species who are part of the trade in wildlife have not protected under CITES.
- International conventions aren't going enough to ensure their responsibilities.
- It is an implicit understanding that even though the organizations generally don't have the power to punish but they have at the very least a level of commitment which provides a consensus as a first step.

Topic 7. CORAL REEFS

Important for Subject: Environment

(Rainforests of the seas) 

About


- ✦ **Large underwater structures** – made of skeletons of **colonial marine invertebrates**
- ✦ **'coral'** – individually called **polyp**
- ✦ **Symbiotic Relationship with algae**
- ✦ **'zooxanthellae'** (responsible for beautiful colours of corals)
- ✦ Support over 25% of marine biodiversity

Hard Corals vs Soft Corals

- ✦ **Hard Corals** - Rigid skeleton **made of CaCO₃** - **reef-building** corals
- ✦ **Soft Corals** - Non reef-building


Great Barrier Reef (Australia)

- ✦ Largest Coral Reef in the World
- ✦ World Heritage Site (1981)
- ✦ Endures Mass Coral Bleaching



Corals in India

- ✦ Present in the areas of Gulf of Kutch, Gulf of Mannar, Andaman & Nicobar, Lakshadweep Islands and Malvan



Significance


- ✦ Coral reefs **protect coastlines from storms/erosion**, provide jobs, offer opportunities for recreation
- ✦ Source of **food/medicines**

Threats

- ✦ **Natural:** Temperature, Sediment Deposition, Salinity, pH, etc.
- ✦ **Anthropogenic:** Mining, Bottom Fishing, Tourism, pollution, etc.

Coral Bleaching


- ✦ Corals under stress - expel algae – thus turning white (bleached)
- ✦ Bleached corals - not dead – but, more risk of starvation/disease



Initiatives to Protect Corals

Technology

- ✦ **Cyromesh:** Storage of the coral larvae at (-196°C) - Can be later reintroduced to the wild
- ✦ **Biorock:** Creating artificial reefs on which coral can grow rapidly



Global

- ✦ International Coral Reef Initiative
- ✦ The Global Coral Reef R&D Accelerator Platform

Indian

National Coastal Mission Programme

It's not looking good for reefs of coral. They're being afflicted by bleaching, overfishing, and being consumed by the warming oceans.

Coral Reefs:

- Coral reefs form among the largest and most biodiversity sea ecosystems on earth.
- They are the submerged structures that are made from coral polyps which are

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connected by calcium carbonate.

- The coral reefs can also be known to be the tropical ocean's rainforest and cover only 0.1 percent of the ocean's surface, but they are home to more than 25 percent in marine animals.
- They are typically located in shallow waters at the depth of 150 feet. However certain coral reefs go into deeper depths, to around 350 feet.
- Corals are found throughout the oceans however the largest coral reefs tend to be located in the clear, shallow waters of the tropical and subtropics.
- The most extensive among these reef systems the Great Barrier Reef in Australia The largest coral reef that is over 1,500 miles in length.

The conditions for Coral reef expansion:

- Stable climate Corals are very prone to sudden shifts in climate. They are found in areas where the conditions are stable over the duration of.
- Perpetually warm water: Corals are flourishing within the tropical oceans In tropical waters at 30degN or 30degS, respectively where the the temperature of the water is approximately 20degC when the diurnal as well as annual temperature variations are extremely small.
- Salt water that is clear The clear saltwater is ideal for coral development however both fresh and highly salinized water are toxic.
- Abundant Plankton An adequate availability of oxygen as well as tiny marine food which is known as plankton or phytoplankton is crucial to grow. Since plankton is greater on the seaward-facing side the corals are growing rapidly on the seaward end.
- Very little or no pollution Corals are extremely fragile and prone to pollution and climate change and even a tiny rise in pollution from marine sources could be devastating.

Types of Coral Reefs:

- Fringing reefs comprise of flat reefs which directly encircle an island that is not reef-like, usually volcanic or a continental mass.
- Barrier reefs are located close to the landmass that is not reef-free however, they

lie several kilometres off the coast, separated from the landmass by a channel or lagoon typically 50 meters (160 feet) deep. Some reefs are generally circular, encircling an island and more extensive barrier reefs, such as those found along their Red Sea coast and Australia's Great Barrier Reef, are complex linear features made up of reef patches in chains with some of them being extended in ribbon-like reefs.

- Atolls can be described similar to circle-shaped barrier reefs but without the central landmass.

Benefits:

- **Marine diversification** Coral reefs are home to diverse kinds of marine life that depend on them for shelter, food and reproduction. Healthy corals help sustain a flourishing marine life, however poor corals can cause destruction of the line of water that could cause disruption to the chain of food.
- **Tourism** Coral reefs that are healthy and well-maintained make appealing tourist destinations and bleaching could impact the local economy in a negative way.
- **Fisheries:** Fishing communities are dependent on corals to support periodic migrations of various species of fish. In the event of coral disease, it will result in an increase in fishing activity and a negative impact on economic activities.
- **Coastline protection** Coral reefs safeguard coasts by absorption of constant waves that comes from oceans, thereby protecting people living close to the coast from increasing erosion, storm damage and flooding. Coral reefs are like breakwaters that are low-crested that take in 97% of the wave energy.

Coral Bleaching

- It is believed that the coral and zooxanthellae have an symbiotic bond and over 90% of the nutrients produced by the algae get transferred to coral hosts.
- However, this relationship is weakened under extreme environmental stress that leads to the destruction of the symbiotic Algae (zooxanthellae).
- This is why the white calcium-carbonate exoskeleton becomes apparent through the transparent tissues, resulting in a condition called Coral Bleaching.
- The corals become vulnerable in absence of algae and start to lose their life if the sea is high for several weeks.
- Causes of bleaching of coral

- Warm Sea Temperature Coral species prefer living near to warm temperatures that they endure, however a small increase in temperature of the ocean can be harmful to corals.
- Extremely low tides Extremely high tides low tides expose the coral to ultraviolet and solar radiations, which can trigger bleaching of corals.
- Ocean Acidification Oceans are carbon sinks, however the presence of carbon dioxide can increase an ocean's acidity. The increase in acidity of ocean waters hinders the coral's capacity to produce calcareous skeletonsthat are vital for their survival.
- Diseases: Different species of bacteria such as vibrio shiloiinhibit the photosynthesis of Zooxanthellae. These bacteria grow more potent with higher temperatures in the sea.
- Ocean Pollution The growing concentrations of nutrients result in an increase in phytoplankton and draws more and more marine species, which could cause stress on reefs.
- Sedimentation The high rate of land erosion lead to silt as well as other sediments to be released into ocean water which results in sedimentation and water turbidity. The sedimentation tends to drown corals and reduce the amount of light available to corals, which could reduce the rate of photosynthesis and growth.
- Anthropogenic danger: Over-fishing, pollution from industrial and agricultural runoff, mining of corals,development of industrial areas in coral ecosystems, have negative effects to coral reefs.
- Predators: Acanthasterplanci is also known also as The Crown of Thorns Starfish consumes corals in the evening. They could cause the destruction of entire coral reef if they are discovered in large numbers.

Topic 8. U.N. GLOBAL HIGH SEAS BIODIVERSITY PACT

Important for Subject: Environment

The governments who met on the United Nations (UN) in New York City reached agreement on major issues of substance for the creation of a new Treaty to safeguard marine life on the waters of the high seas.

- U.N. world high seas biodiversity agreement More than 100 nations concluded an U.N. treaty to protect the oceans at high tide.
- The legally binding agreement to protect and ensure the sustainable use of marine biodiversity that has been in discussion for over 15 years, finally came into force after five years of lengthy U.N.-led discussions that came to an end with New York.
- The treaty is considered to be an essential element in the worldwide efforts that aim to put 30 percent of the planet's ocean and land in the protection of by the time the decade. This is an objective known by the name of "30 by 30" agreed in Montreal.
- Countries need to accept the treaty and accept it as fast as they can to make it effective, and then provide the protected ocean sanctuaries that our planet needs.

What are High Seas?

- These are the areas of oceans which extend above the national waters..
- These are the most extensive habitats on Earth and are home to thousands of animals.
- The high seas are the regions of the ocean which aren't part of the exclusive economic zones territorial sea, inner waters within a state.
- High seas is accessible to all States that are landlocked or coastal. The freedom of at sea is governed in accordance with the terms set out in this Convention as well as other regulations that are part of the international legal system.
- The high seas make up almost 45% of Earth's surface.

High Sea Alliance

- The High Seas Alliance is an alliance of organisations and organizations with the aim of building an effective common voice and support to protect the oceans of the high seas. The Alliance is comprised of 40+ NGOs as well as an International Union for the Conservation of Nature (IUCN).

- The purpose of this Alliance is to assist in international cooperation for the creation of high seas protected areas as well as to enhance high seas governance. Members of the HSA provide access to information to improve transparency and foster an informed public debate that is in line with the mission and purposes that are the focus of the Alliance.
- High Seas Alliance members commit to collaborate to reach these goals, either as part of a collective effort within the Alliance or as individuals organisations that are supported or associated to the Alliance.
- United Nations Convention on the Law of the Sea (UNCLOS)
- The convention is sometimes called "the Law of the Sea Convention or the Law of the Sea treaty.
- UNCLOS began operation and was effective on 16th November 1982.
- India was a member to UNCLOS in 1982. UNCLOS from 1982.
- It replaced it with the 4 Geneva Conventions of April, 1958 that respectively dealt with the territorial sea, the contiguous zone continental shelf, waters of the high seas and fishing and the conservation of living resources in the oceans in the upper part of the world.

In accordance with UNCLOS the ocean is divided into four sections:

1. Territorial waters
 2. Contiguous Zone
 3. Exclusive Economic Zone (EEZ)
 4. Continental Shelf
- It is defined as twelve nautical miles (approx. 22km) from the base as Territorial Sea limitation and 200 nautical miles as Exclusive Economic Zone (EEZ) restriction.
 - Exclusive Economic Zone is an area of the ocean that a sovereign nation has exclusive rights in the exploration and utilization for marine resource, such as the production of energy from the wind and water.

Topic 9. TOO MANY DEER AT DELHI'S DEER PARK, SOME MAY BE MOVED TO LEOPARD TERRITORY

Important for Subject: Environment

According to a top official of the forest department, it plans to move between 300 - 400 deer into the wildlife sanctuary in order to increase ecotourism and reduce the risk of inbreeding depression in this Deer Park.

- The Delhi Forest Department wants to move deer from in the Deer Park in Hauz Khas to the Asola Bhatti Wildlife Sanctuary which is home to eight leopards.
- According to a top forest department officer, the department plans to move between 300 - 400 deer into the sanctuary for wildlife to increase ecotourism as well as reduce the chance of an inbreeding depression within this Deer Park.
- As regeneration efforts begin in Asola Sanctuary, which covers 32.71 square kilometers Asola sanctuary to rebuild nature's ecosystem in the Aravallis the herbivores are most likely to be able to access sufficient green grass as well as leaves.
- The Deer Park, set up in the 1960s, started with just a few deer. Due to their absence of any carnivores the animals have grown to more than 500 within the confines of a small area.

Asola Bhatti sanctuary:

- Asola-Bhatti Wildlife Sanctuary covers 32.71 square kilometers situated on the Southern Delhi Ridge of Aravalli hill range on the border between Haryana and Delhi. is located within Southern Delhi as well as the northern regions that are part of Faridabad along with Gurugram districts in Haryana state. Biodiversity importance of Ridge is in its fusion of Indo-Gangetic plains which is region of the Northern Aravalli leopard wildlife corridor which is a major wildlife corridor that starts at the Sariska National Park in Rajasthan and passes through Nuh, Faridabad and Gurugram districts in Haryana and finishes with Delhi Ridge.
- This protected zone includes one of the last remaining remains from Delhi Ridge hill range and its semi-arid forest habitat as well as its wildlife dependent on it.
- At one time, the entire Delhi Ridge was a forested region, but the development of Delhi Ridge has destroyed a few areas of it.

- The most famous historical sites around the sanctuary are Suraj Kund and Anangpur Dam (both located in Haryana), Tughlaqabad Fort and Adilabad ruin (both located in Delhi), Chhatarpur Temple (in Delhi).
- There are 193 species of birds recorded from Asola together with a large variety of medicinal plants including over 80 butterflies species, and hundreds of insects, mammals like leopards and the nilgai (blue bull), the biggest antelope in the nation) and the blackbuck (fastest land animal that lives in the wild country) Black napped Hare, Indian crested porcupine, tiny Indian Civet, golden Jackal and wild cat.
- In a report released by the Forest Department and the Bombay Natural History Society this year information gathered from camera traps indicated the presence of at most eight leopards within the Asola sanctuary.

Deer Park:

- Deer Park also known as Aditya Nath Jha Deer Park, is a natural park located in Delhi situated within the suburb of Hauz Khas in South Delhi. It was named for the famous social employee Aditya Nath Jha.
- There is the Deer Park along with the adjoining District Park (that houses the Hauz Khas lake) as well as the adjacent Rose Garden (accessible from IIT Delhi and Safdarjung Development Area) are one of the biggest green spaces within New Delhi and are collectively known as "the lungs of Delhi" because they breathe clean breathing within the smog-filled busy mega-metropolis of Delhi.
- The park is referred to as Deer Park because it actually contains a number of deer within the park.
- Park is managed under The Delhi Development Authority, which is a planning authority of the government.

Topic 10. GLOBAL ALLIANCE FOR BIG CATS

Important for Subject: Environment

India is to establish a global alliance to protect big cats, to invest \$100 million.

More on the News:

- India has suggested to establish a massive international coalition under its direction to defend big cats. guaranteed support for five years and the guarantee of the funding in the amount of 100 million (over 800 crore rupees).
- The Government last month made contact with potential IBCA members through its proposed proposal. Based on a timeline that was proposed this alliance is likely to launch in the coming month in an "suitable office complex" in India.
- According to people in sources in the Environment Ministry, the alliance was "inspired by the arrival of cheetahs" this year from Namibia.
- Cheetahs have been spotted since the beginning of time India is now the one nation that has leopards, tigers, lions as well as snow leopards and cheetahs out in nature. India is home to every big cat with the exception of jaguars and pumas and jaguars, which is the case which is the case today. It is therefore only fitting that India is the first to unite all the big cat-related nations under an umbrella of the UN.
- Global alliance of big cats
- A proposed International Big Cat Alliance (IBCA) will work to ensure protecting and preserving the preservation and protection of these seven big cats that are the major ones: the tiger and lion snow leopard jaguar, puma, and cheetah.
- Membership in the alliance is available to the 97 "range" countries, that are their territory as the the natural home of these large cats in addition to other countries that are interested and international organizations.
- The aim of the alliance is to create a platform for "dissemination of information on benchmarked practices, capacity building, resources repository, research and development, awareness creation" as well as. Concerning the protection and conservation of big cats.
- The main areas of its work will be "advocacy, partnership, knowledge e-portal, capacity building, eco-tourism, partnerships between expert groups and finance tapping".

- The IBCA's Governance structure is expected to consist of the General Assembly consisting of the members of all countries and an IBCA council consisting of at least seven but not more than 15 members nations elected through the General Assembly for a term of five years and the Secretariat.
- On the recommendation of the Council On the recommendation of the Council General Assembly will appoint the IBCA Secretary General for a specified period.
- After the initial five years that will be provided through the Indian government's "total grant assistance" of \$100 million The IBCA should be able to survive on the cost of membership as well as contributions from multilateral and bilateral institutions as well as the private sector.

Topic 11. U.N. TAKES STEP TOWARDS NEW WAY OF TRACKING GREENHOUSE GASES

Important for Subject: Environment



The United Nations announced that it has taken a major step in trying to close a crucial problem in fighting climate change by establishing a the real-time and consistent monitoring of greenhouse gases.

More on the News:

- N.'s World Meteorological Organization has developed with a brand new Global Greenhouse Gas Monitoring Infrastructure which is designed to provide more accurate methods of measuring the effects of climate warming pollution, and to help inform the choices of policy makers.

- The WMO's new platform will combine surface-based and space-based observation systems and seeks to resolve any doubts regarding where greenhouse gas emissions will end at.
- It could lead to quicker and more accurate information on how our planet's climate is changing. It will provide crucial information and help in the application of Paris Agreement.
- From the studies that show that gas concentrations of greenhouse gases in the atmosphere are at the highest level ever recorded. The three major greenhouse gases include methane, carbon dioxide and Nitrous Oxide. Of these, CO₂ accounts for approximately 66 percent of the warming impact in the world's climate.

World Meteorological Organisation (WMO):

- WMO is an intergovernmental organization. World Monetary Organizations is an intergovernmental organisation with an membership of 192 member states and Territories.
- India is an affiliate of
- It is a result of its predecessor, the International Meteorological Organization (IMO) formed following 1873's Vienna International Meteorological Congress.
- The organization was established by the ratification of the WMO Convention on 23rd March 1950, WMO became the specialist organization of the United Nations for meteorology (weather and climate) operational hydrology as well as the related geophysical science.'
- WMO also promotes research and education in the fields of meteorology and hydrology and their related fields and aids in reducing the negative impact of climate and weather-related dangers.
- Predictions about locust swarms, and the movement of pollutant (nuclear as well as toxic chemicals and volcanic Ash) are made available by WMO Members.
- WMO is located with its headquarters in Geneva, Switzerland.

Reports:

- Greenhouse Gas Bulletin.
- Status of the World Climate.

- Greenhouse Gases (GHGs)
- Atmospheric gases such as methane, carbon dioxide, Nitrous oxide (N₂O) chlorofluorocarbons and water vapour can be found in blocking the infrared radiation away from the earth's surface and thereby creating a greenhouse effect.
- Therefore, these gases are referred to in the field of greenhouse gas and the warming effect is also known as greenhouse effect.
- The scientists believe that the increase in temperature could cause negative changes to the natural environment, resulting in bizarre climatic changes (e.g. an increase in the frequency in El Nino) which will lead to a greater melting rate of the glaciers in the polar regions and other areas such as those of the Himalayan the snow caps.
- Over time over time, this could lead to an increase in sea levels that will submerge many coastal areas, and result in destruction of areas along the coast and ecosystems, such as marshes and swamps (most important ecosystems in terms that they provide ecological service) and so on.

Gas: Sources and Causes

- Carbon dioxide (CO₂)
 1. Utilization of fossil fuels for burning and deforestation
- Chlorofluorocarbons (CFCs)
 2. Refrigeration and aero propellants, insulation foams Commercial and industrial applications Methane (CH₄)
 3. Excreta from growing paddy, livestock and cattle termites, burning of fossil fuels landfills, wood, the wetlands, fertilizer factories.
- Nitrogen oxides (N O)
 1. The burning of fertilizers, fossil fuels and other substances burning of wood, and the residue of crops.
- Carbon Monoxide (CO)
 1. Smelting iron ore combustion of fossil fuels as well as burning E-waste.

Topic 12. VULTURES IN NILGIRI BIOSPHERE RESERVE DEPENDING ON CATTLE CARCASSES FOR FOOD ARE AT RISK OF POISONING

Important for Subject: Environment



The study, conducted by a researcher at the Centre for Wildlife Studies, stated that there was a significant availability of non-steroidal Inflammatory Drugs in the vicinity of nesting sites for vultures as well as the dependence of vultures on the carcasses of cattle for food sources put them in danger. More action is required to protect the vulture species.

More on the News:

- The study found that of the approximately 3,349 cattle that have died in the last 10 years about 27 percent or 929 cattle died due to predation from leopards, tigers as well as Asiatic wild dogs living in the region.
- Studies from earlier times point towards the presence of vultures within areas of buffers within the Mudumalai Tiger Reserve (MTR) and not in the core zone, because of less canopy cover. However due to the spreading of invasive species like Camara Lantana and Eupatorium plant species such large, wide and vast areas for vultures has significantly decreased.
- In the Nilgiris and parts of Coimbatore as well as Erode (Sathyamangalam Tiger Reserve as well as Thengumarahada) Four species of vultures are seen: the White-rumped Vulture, the Long billed vulture Asian King vulture, as well as the Egyptian vulture are often seen in the area, including just the Egyptian vulture being known to not use the landscape in the past few years to nest.

- There is an overwhelming awareness among pharmacists and residents that diclofenac is prohibited, however it isn't the same amount of attention regarding the sales of harmful NSAIDs such as nimesulide flunixin and aceclofenac.
- The continual sale of harmful NSAIDs throughout the region pose an imminent threat to the largest vulture population in southern India.

Vultures:

- The hummingbird can be an example of the large bird species that are found mostly in subtropics and the tropics.
- India is the home of 9 species of Vulture. These include the Oriental White-backed, Long-billed Slender-billed Himalayan and Red-headed Egyptian and Bearded Cinereous along with the Eurasian Griffon.
- Habitat The Habitats that are the preferred for the Vulture are deserts, savannas, and grassland near water sources. It also dwells in the open mountains that rise up to 3,000 m over sea-level.
- Distribution: Vultures are widely distributed, but they are absent from Australia and most oceanic islands.

Features:

- Vultures are medium-to huge-sized prey birds. They are famous for eating carrion (the carcasses from dead animal carcasses).
- Baldhead, and occasionally a bald throat (help in controlling the body's temperatures) Behaviour: They soar in circles that are high above the surface of the Earth. They make use of the rising air currents to keep their altitude.
- Dietary habits Most Vultures are very varied in their food choices. They are known to eat garbage, carrion, even excrement. However, they rarely prey on live animals. Some of them may take prey, such as lambs, tortoises, or calves who are just born.

Significance:

- The habit of eating carrion is highly beneficial to humans. Because it has a substantial impact in the spread of illnesses. Certain of them are fatal.

Conservation Initiatives:

- The National Board of Wildlife (NBWL) have approved the Action Plan for Vulture Conservation 2020-2025. Key highlights of the plan include:
- Vulture Conservation Centre: Uttar Pradesh, Tripura, Maharashtra, Karnataka and Tamil Nadu will get a breeding and conservation centre for vultures.
- Vulture Safe Zone: Establishment of at least one vulture safe zone in every state to ensure the protection of the populations that remain in the state.
- rescue centres Four rescue centers within Pinjore (Haryana), Bhopal (Madhya Pradesh), Guwahati (Assam) and Hyderabad (Telangana).
- There aren't any dedicated rescue centers for treating vultures.
- Toxic drugs A method to immediately remove a substance from use in veterinary medicine if it is discovered to be harmful to vultures using the assistance from the Drugs Controller General in India.
- Vultures Census Coordinated national vulture count that involves forest departments as well as members of the Bombay Natural History Society, research institutes, nonprofits and people in the public. This is to get an accurate estimation of the number of vultures across the nation.
- Database on threats to Vulture: A database of threats to the conservation of vultures such as electrocution and collisions, accidental poisoning.

Topic 13. SALT FLATS AROUND THE WORLD ARE COVERED IN A SIMILAR PATTERN OF RIDGES

Important for Subject: Environment

A new study suggests that experts in Austria, Germany, and the U.K. may finally have an explanation. Utilizing the combination of ground samples as well as computer-generated models they've looked into the way that salt moves upwards and downwards in the soil beneath the formation. It is crucial to understand the fundamental mechanism that drives this process since salt flats can have profound impacts on humans as well as the climate.

Salt flats:

- Salt flats are natural landscape where vast areas in flat terrain is covered with salt.
- The world's most famous salt plateau is Salar de Uyuni in Bolivia. It is the largest the

world for its type and contains more than half the world's lithium reserves.

- A salt flat develops from a natural body of water with a recharge rate less than the evaporation rate. In time, all the water evaporates, leaving behind mineral salts, typically dissolved.
- They reflect light strongly and make them appear more bright. The soil underneath is salinized and even though your water table appears low the groundwater is still too salty for humans to drink.

What shapes do they form?

- Researchers began with the idea that the salt present on the surface is affected by the salt that flows through the soil below.
- The study discovered they found that salt penetrated further into the soil just beneath the ridges but was still a bit shallow beneath the flat regions.
- This is the case if the layer that is the highest layer is removed and viewed directly at the soil to see the salty groundwater getting deep into soil in horizontal sheets, but not all is apparent.

What is the reason for this?

- A salt flat's surface is an accumulation of salt that has been laid down over time. Thus, just below the surface there is a groundwater that groundwater is very acidic and dense than the groundwater below.
- If the water is able to reach and reaches the level of its surroundings, it will evaporate to leave behind salt. Researchers found that if it is sufficient, i.e. when the salt deposition rate at the top of the ground is high, the groundwater that is more dense will receding while the less salinity, less dense water will ascend to its highest point. This body of ascending and ascending water is known as convection cells.
- In time over time, there will be more saline groundwater flowing toward the top of the soil through the convection cells than in other areas of the soil because the less dense water in the columns is pushed upwards.
- The salt that the water transports will build up at the top of the water, creating the ridges with narrow edges which make up the polygons.
- If winds blow across salt flats and salt flats, they transport a portion of the salt as particles. When this air mass is transported to the ocean and deposits salts in the

ocean. The sea salt could enter the atmosphere and continue to swirl around the center of the cyclones. When an air mass containing salt is able to reach an area that is inhabited and the particles can cause serious respiratory issues.

- To reduce the negative impacts from salt flats experts have suggested covering them with the form of a thin surface of water to ensure that the salt is laid across the surface more evenly while less is carried by the winds.

Topic 14. 2022 WINTER AIR IN DELHI NCR 'CLEANEST' IN FIVE YEARS BUT 'TOXIC'

Important for Subject: Environment

The region experienced prolonged and intense rain during the first few days of the season. This stopped smog-related episodes from growing up, as per CSE report.

More on the News:

- 2022's winter was the city's "cleanest" in the last five years, but its air quality remains "toxic". The major factors behind the improved air quality are favourable meteorological conditions and a decrease in the amount of pollution resulting from fires on farms, Delhi based think tank known as which is the Centre for Science and Environment (CSE).
- The increase in air quality is an combination of meteorology as well as emergency actions which is based on the forecasting of pollution. There was heavy and prolonged rain in the beginning of the season which stopped the smog from accumulating and also reduced the average seasonal temperature.
- The CSE's figures, sourced by the Central Pollution Control Board (CPCB) suggests that a reason for the lower pollution in the winter of 2013 was a decrease in the number of instances of 'severe pollutant'. There were just 10 days where air quality was 'severe or 'severe+' which is the highest concentrations of pollutant. As a comparison to 2021, there were 24 days in 2021. There were 23 in the year 2020, 25,, in 2019 and 33 in the year 2018.
- Despite the decrease, Delhi continues to remain one of the most polluted towns and cities in NCR.

National Ambient Air Quality Standards

- The directive given for the Central Pollution Control Board (CPCB) under the Air (Prevention and Control of Pollution) Act gives it the power to establish standards regarding the quality of air.
- Thus, the present National Ambient Air Quality Standards were first announced in
- November 2009 by the CPCB.
- Before this change, India had set Air Quality standards in 1994 and it was later updated in 1998.
- The standards of 2009 further reduced to the limit for maximum permitted levels of pollutants and also made rules universal across the country.
- Prior to that more stringent standards were imposed for industrial zones compared to residential zones.

Pollutants that are covered:

1. Sulphur Dioxide (SO₂)
2. Nitrogen Dioxide (NO₂),
3. Particulate matter (size smaller than 10um) (PM 10).
4. Particulate Matter (size smaller than 2.5 inches) or PM_{2.5}
5. Ozone (O₃)
6. Carbon Monoxide (CO)
7. Ammonia (NH₃)
8. Lead
9. Benzene (C₆H₆)
10. Benzo(a) Pyrene (BaP)
11. Arsenic(As)
12. Nickel (Ni)

Topic 15. RECORD 6.37 LAKH OLIVE RIDLEY TURTLES ARRIVE AT ODISHA'S RUSHIKULYA BEACH FOR MASS NESTING

Important for Subject: Environment

Olive Ridley turtles make holes in the beach using their front flippers all day long.

- Then, they employ their hind flippers to scoop sand out to form cavities. They lay numerous eggs in one sitting and cover them with sand. After sunrise, turtles head back to the ocean and lay eggs that will develop after about 40 to 60 days. The hatchlings will emerge from the eggs within April and May.
- The turtles also visit Gahirmatha beaches in Odisha's Kendrapara district that is known as the world's most famous rookery. In addition, Puri and Devi River mouth beaches as well have Olive Ridley turtles this time of the year.
- 10/23As part a longer-term research project, scientists from the Zoological Survey of India (ZSI) continued to tag Olive Ridley turtles at three nesting areas that are mass-nesting - Gahirmatha, Devi river mouth and Rushikulya. The tags made of metal that are attached to turtles aren't corrosive, and will not cause harm to the turtle's body. The tags can be removed at a later date. The tags are uniquely-numbered and contain information like the name of organization, country code, as well as email address.

Topic 16. MUGGERS OF RAPTI: ANTHROPOGENIC THREATS POSE RISK TO SAURIANS IN NEPAL'S CHITWAN NATIONAL PARK, SAYS STUDY

Important for Subject: Environment

Mugger:

- The marsh crocodile or mugger is among the 24 species of crocodilians. It is found in India, Pakistan, Nepal and Iran.
- The species is classified as vulnerable to extinction' on the International Union for Conservation of Nature's Red List. It has been listed as an Appendix I to the Convention on International Trade in Endangered Species of Wild Fauna and Flora from 1975.
- In Nepal the muggers can be found throughout their native Terai lowerlands close to

where they meet with India. A study in the last year revealed that the species is now extinct locally in a number of parts of Nepal due to habitat destruction despite being protected under laws.

Threats:

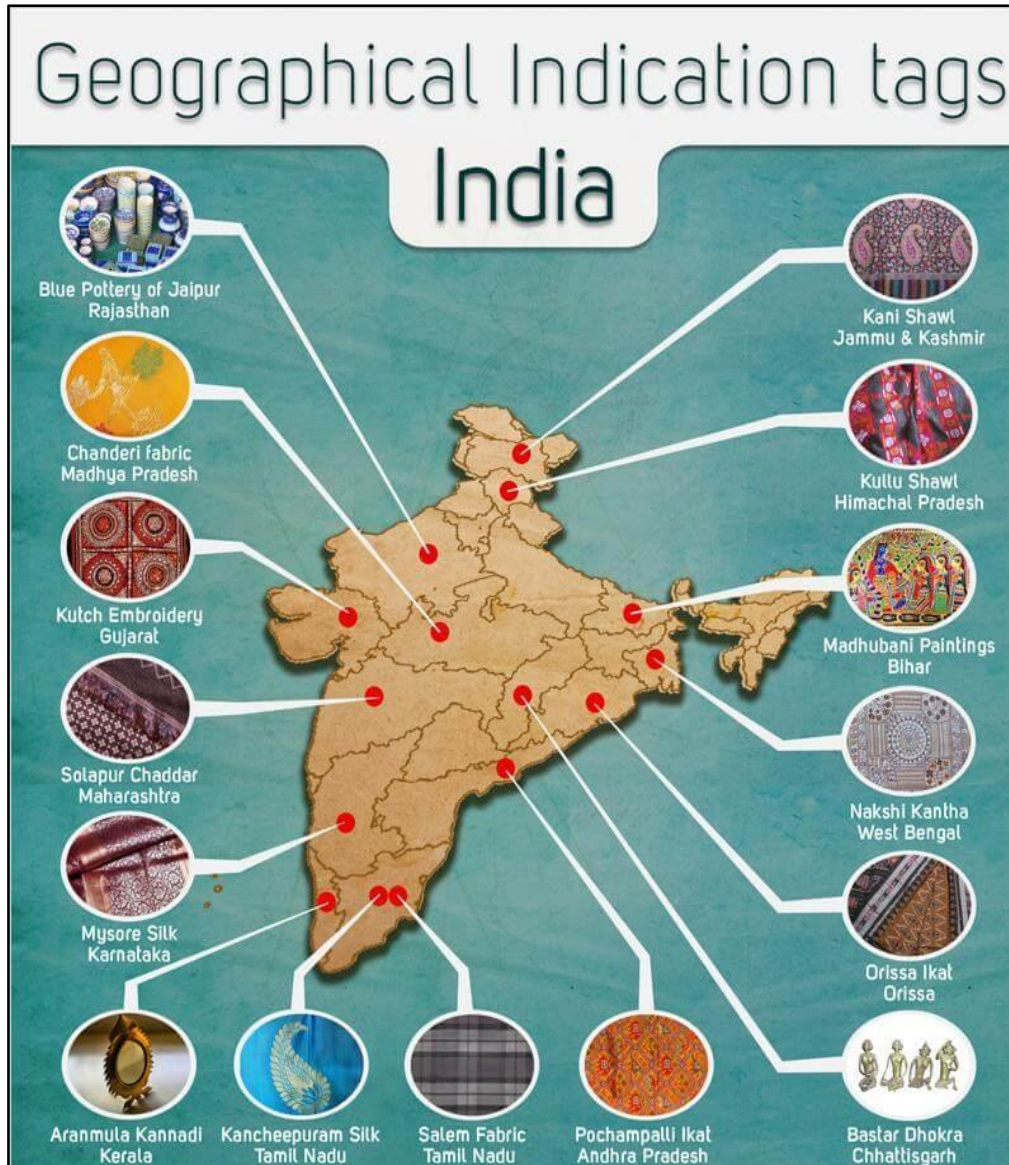
- Threats from the human race such as illicit fishing, sand mining and illegal fishing are danger to the crocodiles known as muggers (*Crocodylus plaustris*) of the Rapti river which flows along the Chitwan National Park (CNP) in south-central Nepal, contiguous to the Valmiki Tiger Reserve in Bihar

Rapti river:

- It is believed that the Rapti is a river that originates from the Mahabharat Hills and lower ranges in the Himalayas and flows westward along the northern frontier to the CNP. The surveys were carried out along 52 km of the river starting from Jindagani Ghat (the eastern side) to Golaghat (Rapti-Narayani confluence) on the western side.

Topic 17. GI (GEOGRAPHICAL INDICATION) TAG FOR THE *KHORASANI IMLI* OR THE FRUIT OF THE BAOBAB

Important for Subject: Environment



What is Baobad?

- It is native to the continent of Africa and the island nation of Madagascar
- The species is classified as a deciduous plant(baobab *Adansonia digitata*) and can last as long as 2,000 years. It is a species that is threatened worldwide.

What is the significance of it?

- The robust, threatened trees have supported the tribal lifestyle for hundreds of years. The baobabs' fruits are believed to be nutritious and utilized in traditional cures.

Where can it be found?

- Baobabs While they are scarce and extremely scarce throughout India They are believed to be to be the largest of all Mandu city in Madhya Pradesh, where the Bhil tribe has traditionally conserved them

What GI tag can help?

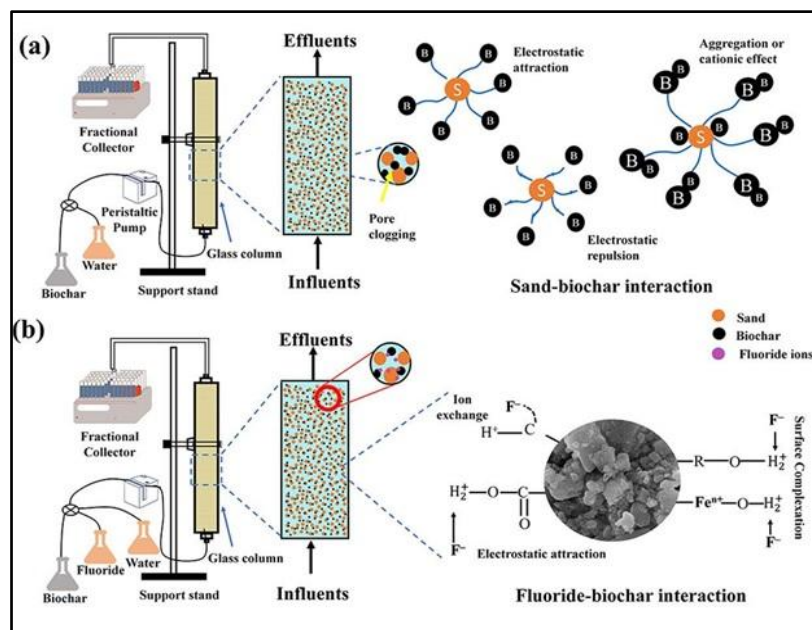
- A GI tag is an indication of a product's trademark in a certain geographical region with unique or valuable characteristics. The GI tag may be applied to the horticulture, agricultural or forest items like fruits or seeds, vegetables flowers, and other items made from trees.
- The GI tag is sought by the producer of the product or by an entity that represents the goods. The application is subject to examination and scrutinization, after which should it be accepted, it will go through the registration process.

Does MP include additional GI tags?

- As of now, Madhya Pradesh has at minimum 10 GI indicators for various products like Kadaknath the black chicken and the chanderi sarees which are legally protected against unauthorized use. The tags give the product with a distinctive identity that allows the local community to promote better and gain more.

Topic 18. RICE HUSK BIOCHAR REMOVES FLUORIDE FROM GROUNDWATER, PREVENTS DRINKING WATER CONTAMINATION, NEW STUDY SHOWS

Important for Subject: Environment



Pollution

The reason for the danger of contamination with fluoride?

- Consumption of fluoride for a long time in higher levels in drinking water could cause dental fluorosis, skeletal fluorosis arthritis, kidney disease.
- The condition of skeletal fluorosis can be difficult to recognize when significant deformation occurs, and is usually a subject to radiographic tests. Therefore, it might not be as prevalent like dental fluorosis. In the case of 4,157 habitats across the area of 98 blocks spread across 11 districts in Bihar The amount of fluoride in underground water has been found to be alarmingly high.

What happens when contamination occurs?

- Groundwater, which is extracted using hand pumps and tube wells is the primary source of drinking water and cooking within rural India. Blind extraction causes groundwater pollution by a variety of pollutants, mostly geogenically.

The location where this contamination is most prominent?

- In Bihar For instance, in Bihar groundwater from the rural areas of 31 of 38 districts has high levels of fluoride, arsenic and iron, posing an extremely health risk.
- Fluoride, which is one of the contaminants in groundwater is mostly result of geological processes, but also through human activities in India.

What is the reason for biochar made from rice husks?

- Management of residues from crop is difficult in Bihar as well as across India as farmers will fully or unwillingly burn their residues on their farms. Biochar's could help with this.

What happens when it happens ?

- What is a Biochar?
- Biochar is an high-carbon, fine-grained and carbon-rich residue that is created by contemporary pyrolysis processes(direct thermochemical decomposition and combustion in absence of oxygen, and thus preventing burning).
- It creates it produces a mix of biochar (the biochar itself), liquid(bio-oil) and gas

(syngas) products.

- Biochar could increase soil fertility in soils with acidity (low pH soils) and increase the productivity of agricultural production and protect against a variety of soil-borne and foliar illnesses.

Benefits of biochar:

- Biochar also has many other applications in addition to safekeeping carbon biochar is used in a variety of ways in agriculture.
- The agricultural leftovers like rice husks are a significant biomass source, as well as the
- Biochar that it produces has significant mineral content. Its addition to soil can enhance the nutrients of plants.
- The biochar's porousness is ideal for the purpose of remediation which is the absorption of harmful substances from soils that are polluted, thereby lessening the impact of contaminants in soil.

Topic 19. REGULATOR'S GUIDELINES ON RAJASTHAN POWER LINES 'FLOUT' SUPREME COURT ORDERS, THREATEN THE GREAT INDIAN BUSTARD

Important for Subject: Environment

High-tension power lines located in Rajasthan and Gujarat from solar plants, are often within the flight path of birds, which causes them to collide, sometimes fatally, with them.

- In a move that aids renewable energy initiatives in Rajasthan but could hamper efforts to ensure the safety of the region for the threatened Great Indian Bustard, the Central Electricity Authority (CEA) India's highest power regulator has suggested that only power lines with a voltage below 33 kV must go underground and all others be fitted with bird-diverters.
- CEA proposed regulations were part of the draft regulations released on February 1, and was open for public comments until March 3, which came amid an ongoing case that concerns the danger to the bustard as well as other birds by power lines.
- Conservationists and environmentalists filed a petition with to the Supreme Court in 2019, and it ruled, for 2021 to ensure that the 'low voltage power lines within areas that are designated in the form of "priority and potential habitats of the Great Indian

Bustard" in the Thar and Kutch deserts, be moved underground.

- "Priority zones" are the areas in which birds are believed to be found in "potential regions" are areas where conservation efforts including breeding birds in captivity are currently in process.
- The majority of lines that transfer energy from Rajasthan's solar farms have a rating of above 33KV. Several of these proposed ones are likely to go through the "priority" zones.
- Although the fact that there is no uniform description of a " low-power line but it is the Ministry of Power in affidavits to the Supreme Court defined them as power lines with a voltage of 132 KV or lower. The SC order would therefore required a variety of current and planned lines to be underground which would have increased the cost of providing solar power. The court also established an advisory committee of three members whom power companies could contact should they want exclusions for undergrounding.

Great Indian Bustard

- One of the largest flying birds that is native in this region is the Indian subcontinent.
- State Bird of Rajasthan.
- Terrestrial birds spend the majority of their time on the ground eating insects and lizards, grass seeds and more.
- The GIBs are thought to be the most emblematic birds species of grasslands and therefore indicators of the condition of grassland ecosystems..
- Habitat
- Untamed, Arid grasslands.
- The heaviest birds in flight, GIBs favor grasslands as their preferred habitats. A large number of GIBs were observed at Jaisalmer as well as the Indian Army-controlled firing range for field guns near Pokhran, Rajasthan.
- Other regions: Gujarat, Maharashtra, Karnataka and Andhra Pradesh.

Distribution:

- According to research carried out by the Wildlife Institute of India There are approximately 150 Great Indian bustards across the nation, including around 128

species from Rajasthan and under 10 birds per in the states comprising Gujarat, Maharashtra, Andhra Pradesh and Karnataka.

- While the GIBs' former coverage covered a large portion of the Indian subcontinent but it's now reduced to a mere 10% of it.

Protection Status:

- IUCN Status- Critically Endangered.
- Listed in Wildlife Protection Act's Schedule 1.

Threats to GIB:

- The GIBs have a reputation for being slower breeders and they construct in the soil their nests.
- The species has been hunted and eggs collection in the past.
- The habitat is declining due to loss as dry grasslands are used for other purposes.
- Pollution from pesticides and increasing numbers of free-ranging dogs as well as the pigs along together with indigenous predators which are which is putting pressure on nests as well as chicks.
- The frontal view is not great and it frequently is involved in collisions against overhead lines of power which can cause death.

Conservation Initiatives:

- Project Great Indian Bustard It was created by the Rajasthan Government with the purpose of conserving that remaining species of critically threatened. Great Indian Bustard (*Ardeotis nigriceps*) locally known as Godawan.
- Firefly bird diverters The flaps are placed on power lines, which is a reason for the many deaths among GIB. They act as reflectors for birds similar to GIB. Birds can see them from approximately 50 meters. They can also alter their flight direction to avoid collisions to power lines.

Topic 20. AMPHIBIAN SPECIES ARE PARTICULARLY AT RISK

Important for Subject: Environment

Environmental pollution has increased and the continuous destruction of the earth's natural habitats for a vast array of animals such as coral reefs and rainforests have caused more than 10,000 of the approximately 74,000 vertebrate species becoming endangered. According to the International Union for Conservation of Nature (IUCN) red List, 17,000 animal species are at risk of extinction by 2022 that's an increase of about 9000 compared to 15 years ago.

- Although this growth can be attributed to the increasing number of diverse species being assessed throughout the years 4863 mammal species were assessed in 2007 and 5,973 by 2022 This week's Racing Bar puts the numbers into perspective by displaying the proportion of threatened species in the total assessed animal species and dividing them according to class. Molluscs, fish, insects and other crustaceans are not included because, as per the IUCN report, the amount of amount of coverage isn't enough to give a precise estimation of the current level of biodiversity.
- However, even without these vast areas of species situation is dire, particularly for mammals and amphibians. In the case of amphibians, 34.8% of assessed species are in danger of disappearing in 2022. This is increasing by more than four percent over 2013. However over one-fifth of mammals are believed to be in danger of becoming extinct. This means an increase of more than two percent when compared with the year 2008.

IUCN:

- The IUCN Red List was founded in 1964. It's an important resource for policy makers as well as journalists and researchers when reviewing the world's conservation efforts and biodiversity.
- IUCN Congress
- It is held each year The IUCN World Conservation Congress brings around a large number of people from the civil society, government and indigenous peoples, businesses and academia, with the purpose of protecting the natural environment and unleashing solutions that nature can provide to solve global problems.
- The Congress is aimed at improving the way humans manage the natural ecosystem to

promote human, social and economic growth, however this can't be accomplished through conservationists on their own.

- IUCN Congress IUCN Congress is the place to come together and come together to establish sustainable environmental governance that involves everyone in society to share the burdens and advantages of conservation.
- The International Union for Conservation of Nature (IUCN) as well as The French government have signed an agreement to host this year's IUCN World Conservation Congress 2020 between 3 and 11 September in 2021, at Marseille. The original date for June 2020, has been delayed due to the COVID-19 virus.

A Congress that has two parts

- Forum HTML0 Forum is an important place for public debate that brings people from all kinds of backgrounds to discuss the most pressing sustainability and conservation problems. It is a host of different kinds of events, from high-level conversations to training workshops that examine deep into conservation as well as technological advancement.
- The Members Assembly is the highest-ranking body of IUCN. A unique, global environmental parliament that includes governments as well as non-governmental organizations - both small and large both international and national - making joint decisions about sustainability and conservation.

Host Country Selection

- Typically in the past, traditionally, the World Conservation Congress is hosted by one of the IUCN's State Members. The Congress is a unique chance for a country to display its leadership in global environmental concerns and to promote conservation efforts. The host countries benefit from the international exposure of their country's cultural heritage, biodiversity, and history.
- The selection process typically begins around three and a quarter years prior to the Congress and IUCN conducts an official selection process in which countries that are interested are required to provide a formal application that addresses the IUCN statement of Requirements.

Topic 21. PHYTOPLANKTON BLOOMS SEE TWO-DECADE SURGE ALONG WORLD'S COASTLINES

Important for Subject: Environment

The huge blooms of microscopic phytoplankton algae floating in the ocean's surface are becoming bigger and more common along oceans of the world, as per new research.

Phytoplankton:

- Phytoplankton is one of the self-feeding (self-feeding) components of the plankton community, and are an essential component of freshwater and ocean ecosystems.
- Phytoplankton get their energy from photosynthesis just like other plants and trees on land. This means that phytoplankton require sunlight emanating from sunlight, or the sun, which is why they reside in the well-lit surfaces (euphotic layer) of lakes and oceans.
- In contrast to the terrestrial plant, phytoplankton are distributed across a greater surface they are exposed to less variation in the seasons and exhibit significantly higher turnover rates as compared to trees.
- Phytoplankton constitute the foundation of freshwater and marine food webs and are important participants in the carbon cycle of the world.
- They make up approximately half of all photosynthesis and at the very least, 50 percent of all oxygen produced however, they make up only 1 percent of global biomass of plants.
- The phytoplankton species are extremely diversifiable and range from photosynthesizing bacteria, to plant-like algae to armor-plated coccolithophores. Some of the most important phytoplankton categories comprise diatoms, cyanobacteria, and dinoflagellates but numerous other groups are included.

Significance of Phytoplanktons:

- They provide over half all carbon dioxide in the air.
- They can reduce global warming by absorption of human-caused carbon dioxide.
- Also, they are the basis of the food chain of the ocean.
- They are vital bio indicators that regulate life in oceans. Their quantity determines the overall health of the ecosystem in the oceans.

- The lucrative fisheries that are found in the oceans around the globe are caused through Phytoplankton blooms.

Causes of Phytoplankton Bloom:

- The main reason for phytoplankton blooms is a rise in the availability of nutrients, specifically nitrogen and Phosphorus.
- They can be derived from various sources. They can come from a number of sources, such as agriculture runoff and wastewater disposal or the atmospheric deposition. If there is an excess of nutrients present in water, phytoplankton will expand and reproduce quickly and cause the formation of a bloom.
- Other elements that be contributing to blooms of phytoplankton include warmer temperatures in the water and high levels of light and calm conditions in the water which permit the phytoplankton to stay near the surface , and to get the light they require to produce photosynthesis.

The effects from Phytoplankton Bloom:

- The blooms of phytoplankton may have positive and negative effects on the ecosystem.
- In certain instances they could aid in the growth of other organisms within the food chain. They can also improve the quality of water by absorbing nutrients that are not needed.
- In other situations blooms may reduce concentrations of oxygen within the waters and cause deaths of fish as well as other negative impacts on the aquatic ecosystem.
- Certain phytoplankton species may also create toxins that could cause harm to human health as well as the health of animals that eat them.

Topic 22. GLOBAL CO2 EMISSIONS ROSE LESS THAN INITIALLY FEARED IN 2022

Important for Subject: Environment

Clean energy development offsets a lot of the negative effects of increased usage of coal and oil according to an IEA study.

More on the News:

- Carbon dioxide (CO₂) emissions were up by just one percent in 2022, as the increase in wind, solar electric vehicles, electric vehicles heat pumps, and energy efficiency has helped mitigate the negative effects of the increased consumption of oil and coal in the midst of the current energy crisis worldwide in a new study by the International Energy Agency.
- The increase in emissions this year was much less than the extraordinary jump of more than 6 percent in 2021, as per the IEA statement.
- However the IEA report entitled CO₂ Emissions by 2022 demanded stronger steps to accelerate the transition to clean energy and get the world toward meeting its goals in terms of climate and energy.
- This document is the initial of the new series, called that is called the Global Energy Transitions Stocktake which brings together the latest research from the Institute of Energy and Environment together that is freely available to support this first Global Stocktake in the lead-up to the COP28 Climate Change Conference in November.

Global Stocktake:

- The global inventory take that is part of the Paris Agreement (GST) is an method to take stock of the progress made in implementing the Paris Agreement with the goal of examine the global advancement towards achieving the goals in the treaty along with its future objectives (Article 14.).
- This first stocktake was launched during the UN Climate Change Conference in Glasgow in month in November (COP26) The stocktake will be completed at the COP28 Conference in 2023. Every stocktake is a two-year procedure that occurs each five-year period.
- The first global inventory is essential to assess the collective progress made in the

Paris Agreement and addressing opportunities to strengthen support and action.

Why is it that the Global Stocktake matters?

- The Paris Agreement calls on each nation to create a plan to reduce emissions and adapt to climate impacts. It also created the process that allows countries to continue to enhance their national climate strategies. They are National climate plan are officially called Nationally determined contributions (NDCs).
- In order to hold themselves accountable The countries were required to regularly examine and report on the individual effort and to evaluate their progress collectively. In the Paris Agreement created the global inventory taking process that is based on a five-year timeframe.
- The global inventory take will aid national governments in assessing the progress they've made in the past in making their climate plans a reality, identify what still must be done to achieve their goals and provide opportunities for them to increase their commitment in climate action.

International Energy Agency

- The International Energy Agency is an autonomous Intergovernmental Organisation that was established on the 24th of April 1974 Paris, France.
- To provide secure, affordable and sustainable and affordable energy that is affordable, reliable and clean for the member nations and beyond. Its mission is governed by four primary areas of concern: energy security, economic development and environmental awareness. It also promotes involvement across the globe
- India was admitted as an associate member of IEA at the end of March 2017, but it was engaged with IEA for a long time prior to joining with the organisation.
- It was established in the aftermath of the 1973-74 oil crisis to assist its members in responding to major disruptions in the supply of oil which it continues to play today.
- The mandate of the IEA has grown in recent years to include monitoring and analyzing the global energy landscape as well as promoting a sound energy policy as well as fostering international collaboration in the field of energy technology.
- The IEA has 30 members currently. It is a family of IEA family also comprises eight member countries.
- An potential candidate nation must belong to a in the OECD. However, the majority

of OECD members aren't IEA members.

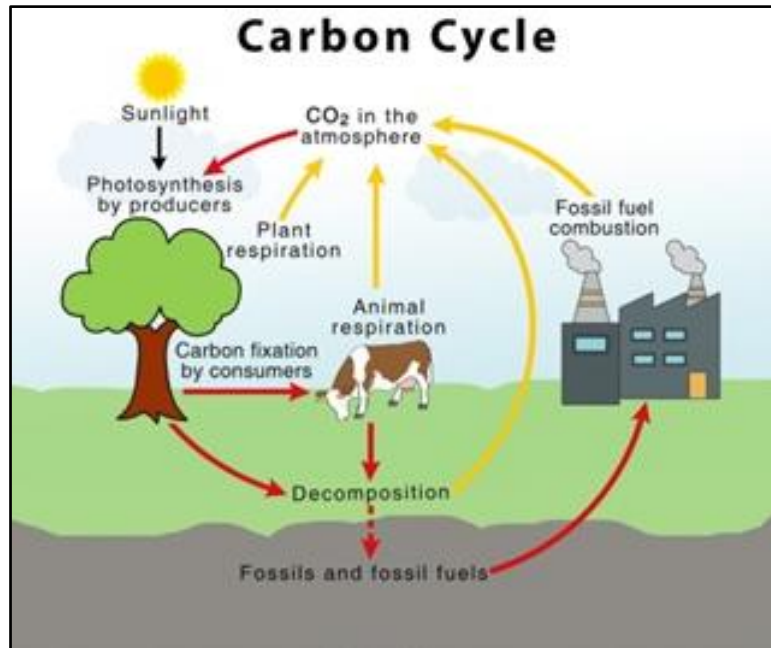
- To be eligible for membership, an applicant country must show that it meets the following criteria:
- Crude oil and/or product reserves that are equivalent in 90 calendar days prior year's net imports to which the government has access immediately (even in the event that it does not control these reserves in the first place) and can be used to tackle interruptions in supply of oil around the world.
- A demand restraint program that aims that reduces the consumption of national oil by 10 10%. Laws and organization for operating the Coordinated Emergency Response Measures (CERM) on a nationwide basis.
- The law and the measures are designed for ensuring that oil firms within its control report on the request of the public.
- The measures in place will guarantee that each member can contribute its part to the IEA joint action.

Reports are released:

- Global Energy & CO2 Status Report.
- World Energy Outlook.
- World Energy Statistics.
- World Energy Balances.
- Energy Technology Perspectives.

Topic 23. AFRICAN DRYLAND TREES STORE LESS CARBON THAN BELIEVED EARLIER

Important for Subject: Environment



The study by a team that includes NASA scientists calculates carbon stocks of sub-saharan semi-arid Africa. It estimates the amount of carbon in the region as 840 million tonnes trapped in.

More on the News:

- There are plenty of trees spread over semi-arid parts in Africa than we thought however, these trees also contain much less carbon than models have predicted. The latest study identified the location of over 10 billion trees in semi-arid sub-Saharan Africa.
- The team collected and analysed carbon data to the level of individual trees across huge semi-arid zones of Africa or other regions. This was previously only done at small, local scales
- "Carbon residence time" also known as "carbon residence time," as scientists refer to it, is quite short for grasses as well as plants that grow during the season however, it is much longer for trees that live over a period of time.

- Carbon cycles continuously between the earth as well as the atmosphere, ocean and back. Trees eliminate carbon dioxide which is greenhouse gas, from the atmosphere when they photosynthesis as well as store the carbon in their trunks, roots leaves, branches and.
- To this end, growing the amount of trees in the landscape is often considered as a means to reduce carbon emissions that are increasing.
- International Crops Research Institute for The Semi-Arid Tropics (ICRISAT) has published a model study that reveals how the correct combination of biochar, fertiliser and irrigation can increase the amount of soil carbon by up to 300 percent, and to slow the effects of climate change.

Carbon Cycle:

Carbon time of residence

- The time of carbon residence Also known by the name of carbon turnover time, or carbon mean time of transit is the amount of time carbon atoms are within the air or in another carbon pool before being exchanged with a different pool. It is the duration it takes for carbon to go across its carbon cycle.
- The duration of carbon residence varies based on the carbon pool being studied. For instance, the carbon residence time of atmospheric carbon dioxide is quite small, on the order of a few decades, however, carbon residence time for deep ocean sediments can be a lot longer. duration of the carbon's residence within deep sea sediments could be millions or even thousands of years.

Soil carbon:

- Organic carbon from soil (SOC) comes from microbes, animals, plants leaves and wood typically located within the first meter or as.
- Organic carbon in soil is an easily measured component of the organic soil. Organic matter comprises only 2-10% of the soil's volume and plays an essential contribution to the chemical, physical and biological functions of soils used for agriculture.
- It is crucial for crop yield in addition to climate adaptation as well as mitigation strategies which are greatly reduced due to intensified agriculture as well as the incessant chemical use, which results in more carbon emissions.

Benefits:

- The increase in SOC through different methods can help improve the soil's health.
- It could improve the yield of agricultural crops as well as food security and the quality of water and decrease the use of chemicals.
- It assists in carbon reduction and can also improve the conditions of fresh water and the land use, biodiversity as well as nitrogen usage.
- Furthermore, carbon sequestration in soils could offset the GHG emissions of fossil fuels by as much as 15% per year.
- Utilizing this method would provide a breathing space before other technologies are able to assist in the transition to a zero carbon life style.

How do you achieve it?

- There are numerous circumstances and processes that influence the changes that are made of SOC content.
- They include temperature, rain plants, changes in land-use management and soil.
- So growing organic carbon in soil involves the adoption of sustainable practices in agriculture to ensure these elements are in equilibrium.
- The methods to improve SOC are: decreasing soil erosion by no-till farming, use of cover crops and nutrient management using manure and sludge for water harvesting and conservation practices in agroforestry and more Sequestration of carbon
- The process involves the method of taking and the storage of in the atmosphere carbon dioxide.
- The process is one of the methods to reduce CO₂ within the air, with the intention of reducing global warming.
- Nature-based process CO₂ (CO₂) occurs naturally extracted from the air through chemical, biological physical, and biological processes. These changes may be accelerated by changes in agriculture and land use like converting the land used for crops into non-crop fast-growing plants.
- Artificial methods: Artificial processes have been designed to create similar effects, which include large-scale artificial sequestration and capture of industrially produced CO₂ through subsurface reservoirs, saline aquifers ocean water, aged oil fields or other carbon sinks, bioenergy with carbon storage and capture biochar enhanced

weathering direct air capture, as well as water capture coupled with storage.

- Bio sequestration: It is the Capture and storage of atmospheric greenhouse gas carbon dioxide via continuous or increased biological processes. This is a form of carbon sequestration is achieved through higher rates of photosynthesis through land-use practices like Reforestation and sustainable management of forests.

Topic 24. ORNAMENTAL FISH AQUACULTURE TO HELP WOMEN IN LAKSHADWEEP ISLANDS

Important For Subject: Environment

Community-based ornamental fish aquaculture utilizing the utilization of local resources is designed to help women on the Lakshadweep islands make the first step toward self-reliance.

- In a unique experiment approximately the 82 inhabitants of islands (77 of them females) were selected, and trained and technical support from National Bureau of Fish of the ICAR Genetic Resources (NBFGR).
- NBFGR maintains the germplasm resource center for marine ornamental species on Agatti Island to conserve and improve the livelihoods of the islanders.
- Four cluster-mode aquaculture units with the involvement by women has been established as well as the community has raised ornamental shrimps up to the size that is marketable.
- Alongside the two varieties of decorative shrimps, clownfish seeds that have been raised captive are also being supplied to boost the activity.
- The NBFGR has provided culture equipment including rearing tubs mini blowers, aeration tubes hand nets and feed beneficial bacteria, the seeds of clownfish and shrimps.

Ornamental Fish Farming:

- The art of catching ornamental fishes is known as aquaculture.
- Ornamental fishing is the art of raising beautiful, colorful fishes of different characteristics that are kept in a controlled aquaculture system.
- It is a popular crop for hobbyists and farmers it. The ornamental fishes also are described for their living gems.
- There are over thirty thousand fish species that have been reported across the world.

Of this, around 800 are ornamental fishes.

- The majority of ornamental fishes live in freshwater.
- They come under eight closely related families namely, Anabantidae, Callichthyidae, Characidae, Cichlidae, Cobitidae, Cyprinodontidae, Cyprinidae and Ornamental fishes of India are contributing about 1% of the total ornamental fish trade.
- The fish is exported up to 54 tons and have a worth in Rupees 13.08 crores for 2020-21. The growth was 66.55 percent in terms of quantity, and 20.59 percent in terms of worth in Indian rupees.
- They are classified as native and exotic. The availability of a wide range indigenous species have significantly contributed to the development of the ornamental fishing industry across the nation.
- States in the North-eastern regions, West Bengal, Kerala and Tamil Nadu are blessed with potential indigenous species. Nearly 90% of the native species (85 percent originate from the northeast region of India) can be raised and collected to meet the demands of export markets.
- Kerala, Tamil Nadu and West Bengal mainly practice ornamental fishing in India.
- It is comprised of three main islands. They are Amindivi Islands (consisting of six main islands: Amini, Keltan, Chetlat, Kadmat, Bitra and Perumul Par). You don't need to be able to recall all of the names They are
- Laccadive Islands (consisting of five main islands: Androth, Kalpeni, Kavaratti, Pitti and Suheli Par) and Minicoy Island.
- Presently, these islands are collectively referred to as Lakshadweep.
- The Lakshadweep Islands are a group of 25 islands.
- They are scattered over 500-200 km south-west of the Kerala coast. Amindivi Islands are the northern largest, and Minicoy island is the southernmost.
- They are all tiny islands made up of coral-based of the same "Atoll" and are
- They are in a secluded area surrounded by reefs with fringing.
- The largest and most advanced of them is Lakshadweep Islands the Minicoy island that covers 4.53 square kilometers.
- The majority of islands are located in low elevations and don't rise more than 5 metres over sea level (Extremely vulnerable to sea level rise).
- The topography of the area is flat, and relief features like valleys, streams, hills and

valleys are absent.

Topic 25. FOREST CERTIFICATION IN INDIA

Important for Subject: Environment

The certification industry has an audit system that is multi-layered and is designed to verify the source of the product, its legality, and sustainability of products made from wood.

More on the News:

- Massive deforestation has been a major concern in the interest of the natural environment. However, because of climate change deforestation has become a highly sensitive problem all over the world in recent times.
- Forests absorb significant amounts of carbon dioxide produced by various economic activities which helps to reduce global warming. The Glasgow climate conference in 2021 over 100 nations made a commitment to stop and reverse deforestation by 2030.
- Europe along with The United States have passed laws which re regulate entrance and sale of wood-based products on their markets in order to create an image of sustainability.
- That's where the certification industry can help by providing an auditsystem which aims to verify the legality, origin, and sustainability of products made from wood like furniture, wood handicraft, handicraft, paper rubber, as well as numerous other items.
- The fact that deforestation is stopped doesn't mean that forests can't be harvested sustainably to produce the goods. In reality, periodic harvesting of trees is healthy and necessary for the forests. Trees have a lifespan, and beyond that they will die and degrade.
- Additionally, after a certain time, the capacity for trees to absorb carbon dioxide is overwhelmed. Younger and more fresh trees are more effective in absorption of carbon dioxide. The issue arises when trees are cut in masse and cutting forests exceeds the natural growth.

Forest Certification Standards:

- Two international standards are essential for the sustainable management of forests and products made from forest.

- One of them was created through the Forest Stewardship Council, or FSC
- Other by Programme for Endorsement of Forest Certifications, or PEFC.
- Organizations such as FSC and PEFC are only the authors and holders for standards. These organizations are they are not involved with the evaluation or auditing of the procedures that are followed by forest managers or the manufacturers or sellers of products made from forest. That's the task of certification bodies that are regulated through FSC and PEFC.
- The certification bodies usually subcontract their work to smaller companies.
- PEFC doesn't not require adoption of standards that are not its own. As its name implies, it endorses the national standards of any nation when they align with the standards of its own.
- Two major types of certification are available on the market: forest management (FM) and Chain of Custody (CoC).
- CoC certification is designed to assure traceability of forest products such as wood through all stages of the chain from source to final sale.
- The standards were created in New Delhi by the NGO
- Network for Certification and Conservation of Forests (NCCF).

Specific standards for India

- Based on the suggestions of an expert committee in 2005 The Environment Ministry had asked relevant institutions such as that of the Bhopal-based Indian Institute of Forest Management to develop national standards for forest management. It was a lot of work and the proposal for a Cabinet note seeking government approval to establish these standards was created. The effort, however, didn't come to fruition.
- When the NCCF began its existence in 2015 and offered PEFC accreditation in India The Environment Ministry nominated a member of the governing board, giving it legitimacy. However, this nominated person was eventually pulled. In the year 2000 the Ministry was a part of FSC and launched its brand new India standards.

Topic 26. FROG ENDEMIC TO THE HIGHER ALTITUDES OF WESTERN GHATS
'REDISCOVERED'

Important for Subject: Environment

After 89 years of absence, frogs that is native to the higher altitudes of the Western Ghats 'rediscovered'

More on the News:

- The Jerdon's frog with a narrow mouth (*Uperodon montanus*) can be seen climbing over slippery pebbles or peering through stones in the shallows of the streams that run through the upper parts of Western Ghats.
- However, after the last time it was studied in 1934 by an British scientist The species slipped into obscurity seldom being observed by researchers and residents or mistakenly identified as ambhibians with a look like.
- The situation changed in the last year after scientists from the University of Arizona photographed 40 tadpoles from the species found in the biodiversity of the Western Ghats, in the same developmental stages the species was last observed in 89 years ago, according to a report that was released.
- Jerdon's frog with narrow mouths
- Frogs are characterized by an long snout that is what gives them their name, and glossy brown skin that has more red, darker brown gold spots on their backs and the head. They can be located in ponds of rock or hole in trees filled in rainwater.
- The frog is classified as a species that is montane that is limited to higher altitude areas of 800-1700m.
- The species is located within Moist detritus forest semi-evergreen forest, in addition to Evergreen forest. The tree holes filled with rainwater are the most frequent microhabitats of these frogs.
- This species has been classified as "Near Threatened" by the International Union for Conservation of Nature Red List of threatened species.
- Its Tadpoles are free-swimming, and exotrophic that means they feed on species that are not their own.

Endemic Species:

- Endemism species are plants and animal species only found in a specific geographical area and are not found elsewhere anywhere else in the entire world.

Topic 27. SCHEDULED TRIBES PANEL REQUISITIONS FRA ACTION REPORTS FROM TOP COURT

Important For Subject: Environment

In the midst of a battle in a dispute with an Environment Ministry over the new Forest Conservation Rules (2022) could be diluted by in the Forest Rights Act, 2006 and the

- National Commission for Scheduled Tribes has obtained FRA reports on the implementation of FRA in the entire States along with Union Territories by invoking its Constitutional power to contact Supreme Court directly. Supreme Court directly.

About the Issue:

- Following the Union government announced the new FCR The panel then sent a letter an email to the Environment Ministry in September, in a request to put them on hold as they could be in violation that are in FRA.
- In reply to the issue, The Environment Minister Bhupendra Yadav argued that the rules were created in accordance with the Forest (Conservation) Act, 1980, and that the panel's decision of the rules was "not legally tenable".
- The commission sent a letter in February in February to the Supreme Court's Registrar using the powers of Clause 8d Article 338A.
- Commission is aiming to evaluate the execution of FRA at the local level review the refusal from titles as well as encroachments onto forest land. The Commission will make recommendations to protect the rights of tribes people as per the Constitutional mandate.
- It will form included as part of the report sent to the Office of the President, which will then be presented in the Parliament.

Background:

- New Forest Conservation Rules -- announced on June 28 by the Ministry on June 28, does not include the requirement that was previously in place to get the gram sabha NOC prior to the forest land is used to a project.

- They also permit forests rights to be determined after final approval for clearing the forest is given from the Centre, a point flagged by the opposition.
- The settlement of forest rights has to be done by the state governments instead that of Centre which was the case in the past. State governments will be subject to greater demand from the Centre to speed up the process of removing forest land, according to critics.
- The government has stated it was announcing that forest (Conservation) Rules, 2022 are being reformed with the goal to speed up the approval process under the Act and facilitate the parallel processing of different Acts as well as Rules including FRA 2006.
- The Forest Conservation Act established the procedure that forest diversion can be used for projects like dams or mines.
- It was not until the Forest Rights Act, 2006, was enacted by the federal government that it was stipulated it was imperative that the right of forest-based communities must be recognized and they must be informed prior to the time the project was approved.

The news rule:

- It established an advisory committee which was a regional-based empowered committee in each of the regional integrated offices, as well as screening committees at the State and Union Territory (UT) level.
- The purpose that The Advisory Committee's role is to Advisory Committee is restricted to provide advice or recommendations with regard to the granting of approval.
- MoEFCC has directed the creation of a project screening committee. MoEFCC has set up an initial screening committee in every state/UT to conduct an initial examination of projects which involve diverting forests.
- The committee of five members is expected to meet at least twice each month and will provide advice to the governors of the states on their projects in a time controlled way.
- Non-mining projects that are between 5-40 hectares should be reviewed within 60 days, and all mining projects have to review within the period of 75 days. If projects span a greater size, committee is granted an additional time period up to 120 days for

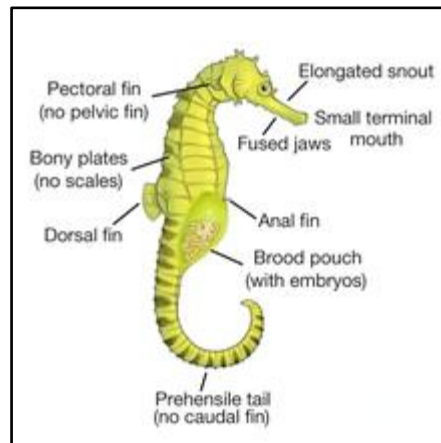
projects that are not mining and occupying over 100 ha, and 150 days for projects involving mining.

- Every linear project (roads or highways) that involve forests up to 40 hectares or projects that propose a utilization of forest land with a canopy density of up to 0.7 will be reviewed by the Integrated Regional Office.
- The applicants for the right to divert forest land located in a hilly mountainous state, with a green cover that covers more than two-thirds of its geographic area as well as in states/UTs that has forest cover that covers more than one third of its geographical area are able to apply for compensatory afforestation in other states/UTs where the coverage lower than 20% percent.
- Scheduled Tribes And Other Traditional Forest Dwellers (Recognition Of Forest Rights) Act, 2006:
- The Forest Rights Act (FRA) 2006 recognizes the rights of tribes that live in the forest and other forest dwellers of the past to the forest resources that they relied for a range of requirements such as habitation, livelihood and other needs of the socio-cultural.
- The Act includes Rights of Self-cultivation as well as Habitation which are typically viewed as individual rights. the Community Rights like grazing, fishing and access to water bodies in forests as well as Habitat Rights for PVTGs etc.
- The law also permits the allocating forests for development reasons to meet the basic infrastructure requirements of the community.
- Together with in conjunction with Right to Fair Compensation and Transparency in Land
- Acquisition Rehabilitation, and Settlement Act 2013 FRA safeguards the tribe's people from being forced to leave without rehabilitation or settlement.
- The Act also requires Gram Sabha and other Gram Sabha and rights holders the obligation of conserving and safeguarding of biodiversity, wildlife and forests, as well as adjacent water sources, catchment areas and other ecologically sensitive zones.
- It is also a highly empowered body under the Act. Gram Sabha is also an extremely empowered institution under the Act which allows the tribes to be a major factor in the formulation of local policies and plans which affect their lives.
- The Act gives forest dwellers the right to utilize and access forests in the same way which they are used to in order to preserve, protect forest resources, and as well as

protect forest dwellers from illegal expulsions, and also provide basic development services to allow the forest dwellers, to make use of the facilities for education as well as nutrition, health infrastructure, etc.

Topic 28. SEAHORSE

Important for Subject: Environment



A large amount of fishing on the Coromandel coast may be causing the seahorse of the ocean to move slowly towards Odisha.

- Fishing is not as than within areas like the Bay of Bengal off the Odisha coast. However, the coastal ecosystem that is shallow in Eastern Indian State may not be the ideal new home for fish with heads that resemble horses, according to an article in the current edition of Journal of Threatened Taxa.
- This study is based on the specimen of an adult great seahorse or Hippocampus kelloggi, which was caught in a ring net and then taken from the Ariyapalli fish landing center located in the state of the state of Odisha's Ganjam district.
- It calls for a more thorough monitoring of the ecosystems along the coast of India along the eastern coast to ensure better management and protection of the remaining seahorse population.

Seahorse:

- The world has more than 46 seahorses species documented around the world.
- They are well-known for their unique look that includes horses-like heads and a long snout and curly tail they use to stick to sea grasses corals, as well as other underwater

structures.

- Seahorses are unique in that only the males bear and bear young.
- After mating following mating the female seahorse transfer her eggs into a pouch on the belly of the male, where they get fertilized and then develop to the point that they're ready to give birth. Males is able to transport hundreds of eggs at a time dependent on the species.
- Seahorses are well-known by their capability to alter colours and blend into their surroundings which allows them stay away from predators.
- They are a food source for small crustaceans as well as plankton that they sucking into their snouts.
- They are found in protected areas like estuaries, seagrass beds, mangroves, coral reefs and.
- Seahorses are not great swimmers however they can migrate via the rafting method, clinging to floating substrata such as macroalgae and plastic debris to allow dispersal through ocean currents to create new habitats to ensure the sustainability of their populations.
- Seahorses can be found in temperate and shallow tropical saltwater throughout the globe, from around 45degS up to 45degN.
- The Nine species can be located across the coastlines from eight States as well as five Union Territories from Gujarat to Odisha in addition to Lakshadweep along with those of the Andaman as well as the Nicobar Islands.
- The seahorse of the sea is one of eight species classified as vulnerable.
- The decline is due to over-exploitation as a traditional Chinese remedies and also as an ornamental fish in general destructive fishing as well as fisheries by catch The study concluded.
- Conservation Status
- IUCN: Vulnerable
- CITES : Appendix II

Topic 29. EXTENDED FUND FACILITY (EFF)

Important for Subject: International Relations

About EFF:

- It was established by the IMF to assist economies address major balance of payments issues due to structural issues that need time to correct.
- Aid under an expanded agreement has a longer duration of engagement in the program to assist countries in implementing long-term structural reforms, with extended repayment terms.
- It offers support for extensive programs that include the policies required to address structural imbalances for a prolonged time.
- Usually, approvals are granted for periods of 3 years, however they could be approved for durations up to 4 years (repaid over 4.5-10 years in equal monthly installments, unlike the Stand-By Agreement facility which provides support for a shorter period of time with a repayment terms that ranges from 3.5-5 year.)
- Conditions for getting assistance
- If a country takes a loan from the IMF it is required to implement policies to address structural and economic problems
- The IMF's Executive Board regularly assesses program performance and has the ability to adjust the program in response to the economic environment.
- The loan is tied by the Fund's market-related rate, also known as the fundamental rate of cost, which is tied to the IMF's Special Drawing Rights (SDR) interest rate.
- EFF is influenced by a country's financial needs as well as its ability to repay and its track record in the past recourse to IMF resources.
- The normal access to borrowing in an EFF is restricted to the usual limit of 145 per cent annually of a nation's IMF quota, (IMF the quota generally reflects the position of a country in its position in the world economy) and an overall limit over the duration that the EFF program is 435 percent the IMF quota, less the scheduled repayments.
- Access for exceptional circumstances Access to exceptional access: The Fund can lend more than the limits of these restrictions in certain circumstances , provided that

the country is able to meet a predetermined set requirements.

Topic 30. RAISINA SECURITY DIALOGUE

Important for Subject: International Relations

India has recently hosted recently the 2nd edition of Raisina Security Dialogue.

Raisina Security Dialogue:

- It's an annual gathering of security and intelligence chiefs and senior officials from across the globe.
- It's modelled on the principles that were used in its predecessor the Munich Security Conference and Singapore's Shangri-La Dialogue.
- It is run through its Research and Analysis Wing (R&AW) as well as it is administered by the National Security Council Secretariat (NSCS).
- The event was held for the first time in the month of April 2022.

Raisina Security Dialogue 2023:

- It is the 2nd version of this dialogue.
- The event was attended by more than 26 nations which included heads of intelligence from U.K, Japan, France as well as Bahrain.
- The main focus of the discussion was mostly on global security. This included anti-terrorism, radicalization as well as drug trafficking and illicit arms trafficking, as well as other issues.

Munich Security Conference:

- This takes place as an annual conference that focuses on the international policy of security that is hosted at Munich, Bavaria, Germany since 1963.
- It is now the most important and independent platform to exchange opinions by security policy makers from around the world.
- The list of participants includes the heads of state, government officials and international organisations, ministers, members of parliament, senior officials of the armed forces, scientific and civil society in addition to business and media.
- This conference every year beginning in the month of February. The venue is Hotel Bayerischer Hof in Munich, Bavaria, Germany.

Shangri-La Dialogue:

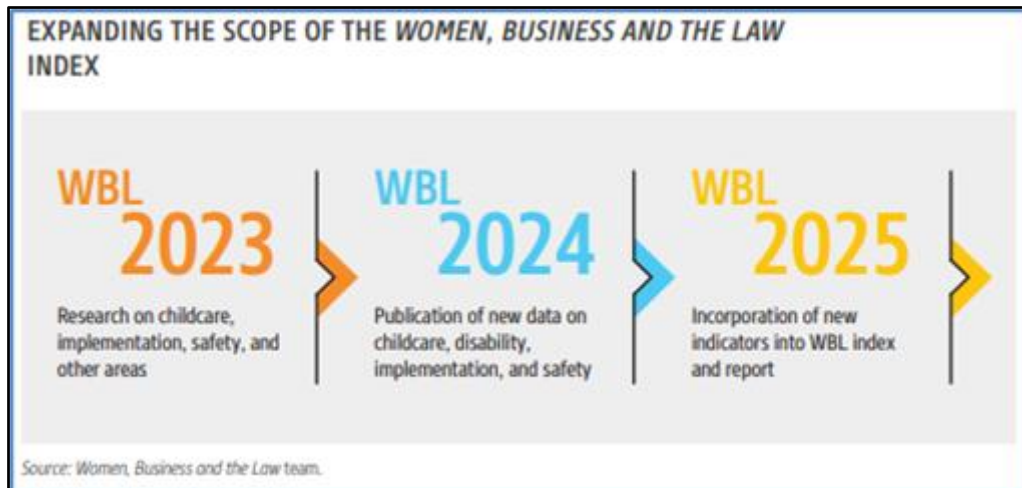
- This is the Asia's top security and defense summit.
- The conference includes Defence Ministers as well as permanent head of ministries, and military chiefs of the 28 Asian-Pacific countries.
- It is run in the name of an independently-owned think-tank International Institute for

Strategic Studies (IISS).

- The summit's name is derived from the Shangri-La hotel located in Singapore which is where it's been held since 2002.

Topic 31. INDIA SCORES 74.4 IN WORLD BANK INDEX ON WORKING WOMEN

Important for Subject: International Relations



Recently the report of the World Bank's Women, Business and the Law Report 2023 is published, covering the world in 190 countries.

- Incredibly, significantly, the UAE achieved 82.5 on 100 points possible across 35 indicators that are subdivided into eight areas in the study: Mobility Workplace Pay, Marriage Entrepreneurship, Parenthood and Pension.
- India was rated 74.4 out of a possible 100 more than the 63.7 average of this region. South Asian region, though less than Nepal which scored the region's most impressive rating of 80.6.
- By 2022 the average score for the world bank's Women, Business and the Law was 77.1 and in this year, it is 77 percent.

World Bank's Women, Business and the Law Report 2023

- World Bank's Women, Business and the Law 2023 assesses 190 countries' laws and regulations in eight areas related to women's economic participation--**mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets, and pensions.**
- World Bank's Women and business and Law in 2023 **ninth of a series of annual reports** measuring how laws and rules impact women's opportunities to work across 190 nations.

- It highlights barriers to women's economic inclusion and urges the revision of laws that discriminate against women.
- The information--current as of Oct . 1, 2022. They provide tangible and objective benchmarks for the global advancement of gender equality that is legal.
- 8/14Today only 14 countries--all wealthy economies have laws giving women the same rights as men.

Other World Bank Reports

1. Commodity Markets Outlook
2. Doing Business
3. Global Economic Prospects
4. Global Financial Development Report
5. International Debt Statistics
6. Policy Research Reports (PRRs)
7. Poverty and Shared Prosperity
8. World Development Indicators
9. World Development Reports

Topic 32. WINDSOR FRAMEWORK

Important for subject: International Relations



The United Kingdom and the European Commission have announced a new agreement dubbed "the "Windsor Framework" to repair post-Brexit issues that have arisen in Northern Ireland.

- It will also open the way to a more effective collaboration in the future between London with Brussels.
- "Windsor Framework "Windsor Framework" intends to resolve the trade problems that exist between Northern Ireland and the rest of the U.K. that were caused by the Northern Ireland Protocol.

Northern Ireland Protocol:

- The Northern Ireland Protocol was agreed in the context of Brexit.
- In accordance with this protocol Northern Ireland would remain member of Europe's (EU) one market for products and be Important for subject to EU customs regulations.
- This protocol was implemented through the creation of an official border for customs in Northern Ireland and the U.K.
- While the protocol was hammered out in 2019, it sparked questions with certain Unionists.
- Windsor Framework Windsor Framework will replace the Northern Ireland Protocol.

Windsor Framework:

- The agreement will safeguard and secure the flow of trading that exists between Great Britain and Northern Ireland by establishing red and green lanes for products that flow through Northern Ireland.
- Anything that is likely to end up in those goods that could end up in the Republic of Ireland will be placed in the red lane to undergo screening prior to entering Northern Ireland.
- Products that are intended to stay in Northern Ireland will flow freely.
- By negotiating the deal, the UK as well as the EU have been able to secure "Northern Ireland's position within the EU" by allowing the UK government to set the VAT rates that apply to Northern Ireland, as opposed to the current system, where the rates are set in the EU.
- This will allow for recent measures like the reform that has reduced the price of pints

served in British bar, apply to Northern Ireland.

- There is a innovative "Stormont brake" that will allow Northern Ireland's devolved administration to put the "emergency brake" on any new EU laws to prevent them from being applied to Northern Ireland.
- This will set up an unambiguous procedure through which the democratically elected assembly could take an emergency stoppage for modifications to EU products, regulations that could have a profound and lasting impact on daily people's lives.
- In the event that the brakes are lifted in the hands of government officials from the Northern Irish government, the Westminster government will be granted the right to veto the law.

Topic 33. INTERNATIONAL COURTS AND CLIMATE CHANGE

Important for subject: International Relations

A group of 16 nations have launched an initiative to address the climate change issue in the United Nations.

- This group is headed by Vanuatu and is seeking advice from the International Court of Justice (ICJ) regarding climate change.
- In addition, ICJ's advisory opinions aren't binding. However, they have normative weight and provide clarity to the international law.

Initiative by Vanuatu:

- Small Island Developing States (SIDS) like Vanuatu are more at danger due to rising temperatures and rising sea levels.
- Vanuatu initiated an initiative in September 2021, and it will run through UNGA to request an advisory opinion from the ICJ regarding what are the "legal obligations of all countries to prevent and redress the adverse effects of climate change".
- Over 100 nations have supported Vanuatu in its campaign.

This Resolution draft seeks clarifications ton the following issues:

- International obligations of the countries to safeguard the climate from human-caused emissions in greenhouse gases.
- Some researchers that ICJ could also apply general and customary international laws

(CIL) for filling in the holes in these treaties..

- This is why it can apply its ' "no harm" principle (an essential aspect of CIL) to draw attention to the ambiguous terms that are part of the Paris Agreement.
- In accordance with the 'do nothing, do the principle of no harm, all countries are bound by an obligation to ensure that the activities that fall within their area of jurisdiction don't harm other countries.
- It will seek to determine the legal implications for nations that have caused major harm to the environment and the SIDS.
- The resolution also calls for clarification regarding climate reparations. This is a long-standing requirement in the direction towards climate justice.

Other measures to promote the climate justification:

- The Commission of Small Island States on Climate Change and International Law (including countries such as Antigua, Barbuda, and Tuvalu) has requested the advice of the International Tribunal for the Law of the Sea (ITLOS).
- ITLOS is tasked with determining the obligations of each country in preventing, controlling or reducing pollution from marine sources in accordance with the United Nations Convention on the Law of the Sea (UNCLOS).

International Tribunal for the Law of the Sea

- This is an intergovernmental body.
- It was created in 1996 under UNCLOS
- UNCLOS came into force in 1982. (Came in force in 1994.)
- It created an international legal framework on "all ocean space, its uses and resources"
- The Tribunal is comprised of 21 members who are independent who are selected from people with the highest repute in integrity and fairness as well as recognized competence in the area of law of the sea.
- The Tribunal is able to settle disputes between parties states.
- At present, there are 161 parties
- Based in Hamburg, Germany.

About ICJ:

- The ICJ is the primary judiciary organ within the United Nations (UN).
- It was founded during June 1945, under the Charter of the United Nations and started work in April 1946.
- It is also an succeeding court to the Permanent Court of International Justice (PCIJ) which was established by the League of Nations.
- Following World War II, the League of Nations and PCIJ were replaced by the United Nations and ICJ respectively.
- The PCIJ was officially disbanded in April 1946. its president of the past was the judge Jose Gustavo Guerrero of El Salvador was its first President of the ICJ.

Role and seat:

- The ICJ is located at The Peace Palace in The Hague.
- This is also the only of the six main institutions of the UN that isn't located within New York City.
- (The five other organs are The General Assembly, the Security Council (the other five organs are the General Assembly, the Security Council Economic and Social Council, the Trusteeship Council, and the Secretariat.)
- Every member of the UN are automatically members of the ICJ statute but this does not necessarily grant the ICJ the authority to resolve disputes that involve them.
- The ICJ has jurisdiction only when both parties agree to it.
- The decision from the ICJ is definitive and legally binding for the parties involved in a case.
- It is no right of appeal it can at the best be susceptible to interpretation or, after the discovery of new facts or a change in circumstances, revision.
- However it is true that the ICJ does not have the ability to verify the conformity of its decisions and its authority result of the desire of the countries to comply with their rules.

Court Judges:

- The ICJ is comprised of 15 judges, who are appointed to nine-year term through both the UN General Assembly and Security Council who vote together but independently.
- To be elected the candidate must win the majority of votes in both of the bodies.

- The court's third member is chosen every three years.
- Court presidents and vice-presidents are selected for a three-year term through secret ballots. Judges are eligible to re-elect.
- There are four Indians were members of ICJ until now.
- Justice Dalveer Bhandari, former judge of the Supreme Court, has been in the ICJ since 2012. The other judges are R S Pathak (1989-91), Nagendra Singh (1973-88),
- Sir Benegal Rau (1952-53).

India at the ICJ:

- India is a party to a proceeding before the ICJ at six times Four of these cases involved Pakistan.
- They include:
- Right of Passage over Indian Territory (Portugal v. India, culminated 1960); Appeal Concerning the Courts of ICAO Council (India v. Pakistan which culminated in 1972); The trial of Pakistani Prisoners of War (Pakistan v. India which culminated in 1973); Aerial Incident on 10 August 1999 (Pakistan against. India, culminated 2000); Obligations in relation to Negotiations on Cessation of the Nuclear Arms Race and towards Nuclear Disarmament (Marshall Islands v. India, culminated 2016) (Kulbhushan) Jadhav; and (Kulbhushan) Jadhav (India v. Pakistan, culminated 2019)

ICC VS ICJ

- The International Court of Justice is an administrative court for civil matters that decides disputes between countries. The ICC is a court for criminals which prosecutes individuals.

Topic 34. REPRESENTATIVES OF NITHYANANDA'S KAILASA AT UN EVENT

Important for subject: International relations

The representatives of the fugitive "god man" Nithyananda's self-proclaimed nation known as that of the United States of Kailasa (USK) participated in a debate organized by the United Nations Committee on Economic, Social and Cultural Rights (CESCR) in Geneva.

- The occasion was "Day of General Discussion of General Comment on Economic, Social and Cultural Rights and Sustainable Development' In the meeting, two people addressed on behalf the United States of Kailasa during the time allotted to ask questions.
- The USK isn't one of the 193 nations recognized in the UN.
- In the year 2020, Nithyananda claimed to have created a new nation after the country was founded after he "bought an island" off the coast of Ecuador. The "country" is armed with flags and constitution, as well as an economic system as well as a passport, along with an emblem.

About CESCR:

- CESCR is a group of 18 experts independent of each other that supervises the implementation of International Covenant on Economic, Social and Cultural Rights (ICESCR) -- a treaty that was signed in the year 1966 by its states parties.
- The committee was established on May 29th, 1985, the committee aims to establish an effective conversation between Member States, determine whether the Covenant's principles are being applied by Member States and assess how the application and enforcement of the Covenant could be improved.

About High Commissioner for Human Rights:

- Human Rights Commissioner, the High Commissioner. Human Rights is the principal human rights official at the United Nations.
- The United Nations High Commissioner for Human Rights is accountable to Secretary-General and is accountable for the entire work of OHCHR as well as for its administration.

Roles:

- Fulfills the tasks specifically given to him or his or her to perform the duties specifically assigned by his or her General Assembly in its resolution 48/141 of December 20, 1993, and the subsequent resolutions of organs responsible for policymaking;
- The Secretary-General is advised by how to implement the policy of the United Nations in the area of human rights.
- Make sure that support is provided to the activities, projects or organs and body of the human rights program.
- Represents the Secretary-General at meetings of the human rights bodies as well as at other events in the field of human rights and performs other special duties that are deemed appropriate by the Secretary-General.

Appointment:

- In pursuance of General Assembly resolution 48/141, the United Nations High Commissioner for Human Rights is appointed by the Secretary-General of the United Nations and approved by the General Assembly, with regard to the rotation of geographically with respect to geographical rotation due to geographical rotation for a fixed term of with the possibility of One renewal is for a fixed time

Topic 35. HORN OF AFRICA HAS ENTERED 6TH CONSECUTIVE WET SEASON WITH NO RAIN: UNHCR

Important For Subject: International Relations

The Horn of Africa is entering the sixth rainy season in a row without rain according to said the United Nations High Commissioner for Refugees announced in a statement dated February 28th 2023.

- The past five seasons of rain were a deficit, and the spring and summer rains were expected to be normal, according to the joint statement of multilateral agencies, as well as another report released by REACH an initiative for humanitarian aid.

Details:

- Three countries of the Horn of Africa -three - Kenya, Ethiopia and Somalia-has been suffering from an incessant drought, which began the end of 2020. A humanitarian

crisis has been developing since then, and is worse for Somalia. The number of people who have been forced to flee Somalia has risen to an all-time highest of 3.8 million.

- In the year 2023, an estimated 288,000 people have been internally dispersed in the country because of conflict and drought, as per UNHCR figures (as of
- February 28, 2023). This is extremely close to the total of 305,000 new displacements that occurred during the entire year 2016 as per UNHCR's data portal. UNHCR website for data.
- In the event of a drought or conflict, it is possible that in Somalia will force people to relocate to larger urban areas and cities, including Baidoa or Mogadishu. Around 300,000 people may be forced to leave their homes by July 2023, as per the projections of International Organization for Migrants (IOM).
- Somalia refugees seek shelter in drought-hit regions in Kenya and Ethiopia as well, according to UNHCR

The UNHRC:

- The UNHRC is described as an inter-governmental organization within the UN system, responsible for strengthening the protection and promotion of human rights all over the world.
- It examines the human rights situation and makes recommendations about them.
- The UNHRC is able to debate all human rights issues as well as situations that need its attention throughout the year.
- The UNHRC was created to replace the previous United Nations Commission on Human Rights (UNCHR).
- HRC Meetings
- The Human Rights Council holds no less than three regular meetings every year, with an average of 10 weeks.
- Sessions are scheduled in the UN Office in Geneva, Switzerland.
- If a third of Member States so request, the HRC can at any point to convene an extra session to discuss human rights violations as well as emergencies.

Membership:

- The Council comprises 47 UN Member States. They are selected by the UNGA via an

unofficial and direct vote.

- The General Assembly takes into account the contribution made by the candidates to the promotion as well as protection of the rights of people and their pledges and commitments made by them in this area.
- The members of the Council are elected for a time of three years. They cannot be eligible to be elected immediately after having served 2 consecutive years.
- Seats distribution
- African States 13 seats Asia-Pacific States: 13 seats, Latin American and Caribbean States 8 seats. Western European and other States 7 seats as well Eastern European States: 6 seats.

Horn of Africa:

- The Horn of Africa is a peninsula located in Africa. It is situated on the southern part of the Red Sea and extends hundreds of kilometres to the Gulf of Aden, Somali Sea as well as Guardafui Channel.
- This is the easternmost extension from the African continent.
- The Horn of Africa was described in the ancient and middle ages as being the country belonging to the Barbarians and Ethiopians. The Horn of Africa denotes the region comprising the nations comprising Djibouti, Eritrea, Ethiopia and Somalia.

Topic 36. THE AFTERMATH OF SRI LANKA'S ECONOMIC CRASH

Important For Subject: International Relations

Sri Lanka has been relying on its International Monetary Fund (IMF) because the country is suffering from an imbalance of payments issue that grew in 2022.

- The island nation that suffered from crippling power shortages for a long time and lengthy power cuts were able to take on massive protests and deposed the Rajapaksas. Chants in support of IMF assistance lasted through the protests.
- On July 20, 2022 Ranil Wickremesinghe was elected the President. One of his first tasks was to reach an IMF deal to revamp the economy of Sri Lanka.
- Then, on September 1st 2022 Sri Lanka reached an agreement with the IMF.

IMF's bail-out

- The Sri Lankan President announced that the government had completed the 15 tasks required in the IMF and that the preliminary budget worth \$2.9 billion is expected to be completed soon.
- Although Sri Lanka had hoped to benefit from the package by 2022's end, it was abandoned because IMF demanded written assurances of financing from Sri Lanka's top three creditors in the bilateral market, which include China, Japan, and India.
- India was the initial nation to issue its assurances. It was followed by Paris Club group of creditors that includes Japan. But China's written financial assurances remain pending.
- Experts consider that an \$2.9 million Extended Fund Facility for a period of approximately four years would not be huge in the case of Sri Lanka as the country even after having its imports streamlined to reduce costs, has a large amount of dollars each month on imports essential to its economy and due to a dramatic decrease in exports, the trade deficit is growing.
- But the IMF package will help Sri Lanka become more creditworthy to lenders around the world, such as the World Bank, the Asian Development Bank or even bilateral lenders.
- Opposition to IMF package
- According to some critics, the IMF package is thought to be an element of the problem, but not the solution.
- The critics say about how the measures to cut back on spending which are included in the package might affect the working class in the nation.
- The unions of workers have also expressed their displeasure and have protested against the hike in utility bills and taxes which were enacted by the federal government in anticipation of the IMF bailout.
- But the protests have been about specific policy decisions which are affecting the IMF. In other words, there isn't any opposition against the IMF in Sri Lanka.
- Suppressing corruption
- The IMF in extending its program, has emphasized the need to address Sri Lanka's weaknesses in corruption.
- According to different economists and analysts of policy of Sri Lanka, widespread corruption and the tendency of the government to create populist welfare programs

which were not sustainable led to the country's economy becoming unstable.

The issue of food insecurity:

- The past year has seen families with low incomes in the country are being forced to cut down on their consumption of food as price of food has risen dramatically, making items like eggs or fish expensive for many, resulting in a concern over the quality of nutrition.
- According to a research done by Save the Children, a charity organization, the level of inflation that exceed 50 percent have forced over half the families of Sri Lanka to reduce the amount of food they give their children.
- Additionally it is reported that the World Food Programme has reported that 33 percent of Sri Lankan households are food insecure.

UN World Food Programme:

- The World Food Programme (WFP) is the food assistance division within the United Nations and the world's largest humanitarian organisation addressing hunger and increasing food security.
- Established in 1961 The WFP seeks to end malnutrition and hunger with the ultimate goal of eliminating the need for food aid by itself.
- It is an part of the United Nations Development Group and an integral part the Executive Committee.
- WFP Food aid designed to fight micronutrient deficiencies, decrease the rate of infant mortality, and improve maternal health and combat illnesses, such as HIV as well as AIDS.
- It is managed by the Executive Board comprised of 36 member states, which provides intergovernmental support in the direction and supervision of the WFP's operations.
- The institution is run by the Executive Director who is appointed with both the UN Secretary General and his deputy, the Director-General for the Food and Agriculture Organization of the United Nations.

Awards

- Then, in 2020, the organization was given with the Nobel Prize for Peace for its efforts to fight hunger and because of its contributions to improving conditions for

peace in war-torn regions and being a major power in the fight against that hunger is used as an instrument in conflict and war.

Topic 37. BIMSTEC REGION CAN PROVIDE GREEN, AFFORDABLE ENERGY ACCESS TO ALL

Important for Subject: International Relations

India hosted the first meeting of the Governing Board of the BIMSTEC Energy Centre in Bengaluru on February 27, 2023.

More on the News:

- The accessibility to energy has increased across all BIMSTEC countries, with the exception of Myanmar. The overall mix of generation is heavily dominated by fossil fuels in the main economies BIMSTEC.
- There is a necessity to reduce carbon emissions in this sector of power and thus greening access to energy within the BIMSTEC region as well as promoting green access in countries where access to energy isn't as good and access to fossil fuels is limited.
- The expansion and strengthening of the power trade across borders within the region could assist in to improve access to energy and greening access to energy and addressing security issues within the region.
- BIMSTEC countries have a lot to offer in regards to bilateral cooperation in energy in the electric sector.
- There is a necessity to make dialogue more democratic regarding the regional cooperation in energy to create and maintain trust in the political system and consensus through an ongoing dialogue regarding integration of regional electricity and market development at all levels of stakeholder.

BIMSTEC

- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional multilateral organisation.
- BIMSTEC Secretariat opened by the BIMSTEC Secretariat in Dhaka, Bangladesh.
- Its members are situated in the adjacent and littoral areas within the Bay of Bengal.

constituting a unifying regional unit that is contiguous.

- Seven participants: Five are from South Asia - Bangladesh, Bhutan, India, Nepal, and Sri Lanka. Two of them are two are from Southeast Asia - Myanmar, Thailand. It mostly is designed to create an environment to accelerate economic growth and social progress; and foster cooperation on issues of common concern to the region.

Origin of BIMSTEC

- The sub-regional association was established in 1997 with the Bangkok Declaration.
- It was initially formed by four Member States that had the acronym "BIST-EC" (Bangladesh, India, Sri-Lanka and Thailand Economic Cooperation).
- It was changed to 'BIMST-EC' in 1997 after the accession of Myanmar.
- In 2004, following the admission to Nepal as well as Bhutan in 2004 it was decided to change the title of the association to "Bay of Bengal Initiative for Multi-Sectoral Technology and Economic Cooperation' (BIMSTEC).

Topic 38. PROTON BEAM THERAPY OUT OF REACH FOR MANY WITH CANCER

Important for subject: Science and technology

The patients suffering from cancer India have two challenges in obtaining the treatment known as proton beam therapy (PBT) The reason is that there aren't enough clinics that provide this treatment and its cost could reach the tens of thousands of rupees.

Proton Beam Therapy (PBT)

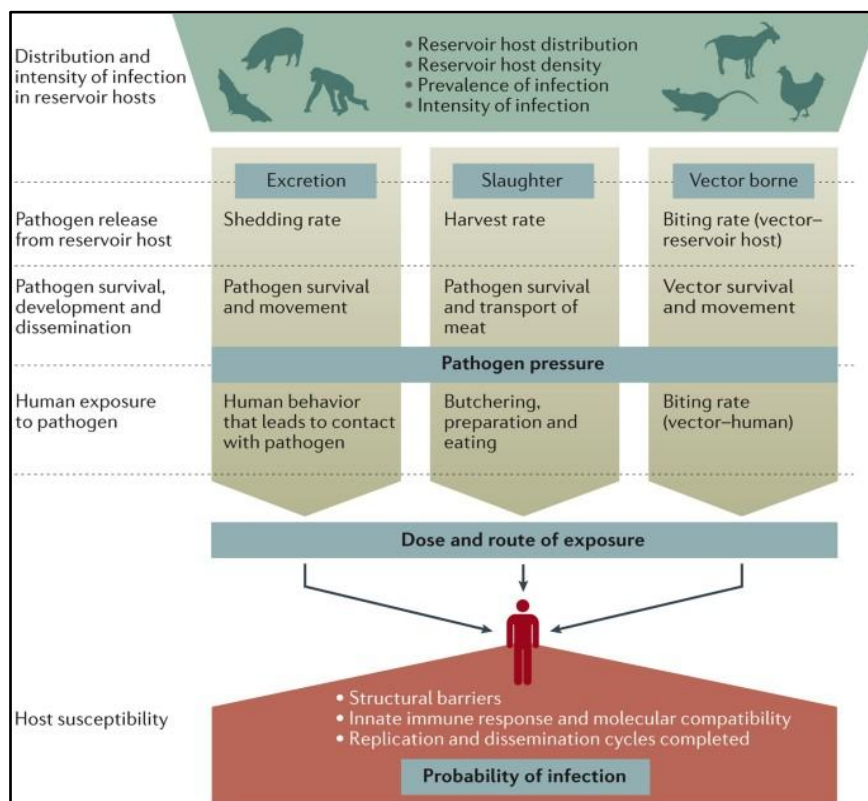
- Proton beam therapy (PBT) is an advanced type of radiotherapy that uses radiation therapy provided by proton beams instead of X-rays.
- Protons beam provides certain amounts of radiation towards healthy tissues getting to the tumor, but delivers very small amounts of radiation beyond the border of the tumor being treated.
- This means that PBT can fight cancers with the same effectiveness but it does not cause as much radiation to healthy parts of the body that are around the tumor.

Significance

- PBT is a brand new technology designed to decrease levels of radiation which is affecting the surrounding tissue.
- The Therapy permits an amount of protons with high energy to be targeted specifically on a tumor, which reduces the risk of damage to healthy organs and tissues which is a benefit in certain patient groups or in cases where the cancer is near an important organ like spinal cord.
- PBT is increasingly being utilized for treating children suffering from cancer. The probability of curing cancer is not as high as traditional radiotherapy, but it will likely reduce the seriousness of the long-term adverse effects, but it won't remove them completely.
- Adults, for the primary purpose of PBT is to treat cancers that are close to the body's organs which are highly sensitive to the harmful results of radiation.
- For instance, PBT is used to treat certain cancers that are located at in the base of skulls, which is deep inside the skull and near the brain, and also cancers of the spine, which are near to the spinal cord.

Topic 39. ZOO NOTIC SPILLOVER

Important for subject: Science and technology



The Energy Department's decision with "low confidence," that an unintentional leak from a laboratory in China probably led to the outbreak of coronavirus has raised questions about the cause that led to the biggest public health emergency in the last century, and if the virus at the root of it was in any way linked to research in science.

- Scientists who have researched the nature of the virus and the ways in which it spread, believe that the most likely reason is that the virus moved between live mammals and humans -- a scientific phenomenon referred to by the term "zoonotic spillover" -in the Huanan Seafood Wholesale Market in Wuhan, China, the city where the initial COVID-19 cases were detected in the latter part of 2019.

Zoonotic Spillover

- Zoonotic Spillover refers to a condition that occurs when an disease spreads from human hosts to animals i.e. the pathogen infects a different host- a species that is different from the usual reservoir host.
- A wide range of diseases-causing pathogens may cause spillovers, such as parasites, viruses, bacteria and more.
- It is believed that SARS CoV 2, the virus that caused the COVID-19 pandemic is a prime instance of this. Others include Ebola virus that is transmitted by bats as well as the Salmonella bacteria that is found in farm animals.

How do we get it to happen?

- To cause a spread, many factors must be met.
- The pathogen isn't able to be effective within its primary host population. This is to ensure that it doesn't destroy the viability of the host species and that it remains as an incubation site of the disease.
- There must be an intimate relationship between hosts and new host species in order for transmission to occur.
- The pathogen then has other barriers to get overlike the biological incompatibility between it and the new host and host's immune response.
- The pathogen must also be able to pass on between the members of the new host species.

Why is this important?

- While there are many pathogens that are incapable of causing these spillover events however, it is interesting to note that about 3/4th of all newly discovered infections in humans originate from animals.
- These kinds of events are hard to spot.
- While not all pathogens which move to human hosts are an immediate threat but the more often this happens, the higher the chance of the emergence of a potentially dangerous new pathogen to establish itself such as SARS CoV 2.
- Viral spillovers can be particularly problematic since they undergo rapid and random genetic mutations giving them the ability to acquire the ability to spillover faster.
- The current changes in climate, habitat destruction, and human expansion into natural habitats is increasing the likelihood of these incidents.
- The reason for this is that shrinking habitats result in an increase in the number of animals that are being squeezed in smaller areas, leading to the spread of disease.
- As the human settlements get close to natural habitats chance of animals living in reservoirs being in contact with humans and farm animals increase.
- For instance, the current bird flu outbreak in the USA resulted from a the spread of the disease from ducks migrating to chickens in the United States.

Topic 40. DEBATE OVER ORIGIN OF CORONA VIRUS

Important for Subject: Science and technology

The question is whether the corona virus mutated naturally -- possibly moving into an animal's host human similar to the SARS-1 virus did in 2002, or if it was it was accidentally released or escaped or escaped from an institution like the Wuhan Institute of Virology (WIV) which is the WIV institute located in the city where researchers have been studying corona viruses for many years.

- It is believed that initial infections were first reported from Wuhan was the foundation for the claim that an engineered virus spread into the laboratories.
- In the following months many scientific findings were discovered, that can be better explained and with a higher likelihood, using the 'lableak' theory.
- On March 20, 2020 a different group of scientists said that their study "clearly"

showed that the virus was "not a laboratory construct or a purposefully manipulated virus".

- The evidence for a 'lab leak' is not conclusive and the recent disclosures made by US organizations are likely to alter that fact -- it is a much more plausible theory, not least because unlike the cases of SARS_1 and MERS, the theory of natural emergence that is the basis of this virus has still to be confirmed at least three years after the outbreak.
- The evidence of natural emergence is still more skewed.

Topic 41. SATELLITE SWARMS ARE INCREASINGLY SPOILING HUBBLE TELESCOPE IMAGES

Important for Subject: Science and technology

The research released today in Nature Astronomy suggests, showing that the Hubble Space Telescope is affected by the burgeoning satellite clusters.

- The ever increasing number of satellites has created difficulties for ground-based astronomy but new research shows that telescopes that are based in spacelike Hubble are also being affected.
- Constellations like Starlink and OneWeb are a major cause of the problem creating unsettling streaks in cosmic imagery.
- Study Description
- In the course of the study, researchers examined more than 100,000 distinct Hubble images that were submitted by more than 10,000 scientists who are part of their Hubble Asteroid Hunter Project.
- A deep-learning algorithm was trained to recognize images that are marred by satellite streaks. It also omits similar trails-like patterns that are caused by natural phenomenon, like asteroids, gravitational lensing as well as cosmic radiation.
- It was observed that 77% of Hubble images between 2009 and 2020 were damaged by streaks of satellites. In 2021, the number was up to 5.9 percent.
- The number of satellites was 1,562. Starlink and there were 320 One Web satellites orbiting at the time of the launch "increasing the population of satellites close to the orbit" of Hubble.
- Data for this analysis was stopped in 2021. However, it's two years later and with

many more satellites in orbit, the issue is certainly much greater.

Mitigation Efforts:

- Astronomers are also urging satellite operators to take care of their part by creating satellites that are less reflective.
- In response to request, Space X has been experimenting using mitigation methods for Starlink including using dark paint to block sunlight.
- Unfortunately that particular "mitigation was less effective than desired," according SpaceX. SpaceX.
- Other methods, such as the use of a shield to block reflections in sunlight and an adjustment to the orientation to limit the surface area has been proven "highly effective," the company claims.
- SpaceX is also testing "dielectric mirror film," which focuses light away Earth.

Hubble Vs Webb Telescope

- Hubble has been operating around 336 miles (540 kilometers) above the earth's surface approximately six miles (10 km) lower than the most powerful Starlink satellites.
- One option is to dramatically increase the Hubble's orbit that has diminished drastically over the years. NASA as well as SpaceX are currently devising an idea to figure out whether such a feat could be possible.
- In addition to this, the newly deployed Webb Space Telescope is not affected by satellite streaks because it's located at 932,000 miles (1.5 million kilometers) away from the second Lagrange point.

Hubble Telescope

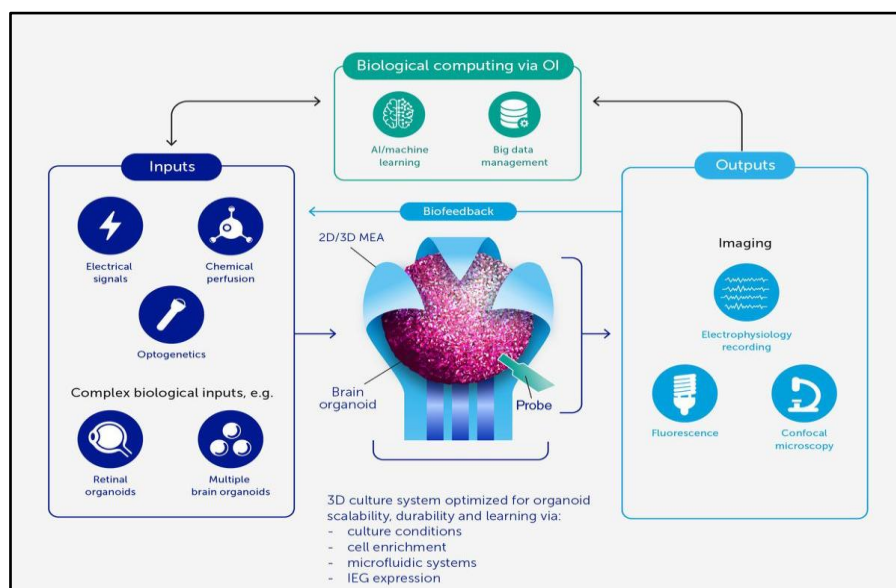
- Hubble Space Telescope Hubble Space Telescope is known for capturing stunning images of the universe.
- Hubble Space Telescope Hubble Space Telescope went into the Low Earth orbit in the year 1990, and is still in operation.
- Hubble telescope Hubble telescope was named in honour of the astronomer Edwin Hubble and is one of NASA's Great Observatories together with the Compton Gamma Ray Observatory (1991-2000) as well as The Chandra X-ray Observatory, and the

Spitzer Space Telescope (2003-2020).

- Hubble along with its other four primary instruments study the visible, ultraviolet, and near-infrared regions in the spectrum of electromagnetic radiation.
- Hubble's orbit, which is outside of the distortion caused by the atmosphere of Earth lets it capture exceptionally high-resolution images that have significantly lower background light levels than ground-based telescopes.
- It has recorded some the most accurate visible light images providing a detailed view of the universe.
- A number of Hubble observations have resulted in advancements in astrophysics, for example, discovering the rate at which expansion occurs in the universe.
- Contributions of Hubble Telescope
- It helped to determine the time of the universe, which is now believed as 13.8 billion years. That's which is roughly three times older than Earth.
- The discovery of two moons of Pluto, Nix and Hydra.
- Aided in determining the speed at that the universe is expanding.
- We discovered that the majority of major galaxy is linked by a black hole in the center.
- A 3-D map was constructed that contains dark matter.

Topic 42. BIO COMPUTERS

Important for Subject: Science and technology



Researchers from Johns Hopkins University (JHU) have devised an idea for a new field of research called "organic intelligence" that aims to develop "bio computers".

Bio-computers

- Researchers are creating 3D brain tissue cultures in the lab. They are known as brain organoids, or mini brains.
- Mini-brains, that measure as small as 4 millimeters size and are made from human stem cells. As such, they are able to capture various structural and functional aspects of the human brain.
- The brain-based cultures created or developed are linked to the real world via various sensor and output devices.
- Researchers at JHU have devised a method in which brain organoids are integrated with the latest technologies in computing to produce "bio-computers".
- There are plans in place to include brain organoids, or mini brains into the machine-learning (ML) methods, by constructing organoids in flexible structures that are attached to many electrodes (similar to those that are used to capture EEG data).
- This mechanism can help keep track of electrical firing of different neurons, and also deliver electrical stimulation that mimic the sensory stimulation.
- The response pattern that follows the neuron and its effect on human behaviour is being studied by the ML technique.
- In addition, brain organoids that are being developed or mini brains utilizing the stem cells of people suffering from cognitive or neurodegenerative disorders, and studying the data on the brain's structure can offer important insight.

Functioning of Bio-computers

- Recently, scientists implanted brains from humans into the rat brains where they found that they develop connections to the brain of the rat, which could supply the vital circulation of blood.
- The organoids had been transplanted in the eyes, and when flash light was displayed to the rats in the experiment, human brains were discovered to be activated.
- This suggests that the organs of the human brain were working in a vivacious manner.
- Researchers believe that the development of this system can help to better understand

the biology of the human brain, cognition, and a variety of neurological disorders.

Organoid

- Organoids are cells grown in a lab that look like organs.
- They're 3-dimensional objects usually made from stem cells.
- These represent smaller, more simple versions of organs and may replicate the structure and function of certain organs in the body.
- They are able to mimic the organ's structure or to express certain parts of it, such as making only certain kinds of cells.
- Organoids range in sizes ranging from less than hair's width or hair to 5 millimeters.

'Organoid Intelligence'

- It is the organoids' ability to show certain behavior or reactions that indicate the presence of intelligence for example, problem-solving and learning, or adjusting to changes in the environment.
- It is a rapidly developing field in which researchers are developing biological computing by using 3D-cultures that are the human brain (brain organoids) and brain-machine interfaces.
- These organoids are a part of functioning and structure of the brain, which play an important role in cognitive processes like memory and learning.
- They will essentially function as biological hardware, and could in the future be more efficient than the current computers that run AI programs.
- OI requires the expansion of existing brain organoids into more complex robust 3D structures that are filled with the cells and genes that are that are associated with learning, and linking them to the next generation of technology for inputs and outputs, as well as machine learning and AI systems.
- OI requires the development of new algorithms, models and interface technologies that connect with brain organoids, discover how they learn, process and manage the huge quantities of data they generate.

Topic 43. GOVERNMENT APPROVES LAUNCH OF IFFCO'S NANO DAP FERTILIZER

Important for Subject: Science and Technology

The Indian Farmers Fertiliser Cooperative Limited (IFFCO), which introduced nano liquid urea in 2021 announced that the government has approved the launch of its nano DAP (di-ammonium phosphate) fertilizer in the market.

- The Indian Prime Minister has said that the approval of nano DAP fertiliser is an important step towards making life easier for farmers.
- The introduction and approval of nano DAP fertilizer are also seen as a big step towards self-reliance (aatma nirbharta) in the fertilizer sector as India imports DAP and MoP (muriate of potash) in huge quantities to meet its domestic demand.
- IFFCO is also planning to launch nano potash, nano zinc and nano copper fertilizers.

About nano liquid DAP fertilizer:

- It is a concentrated phosphate-based fertilizer.
- It provides phosphorous nutrition throughout the crop growth and development cycle.
- Nano-DAP is jointly manufactured by Indian Farmers Fertiliser Cooperative (IFFCO) in association with a private player Coromandel.
- Nano-DAP will be sold at Rs 600 per bottle of 500 ml. One bottle will be equivalent to one bag of DAP, which currently costs Rs 1,350.

Expected benefits:

- DAP is the second most consumed fertilizer in the country after urea.
- Out of the estimated annual consumption of around 10-12.5 million tonnes, local production is around 4-5 million tonnes, while the rest has to be imported.
- Nano-DAP will help to bring down India's fertilizer import bill.
- It is also expected to contribute to bringing down the annual subsidy on non urea fertilizers.
- Significance of Nano Fertilizer
- Nanofertilizers offer benefits in nutrition management through their strong potential to increase nutrient use efficiency. Nutrients, either applied alone or in combination,

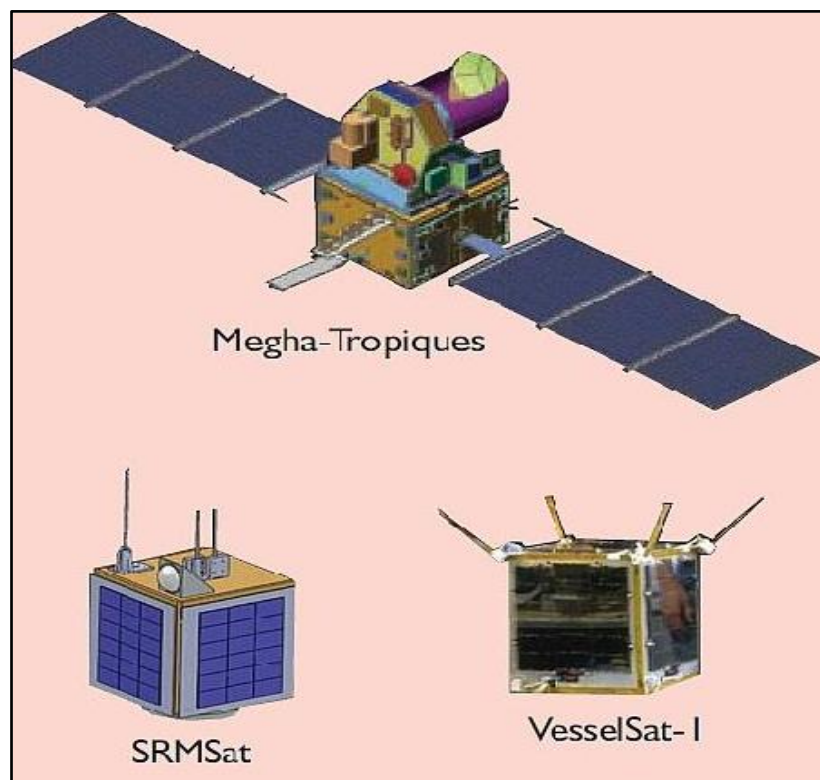
are bound to nano-dimensional adsorbents, which release nutrients very slowly as compared to conventional fertilizers.

Fertilizer Control Order (FCO)

- It has been issued under the Essential Commodities Act 1955.
- It is administered by Department of Agriculture Cooperation, Govt. of India.
- The FCO lays down, what substances qualify for use as fertilizers in the soil; product-wise specifications; methods for sampling and analysis of fertilizers; the procedure for obtaining a license/registration as a manufacturer/dealer in fertilizers; conditions to be fulfilled for trading thereof.

Topic 44. MEGHA-TROPIQUES-1 SATELLITE

Important for Subject: Science and technology



The Indian Space Research Organisation (ISRO) is planning to conduct an arduous experiment that involves a controlled re-entry into the now decommissioned Megha-Tropiques-1

- (MT1) satellite on March 7, 2023.

About Megha-Tropiques-1:

- The Megha Tropiques mission is the name of an Indo-French Joint Satellite Mission for studying the cycle of water and energy exchanges in the tropical regions.
- **Goal:** To understand the life cycle of convective systems which affect tropical weather and climate and their contribution to the corresponding energy and moisture budget of the atmosphere in tropical regions.
- It offers information from the scientific community regarding the role in the cycle of water to tropic atmosphere and provides information regarding condensed clouds of water and water vapour throughout the atmospheric, the precipitation process and evaporate.
- Its circular orbit is inclined 20 degrees towards the equator, Megha-Tropiques is an exceptional satellite to study climate change that will help scientists improve models for prediction.
- The Megha-Tropiques is equipped with night, day and all-weather viewing capability; it traverses India more than daily for a dozen times providing scientists with the ability to monitor the development of clouds.

Megha-Tropiques has the following payloads:

- Microwave Analyzing as well as Detection of Rain and Atmospheric Structures (MADRAS) An Imaging Radiometer developed jointly by CNES and ISRO
- Sounder for probing vertical profiles of Humidity (SAPHIR) from CNES.
- Scanner used to calculate radiation Budget (ScaRaB) Scanner for Radiation Budget (ScaRaB) from CNES.
- Radio Occultation Sensor to measure vertical profiles of Temperature and Humidity (ROSA) purchased from Italy.

Topic 45. LIVING NEAR THE BIRDS CAN LEAD TO DISEASES IN HUMANS

Important for Subject: Science and technology

Recently it was reported that the Thane Municipal Corporation (TMC) in Maharashtra posted several signs informing people to avoid feeding pigeons, in order to educate the public about hypersensitive pneumonia, which is a lung disease contracted through living in close proximity to birds.

- Diseases are spread through the proximity of Pigeon
- Pigeons could cause various kinds of lung ailments that range from respiratory allergies to severe infections.
- Severe cases may lead to Pneumonia-Psittacosis, which is a bacterial infection
- Hypersensitive pneumonia(a lung disease that is contracted by people who live near the pigeons) (also called Pigeon Breeder's Disease)
- Histoplasmosis(fungal infected) with very high rates of mortality)
- The cryptococcal infection(it can cause meningeal or pulmonary infections)
- What is the likelihood that a life lived near the pigeons cause diseases in human beings?
- Being near birds like pigeons and swans could result in diseases, especially when they are present at the house as companion birds, or in large numbers in near proximity of house with feathers and droppings collecting in the vicinity.
- The breath-able antigen that comes from the bird's feathers and drop pings goes into the lungs and triggers an immune reaction that damages the lung.

Topic 46. PORTAL OPENED FOR COMPLAINTS AGAINST DECISIONS OF SOCIAL MEDIA PLATFORMS

Important for subject: Polity

The Ministry of Electronics and Information Technology has created the Grievance Appellate Committee (GAC) website in accordance with the Information Technology Rules, 2021 (IT Rules 2021).

- The portal lets people who are not satisfied with the way they have been dealt with in the social media firms regarding content removal requests for them to hear from any

of the three committees put by the government.

- Three committees were formed in January 2023 in order to handle complaints and to enforce the latest change in the IT Rules.
- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules of 2021 were changed, requiring that social media firms "respect all the rights accorded to the citizens under the Constitution, including in the articles 14, 19 and 21."
- This led to the social media platforms permit speech that was prohibited to be posted on their platforms, but was legal to use in the public.
- It is also required that the IT Rules further have provisions that require platforms to implement an appeals process that accepts appeals to takedowns by users.
- Additionally it is reported that the IT Ministry has said that efforts are underway to develop a "Digital India Bill" to provide statutory support for IT Rules. IT Rules.
- Grievance Appellate Committees
- The appellate committees will consider the complaints of users against any decision made by the Grievance Officer who was appointed by the intermediary of social media.
- The committee will be led by the chairperson as well as other members chosen from the government central.
- Any person who feels they have been unjustly treated by the decision made by a social media grievance representative can lodge an appeal to the grievance appellate panel within 30 days from receiving the notification of the grievance official.
- The Grievance Appellate Committee will answer the appeal in a timely manner and try to make a decision within 30 days after an appeal's approval.
- The intermediary in question is obliged to follow all orders issued by the Grievance Appellate Committee.
- The Grievance Appellate Committee is an integral part of the overall policy and legislative framework that ensure online access in India is reliable, accessible and accountable.

About Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021

- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021, was announced from the Central government on February 25, 2021. The rules pertain to publishers of digital news which include portals, websites as well as YouTube news channels, as well as Over the Top (OTT) platforms that offer online content like web films and series.
- It is managed jointly under its Ministry of Electronics and IT and it is administered by the Ministry of Information and Broadcasting.
- The Rules include an ethical code that must be adhered to by digital news media publishers as well as OTT platforms. A three-tier grievance redress mechanism that includes:
 - Self-regulation of publishers at the initial level
 - Self-regulation by self-regulating bodies of publishers
 - A monitoring mechanism is provided by the Central government

Topic 47. LEGISLATOR FACING DISQUALIFICATION CAN'T ATTEND FLOOR TEST: SC

Important for subject: Polity

The Constitution Bench of the Supreme Court led by the Chief Justice of India has ruled that the granting of the Legislator (MP or MLA) who is in danger of being disqualified in the Anti-Defection Law to participate in a floor test is against the purpose of the Tenth Schedule of the Constitution.

- In the words of the Supreme Court Bench, allowing the person whose actions have caused discord within the party and is therefore liable to be disqualified from the party for disaffection to participate in the trust vote amounts an act of "legitimising" a "constitutional sin".
- The court also questioned whether legislators who are the reason behind the unrest the government could benefit from a later floor test that is the result of the actions he took.

10th Schedule

- Tenth Schedule Tenth Schedule was inserted in the Constitution in 1985 through the 52nd amendment.
- It specifies the method that legislators can be disqualified for departure by the President of a legislature on the basis of a petition from any other member in the House.

Disqualification:

- If an elected member of a house which is a member of a particular political group voluntarily quits the membership of his political party or Votes, or chooses to not take part in legislative elections in opposition to the directives of the political party.
- If the member has obtained prior consent, or is endorsed by the political party within 15 days after the date of abstention or voting the member will not be disqualified.
- When an unaffiliated candidate is a part of an political party following the election.
- If a member who is nominated is a member of a party for six months following the time he became an elected member of the legislature.
- The 91st amendment act from 2003
- The number of ministers, which includes the Prime Minister on the council of ministers Central must not exceed 15 percent of the total power of the Loksabha or State legislative assembly. (Article 75,164) The there must be less than 12 ministers.
- A defection-related member who is not eligible is also not able to serve as a minister in the house.
- The member who is disqualified on reason of defection will also be exempt from any political post that requires remuneration, or office that is wholly or partly under the authority of the government.
- The third-party clause was also eliminated in this change.
- Legal exceptions: Legislators may change their party without risk of being disqualified under certain conditions.
- The law permits a political party to join or join with another party, provided that at least two-thirds of its legislators are favour in the proposed merger. In such a case there is no risk that the members who decide to join or merge with the other party, nor those who stay with the existing party are Important for subject to disqualification.

- The law was initially declared it was the discretion of the Presiding officer was not susceptible to the judicial review. This was ruled out through the Supreme Court in Kihoto Hollohan case in 1992 and allowed recourses to the Presiding Officer's decision to the High Court and Supreme Court.

Topic 48. PUNJAB GOVT MOVES SUPREME COURT OVER GOVERNOR'S REFUSAL FOR STATE BUDGET SESSION

Important for subject: Polity

The Solicitor General Tushar Mehta told the Supreme Court Tuesday that Punjab Governor Banwarilal Purohit has summoned the state Assembly to a session on the budget.

- Mehta's announcement came just shortly prior to that the Supreme Court was set to consider a petition filed from government officials from the Punjab administration against Governor Purohit for his inability to call for the Budget session Vidhan Sabha.
- About the Dispute
- Punjab Governor is refusing to sign off on the Punjab Cabinet's decision to call the budget session for Vidhan Sabha on March 3.
- The Governor earlier had made a number of inquiries about the appointments of the government and demanded an answer from the Chief Minister Bhagwant Mann within 15 days after which the Governor demanded legal counsel regarding the matter. The CM did not agree, claiming that he was in charge of a government that was elected by 3 million people.
- Governor's refusal to call the assembly
- The Governor must take action in accordance with the assistance and guidance of the ministers' council.
- Constitutionally the Governor's office has very little discretion to refuse to take the cabinet's recommendations.
- According to Article 173, an Governor is required to call the House at the time and location, at the time the Governor thinks appropriate.
- Article 174 (2) (a) governors can at any time "time to time" prorogue the House and 174 (2) (b) permits the Governor to dissolve the Legislative Assembly.
- Section 163(1) of the constitution says the following "there shall be a council of Ministers with the Chief Minister at the head to aid and advise the Governor in the

exercise of his functions, except in so far as he is by or under this constitution required to exercise his functions or any of them in his discretion."

- A common reading of the two laws (Article 174 and 163) leaves the Governor with a limited ability to summon the House.
- Governor Purohit has stated that he has cited Article 167 of the Constitution in relation to the obligations that the Chief Minister has when it comes to giving details to Governor. Governor Purohit's inquiries to CM Mann regarding appointments fall within the scope of the provisions of this article.

Governor discretion

- There are some instances where the Governor is able to act on his own when calling the House.
- If, for instance, the chief minister is losing the backing of his House and his authority is in doubt and the Governor is not sure, then he should not wait until the recommendations of the ministers' council to conduct a floor examination.

Method to convene the house

- Procedures as per Article 174 of the Constitution obliges the Governor to call the House.
- The ministers' council approves the decision of the government holding the House. The government writes to Governor about the Cabinet's decision, and it is then ratified.

Topic 49. FOREIGN CONTRIBUTION REGULATION ACT

Important for Subject: Polity

Recently it was announced that the Central government of India suspended the Foreign Contribution Regulation Act (FCRA) license of the

- Centre for Policy Research (CPR).
- About Foreign Contribution Regulation Act:
- The act was passed in the Emergency in the year 1976amid concerns the possibility that other powers might interfere with
- In India, money is pumped into the country via non-governmental organizations.

- The FCRA obliges each NGO or person who seeks to receive foreign donations to be registered under the Act.
- In order to open a bank accounts to receive foreign funds at the State Bank of India, Delhi. to use the funds to fulfill the purpose for which they were received, and in accordance with the Act.
- Foreign Contribution (Regulation) Amendment Act, 2020
- Act regulates the acceptance and use of foreign contributions by Act regulates the use and acceptance of foreign contributions from businesses, associations, and individuals.
- Foreign contribution is the giving or exchange of security, currency or other item (of greater than the amount of) from a foreign source.
- Prohibition on accepting foreign contributions: Certain persons are prohibited to accept foreign contributions.

They include:

- Candidates for election, editors or the editors of a newspaper judges, government officials and legislators, or political organizations, and many more.
- The Bill also adds the public servants (as defined in the Indian Penal Code) to the list. Public servants include those who are employed or is employed by government, or is remunerated by the government for performing of any public obligation.
- Transfer of Foreign Contributions
- Foreign contributions are not transferable to anyone else without the consent of the person who is authorized to receive foreign contributions (or had prior approval pursuant to the Act to receive the right to receive foreign contribution).
- The Act prohibits transfers of foreign funds to any other individual. The definition of "person" under the Act can refer to an person, an organization, or a registered business.

Aadhar for registration:

- Any person who is seeking registration (or renewal of authorization) or prior approval to receive foreign contributions must submit an application for central approval in the manner prescribed by the central.

- The Act includes that any person who seeks an authorization, registration and renewal has to give with the Aadhar number of its directors, office bearers or key executives, as an identification document.
- In the event of an international citizen, they need to present a photocopy of their passport or the Overseas Citizen of India card to prove their identity.

FCRA Account:

- Foreign contributions are only allowed on a bank account that is designated by the bank as "FCRA" account "FCRA account" in such an establishment that is part of State Bank of India, New Delhi, as issued by the government of India.
- The only exception is the foreign contribution can be received or deposited into the account.
- The individual can open a second FCRA account at any bank of their choice to keep or using the contribution received.
- Restriction on the use of contributions from outside
- The Government can limit the use of foreign contributions for those who have received prior authorization to receive these contributions.
- Renewal of license
- The Certificate of Registration issued in accordance with FCRA has a validity of 5 years.
- Anyone who was issued a certificate of registration is required to renew their certificate within six months from the date of expiration.
- The Act states that the government can conduct an investigation before renewing the certificate.
- The reduction in the use of foreign contributions to administrative reasons
- Someone who receives foreign contribution has to make use of it to the end for which it was received.
- They are not allowed to use less than 20 percent of their contribution to meet administrative expenses (earlier there was 50 percent).

Suspension of Registration:

- The earlier governments could temporarily suspend registration for an individual for a

time not longer than 180 days.

- The Act provides that this suspensions can be extended to a maximum of 180 days.
- The Union government reserves the right to terminate an FCRA approval of an NGO in the event that it believes that it is in violation of the Act.
- Registration for the NGO could be canceled for a variety of reasons. If the registration is cancelled and subsequently withdrawn, the NGO is not allowed to re-register over the next three years.
- Every order issued by the government can be challenged at the High Court.

Topic 50. LG SEEKING REPORT ON VIOLATION IS A BID TO INTERFERE WITH ASSEMBLY FUNCTIONING – SPEAKER

Important for Subject: Polity

The power struggle with Aam Aadmi Party and the Aam Aadmi Party and the Centre appointed Lieutenant Governor was reported into the Delhi Assembly with the Speaker declaring that a report of rule violations requested from Raj Niwas appears to be an "attempt to interfere in the functioning of the Assembly" according to an official communication

- In Delhi the city, which isn't an official State, the responsibility for the Services Department, which deals with the posting and transfer of officials, does not lie in the hands of the Delhi government but the LG.
- However it is true that the AAP government does exert some influence over officials through Assembly committees. They have summoned and interrogated Delhi government officials regarding alleged violations and delays in government projects.
- As per Section 33 of the Government of National Capital Territory of Delhi
- (Amendment) Act 2021, "Legislative Assembly shall not make any rule to enable itself or its committees to consider the matters of the day to day administration of the Capital or conduct inquiries in relation to the administrative decisions."
- Section 33 of the Government of National Capital Territory Of Delhi Act 1991.(1) The Legislative Assembly may make rules for governing under the requirements of this Act as to its procedure and the manner in which it conducts its business In addition, the Lieutenant Governor, in consulting with the Speaker of Legislative Assembly and with the approval of the President adopt rules.
- to ensure the timely conclusion of financial transactions;

- to regulate the procedure and the conduct of business in to regulate the conduct and procedure of the Legislative Assembly in relation to any financial matter , or any Bill to approve funds from the Consolidated Fund of the Capital;
- to prevent the discussion or asking questions about, any subject that affects the duties for the position of Lieutenant Governor the sense that the Lieutenant Governor is required pursuant to or governed by this Act or any other law to exercise his discretion.
- (2) (2). Until rules are made in accordance with section (1) (2), those rules of procedure and the standing order with respect for the Legislative Assembly of the State of Uttar Pradesh in force prior to the date of commencement of this Act will be in force respect to the Legislative Assembly subject to such changes and modifications that can be made to them by the Lieutenant Governor.

Topic 51. PANEL OF PM, CJI, LOP TO PICK CEC, SAYS COURT

Important for Subject: Polity

An Constitution Bench of the Supreme Court in its landmark decision has declared it is the case that Chief Election Commissioner (CEC) and Election Commissioners are appointed by the President based on the recommendation of a committee that includes:

The Prime Minister,

- A Leader of the Opposition (LoP) in the Lok Sabha is The leader of the largest opposition party in Opposition and
- The Chief Justice of India (CJI)
- The ruling from the Supreme Court has put an end to the practice of selecting to the CEC and ECs upon the advice from the Council of Ministers, as is stipulated within the Constitution.

What is the process for the CEC and ECs being chosen?

- In accordance with Article 324 (2), the President nominates the CEC and the other Election Commissioners.
- A President is elected to make the decision on the guidance from the Union Council of Ministers headed by the Prime Minister.

- The Constitution does not require any requirements, academic or otherwise in order to be appointed to these offices.
- The term of office and the terms of service for all commissioners are determined by the President.
- The term of the commissioner is six years or until 70 years of age, which ever is earlier.
- The CEC as well as both of the other ECs are able to exercise the same powers and emoluments, which include wages, which are identical to those of the Supreme Court judge.
- The three commissioners all have the same authority to make the decision. If there is a divergence of opinion between three commissioners the issue is resolved by the Commission with the majority.
- The Constitution has not impeded the Election Commissioners who are retiring from being appointed from the Government.
- **Composition:** The commission is comprised of one Chief Election Commissioner (CEC) and two Election Commissioners (ECs).

Are there ways to remove CEC or ECs be eliminated?

- article 324 from the Constitution of India mentions the provisions that protect and guarantee the impartial and independent functioning that of the Election Commission.
- The CEC comes with the guarantee for tenure.
- He isn't removed from office as long as it is done in the same manner and for the same reason as judges in the Supreme Court.
- Any other election commissioner, or regional commissioners cannot be removed from office, unless it is an order from the CEC.

What is the latest Supreme Court ruling say?

- The CEC and the other ECs must be named by the President on the recommendation of a committee composed of the prime minister and the head of opposition on the Lok Sabha, and the Chief Justice of India.

Topic 52. CHARAIDEO MAIDAMS

Important for Subject: History

The Assam pyramids, which are also called moidams, or maidams, have met all technical requirements of the UNESCO's World Heritage Centre.

- Charaideo in the eastern part of Assam is home to over 90 moidams. the mound-burial system used by the Ahoms who controlled large areas of the current State in the region and further for about 600 years prior to the coming to the British in the 1820s.
- Moidams' nomination Moidams was in compliance with all the technical requirements set out within the operational Guidelines regarding the completeness of nominations for the World Heritage List.

Moidams/Maidams:

- Moidams (also known as Maidams) Moidams (also Maidams) are the burial mounds of the Ahom Dynasty (13th century to 19th century).
- The mound-burial method of monarchs of the Ahom Dynasty of Assam's Charaideo district could be compared with the burial tombs of the royal kings of old China as well as the Pyramids of The Egyptians the Pharaohs (kings of ancient Egypt).
- Charaideo located approximately 400 kilometers to the to the east of Guwahati was the first capital city of the Ahom Dynasty, which was founded by Chao Lung Siu-Ka Pha in 1253.
- The previous practice was that the deceased along with their personal belongings (apparatusor equipment) were interred.
- After the 18th century in which time the Ahom rulers followed the Hindu cremation method and burying the bones of the deceased and cremated remains in the tomb of Moidam near Charaideo.
- The Moidams keep the remains of Ahom the royal familyand are highly adored.
- As the country shifts its Ahom capital eastwards and southwards Moidams were observed in various parts in Northern Vietnam, Laos, Thailand, Northern Burma, Southern
- China as well as Northeast India - together defining the region in which the Tai-Ahom tradition predominated.

What is the reason Charaideo is referred to as the "Pyramids of Assam"?

- It has sacred burial grounds for Ahom queens and kings. It is also the site for the ancient Gods from the Ahoms.
- There are 42 graves (Maidams) that are of Ahom queens and kings are on display in the Charaideo hillocks.
- Architecture It is a huge underground vault that has several chambers with the domical superstructure. It is surrounded by an earthen mounds. Externally, it appears to be a hexagonal.

Topic 53. MUGHAL RULE IN INDIA

Important For Subject: History



Mughals were the descendants of two great rulers' lineages.

- Babur was the founder of the Mughal empire in India was connected to Timur on his father's family and with Chengiz Khan from his mother's side.
- In the Middle Ages it was very difficult for a single ruler to control the whole unincorporated India in their own way Contribution of Akbar
- Akbar was only 13 year old when Humayun's passing. After his father's death Akbar was living in Kalanaur in Punjab which is why his coronation occurred in Kalanaur itself, in 1556.
- It was his teacher as well as Humayun's most trusted and cherished friend Bairam Khan, who served as regent to the Mughal emperor between 1556 and 1560.
- As a conqueror, Akbar won all over North India. The initial four years under Akbar's rule saw the expansion of his Mughal Empire across Kabul to Jaunpur and Jaunpur, which included Gwalior and Ajmer as the regent of his son Bairam Khan.
- One of the biggest successes of the regency was defeating Hemu along with the Afghan forces during the second battle of Panipat in 1556 which was an imminent threat for the Mughal Empire.

Akbar's Military Conquests:

- Malwa was defeated in 1562 by Baz Bahadur who was appointed an Akbar's mansabdar.
- The Gondwana region in the central region of India was annexed in the aftermath of an intense battle against Rani Durgavati and her son Vir Narayan in 1564.
- Akbar defeated Gujarat against Muzaffar Shah in 1573. Akbar constructed a the capital city Fatehpursikri in honor of the victory.
- At the time of Haldighati, Rana Pratap Singh was shattered in the Battle of Haldighati by the Mughal army under the command of Man Singh in 1576. After the loss of Mewar all of the most powerful Rajput rulers accepted the suzerainty of Akbar.
- Deposed Daud Khan Daud Khan, Daud Khan, the Afghan leader Daud Khan, the Afghan ruler Bihar and Bengal and Bihar, which were annexed to Mughal Empire in 1576.
- Akbar's troops had occupied Khandesh region in 1591.

- Chand Bibi Chand Bibi Ahmednagar from the Mughal forces.

Rajput rule:

- There was a Rajput policies of Akbar was noteworthy. He was married to his Rajput princess, granddaughter of Raja Bharamal.
- It was a pivotal moment in the development of Mughals. Rajputs went on to serve for the Mughals for four generations.
- A lot of them rose to the ranks of generals in the military. Raja Bhagawan Das as well as Raja Man Singh was granted top post in the administration by Akbar. All at once, the Rajput states resigned to Akbar.

Religious policy:

- He eliminated the tax on pilgrims and jiziya as well.
- Then, in 1575he directed the construction of the Ibadat Khana (House of Worship) in his city of Fatepur Sikri.
- Akbar invited scholars of repute from different religions such as Hinduism, Jainism, Christianity and Zoroastrianism.
- 1582, in 1582, the cleric established the new religion known as Din Ilahi or Divine Faith. It is a belief that there is only one God. It has good aspects across all religious traditions.
- He promoted the theology of Sulh-iKul (peace to everyone).
- The year was 1582, Akbar ceased the IbadatKhana's debates as which led to the rift between different religions. Badauni an author of the time was a fervent and a critic of Akbar's religion experiment.
- Sheikh Mubarak was the religious guru of Akbar.
- The new policy of Akbar's religion was designed through Abul Faizi.
- India as under Mughals
- Influence of Mughal Empire on Agriculture
- The peasants of the Mughal regime continued to follow the practice of rotation of crops to maintain the soil's nutrition. In the coastal regions the use of fish was to enrich the soil.
- The wooden scoops and other devices were used to remove water out of the water

channels.

- In some parts in India, Persian wheels were used for various agriculture-related activities.
- Different Mughal canals did not provide enough irrigation to the many fields of agriculture.
- At the end of 17th-century, some crops such as Maize as well as Tobacco have been added to the existing list of crops such as rice, pulses, Gram and sugarcane. etc.
- Influence of Mughal Empire on Economic and Social Life
- The Social and Economic existence of Indian people during the Mughal rule was a representation of two sides of a coin.
- A few regions were witness to the lavish lifestyle of nobles in which there was only prosperity and prosperity. On the other hand, certain regions were completely devoid of essential necessities.
- The great travelers also recorded both the economic and social aspects of life during the Mughal Empire. Some were able to describe the life as being a struggle and others praising the massive flow of wealth, overflowing with wealth.
- Cultural Change during the Mughal
- But, there was also pain in certain areas, however, during the Mughal Empire, a variety of culture in terms of architecture and art as well as music and painting emerged.
- Literary works played a crucial function in bridging gap in culture and to ensure that there is an equal chance of inclusion across different geographic regions.
- Furthermore, the existing Languages and the rise of Urdu were crucial in the process of cultural development.
- Influence of Mughal Empire on Paintings
- Humayun established the foundations of Mughal Painting in Persia.
- Humayun upon his return to India brought with him famous artists like Abdal Samad as well as Mir Sayyid Ali.
- Miniature versions of mythological works like Ramayana were made in Persian.
- Akbar was so enthralled by paintings that he set up his own Art Studio.
- Mughal artworks were in their height during the reign of Akbar, but they was just beginning to disappear under Jahangir rule.

- Influence of Mughal Empire on Music
- Tansen under Akbar's reign brought some most famous Ragas such as Darbari, Mian ki Mand and many more.
- Aurangzeb was a well-educated Veena player, and the famous author "Tuhfat-ul Hind" was written by his grandson.
- Aside from Akbar the spread of music was also widespread under the reign by Shah Jahan and Jahangir.
- Influence of Mughal Empire on Language
- The Persian language was quite popular in its time under Mughal rule.
- Many words and phrases from Persian, Turkic and Arabic languages were incorporated and utilized in our daily lives.
- Influence of Mughal Empire on Literature
- Many works of the past were written during this time.
- Akbar Nama as well as Ain-i-Akbari were among the most renowned literary works from the Mughal Empire.
- Abul Faizi was the most popular poet of the time. Under his direction under his direction, the Mahabharata has been translated to Persian.
- Scholars such as Ghiyas Beg Naqib Khan, Ghiyas Beg, and Niamatullah were favored by Jahangir.
- Shah Jahan patronized writers like Abdul Hamid Lahori.
- Tuzuk-i-Jahangiri Jahangir's autobiography also published during the same time.
- A few of the most famous Persian poets from that time are Naziri as well as Utbi. In the Shah's Jahan Nama, Jahan Nama was composed by Inayat Khan and Nama.
- Numerous regional languages, including Gujarati, Rajasthani, and Oriya were also loved by the locals. Mahabharata along with Ramayana were translated into them.
- Influence of Mughal Empire on Growth of Trade
- There are different types of traders in terms the distance they traded. These are as in the following order:
 - Traders from long distances: Bohra
 - The local traders are: Banik
 - Bulk transporters: Banjaras moved long distances, carrying the bulk of the goods.
 - Certain traders were involved in a variety of trading actions, such as:

- Multani Markets They owned a huge reserve of silver and Gold.
- Bengali merchants They sold mullin (cotton cloth), rice, as well as silk.
- Gujarat: It's the area from which products were imported and then directed to the northern region.
- The massive importation of precious metals, such as Gold and silver was carried out throughout the Mughal Empire. The west was home to various communities in Rajasthan were named Marwaris.
- The majority of merchants who traded included Jain, Hindu, and Muslim however other groups played a small part during trading. Growth of Trade.
- The time that was the Mughal Empire was characterized by expansion in some areas, however, there were also regions where the growth and development did not progress and agriculture was one of these.

Topic 54. ANCIENT CITY OF SISUPALGARH

Important for Subject: History

Mafias from the land have destroyed some of the walls of the city fortified of Sisupalgarh.

About Sisupalgarh:

- It is located close to in the town of Bhubaneswar located in Odisha.
- It was it was the capital city of Kalinga, which is the old name for Odisha.
- It is regarded as to be one of the biggest and most well-preserved fortifications of the ancient world found in India.
- Fortifications that are more than 2 000 years old, and date back to the 4th or 3rd century BC.
- Its remains from the fortifications were discovered around 1948, by Indian archaeologist B.B. Lal.

Features:

- It was constructed and designed in the completely rectangular shape that was enclosed by defensive walls.
- Each side extends over one mile The interior is packed with stone sculptures and ruins.

- The wall of fortifications measure about 9 metres (30 feet) tall.
- It was eight entrances to the city and two on each of the four walls.
- The gateways were linked by streets that were laid out in a grid with the palace at the middle.
- The gates were intricate constructions constructed of stone and brick.
- There is evidence of reservoirs with stone lines that could have been used to harvest rainwater.
- Intelligent traffic management, pedestrian-friendly paths grand gateways, guardhouses, large roads, and an expansive open space were the main aspects of this city's ancient.
- The city is thought to have the estimated population of 250,000 to 25,000.

Topic 55. REMEMBERING MAULANA AZAD

Important for Subject: History

The book by historian S Irfan Haibib, Maulana Azad: A Life, sheds an understanding of the man who fought against Muslim League's demands for Pakistan

- He was born in Mecca, Saudi Arabia in 1888. His family relocated in Calcutta (now Kolkata) two years later, two years after the date of his birth.
- He studied various languages, including Persian, Urdu and Arabic as well as subjects like geometry, history, and philosophy.

Contribution to the struggle for freedom:

- The year 1912 was when Azad began publishing an al-Hilal weekly which was employed as a tool to challenge and criticize British policies. The publication gained huge acclaim with the general public which was so great that the British eventually stopped the publication in 1914.
- Azad began a second weekly called Al-Balagh that continued until he was exiled under the Defence of India Regulations in 1916. Governments from Bombay, Punjab, Delhi along with United Provinces had banned his entry, and he was sent to Bihar until 1920.
- Following his release, Azad inspired by Mahatma Gandhi's non-cooperation

philosophies in fighting his enemies, the British, started leading the Khilafat Movement that was launched in the name of Indian Muslims to demand that the British keep the power of the Sultan of Ottoman as the Caliph of Islam following World War I'.

- He became the youngest Party leader in 1923.
- Then, in the year 1942, along with his fellow leaders was detained and sent to jail for four years after taking part in an organization known as the Quit India movement.
- Just prior to Partition in the year before, he put his neck out against the Muslim League's demands for a separate nation for Muslims and pleaded with Muslims to not leave the secure shores of India to the unknown shores of Pakistan.

Free India:

- Azad was Azad was a committed believer in the coexistence of all religious groups. He was profoundly saddened by the violence by Indians during the Partition. Azad traveled through the violent areas that included Bengal, Assam and Punjab and helped in the creation of refugee camps. He also arranged for the provision of food and other essential resources.
- The 7th Schedule of the Constitution includes subjects upon which both the state and central government can pass legislation.
- In British India the education system was declared an area of study, and only provinces were allowed to enact laws. Maulana Azad was very opposed to giving education to states.
- As the the first minister of education in the country from 1947 until in 1958he was a proponent of free primary education that was compulsory for all children under 14 years old because he believed that this was the fundamental right for every citizen, with particular emphasis on girl's and rural education.
- Then, he proceeded to create his own Jamia Millia Islamia in Delhi and also contributed to the establishment of the IITs.
- He was also among the creators of his work on the University Grants Commission, India's higher education regulator and played a major part in the creation of various educational institutions.
- He established cultural and literary bodies such as those of the Sahitya Akademi, Lalit

Kala Akademi and the Sangeet Natak Akademi, etc.

- The day he was born, 11 November is observed in the form of National Education Day.

Topic 56. AYODHYA MOSQUE GETS ALL LAND CLEARANCES

Important for Subject: History

The Ayodhya Development Authority (ADA) has given final approval to the construction of the mosque in Dhannipur according to the direction of the Supreme Court in its Ram Janmabhoomi Babri Masjid case judgement.

- The supreme court had asked for the state government -- whether in the Centre or Uttar Pradesh -- to allocate an "prominent and suitable" five acres of land within Ayodhya for the Sunni Central Wakf Board, to build the mosque.
- It was the Wakf Board later formed the Indo Islamic Cultural Foundation (IICF) to oversee the building of the mosque, which is now referred to as 'Masjid-e Ayo.

About IICF:

- Indo-Islamic Cultural Foundation is established as a trust organization.
- 9 trustees were announced and it is expected to "co-opt" the remaining six. Four 9 trustees are linked with the Board.
- On February 24 on the 24th of February, on February 24, Uttar Pradesh Sunni Central Waqf Board took the decision to accept 5 acres that was allotted from the State government to construct the Mosque in Dhannipur village, located in the Sohawal Tehsil Ayodhya about 25 kilometers from the place in which Babri Masjid stood. Babri Masjid stood.
- The Trust will build a center that would showcase Indo-Islamic cultural traditions from the past and a center for research as well as study on Indo-Islamic cultures, a charity hospital, a library that is open to the public as well as other public utilities on Dhannipur. Dhannipur.

Topic 57. OVER 9000 JANAUSHADI KENDRA IN COUNTRY

Important for subject: Government Schemes

The Union Health Minister Mansukh Mandaviya said on Tuesday that on the 31st of January the number of shops that sell generic medications at a bargain --- PradhanMantri Bhartiya Janaushadhi Kendras -- was 9,082.

- In celebration of this year's Department of Pharmaceuticals marking eight years of medicines that are available within the Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) are priced 50 up to 90% less than the equivalent brand versions.
- The product range of PMBJP includes 1,759 medications and the 280 surgical instruments.
- Protein powders and other products are also available.

Janaushadhi Kendra:

- Bureau of Pharma PSUs in India (BPPI) provides support for Janaushadhi Kendras as an element of the Pradhan Mantri Bhartiya Janaushadhi Pariyojana.
- These are the places which high-quality generic medicines are offered to the public at all times.
- Government grants up to the amount of Rs. 2.5 lakhs are available for the establishment of Pradhan Mantri Janaushadhi Kendras that can be created by pharmacists, doctors entrepreneurs, pharmacists Self Help Groups (SHGs) as well as NGOs, charitable societies and others. in any location that is suitable or even outside of the hospital premises.

Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP):

- PMBJP is a campaign that was launched in 2008 by the Department of Pharmaceuticals in 2008 under the name of Jan Aushadhi Campaign.
- The campaign was redesigned as PMBJP in 2015-16.
- Bureau of Pharma PSUs of India (BPPI) is the authority for implementation for PMBJP.
- The Bureau of Pharma PSUs of India is part of the Ministry of Chemicals & Fertilizers.
- BPPI has also created an application called Janaushadhi Sugam Application.

- PMBJP stores are created to supply generic medications which are offered at a lower cost, but have the same quality and effectiveness to costly brand name medications.
- It is also aiming to expand the scope of coverage for quality generic drugs to decrease cost of out-of-pocket medicines and thus define the cost per unit of treatment per person.
- A medicine that falls under PMBJP is priced according to the basis of a maximum price of 50 percent of the price of the three most expensive brand-name medications.
- So, the cost is lower. Janaushadhi Medicines is at most by 50% and , in certain cases, even by 90percent of price of the brand name medicines.

Topic 58. SWAMIH INVESTMENT FUND

Important for Subject: Government Schemes

SWAMIH (Special Window for Affordable and Mid-Income Housing) Investment

- Fund has built 20,557 houses since its inception in the year 2019.
- It is the most significant social impact investment, specifically created to finish homes that are stalled and stressed.

SWAMIH Investment Fund

- It is a government-backed fund created as a Category II AIF (Alternate Investment Fund) debt fund registered with SEBI(Securities and Exchange Board of India) and launched in 2019.
- It is administered by the Ministry of Finance and is run through SBICAP Ventures (a State Bank Group company).

Eligibility Criteria:

- The real estate development projects need to get Real Estate (Regulation and Development) Act (RERA)-registered which have been stalled because of a lack sufficient funds.
- Every one of the projects has to be close to being completed.
- They also must fall under" moderate and affordable Project category(any housing project where the housing units are not more than 200 sq.m).
- Net-worth-positive projects are qualified for SWAMIH funds.

- Projects with net worth positive cash flow are projects in which the worth of receivables (debts due to them from buyers) as well as that of the unsold inventory exceeds their completion expenses and outstanding liabilities

Objective:

- The program aims to offer funding to allow the completion of projects in housing that have been delayed and to guarantee the delivery of homes to buyers.
- To increase the market's liquidity in the real estate industry and to boost important industries like steel and cement.

Alternative Investment Fund

- AIF is a kind of investment vehicle that pooled funds from many individuals to purchase investments that go beyond the traditional bonds, stocks, as well as cash.
- These include real estate, hedge funds commodities, as well as other investments that are not traditional.
- AIFs are generally advertised to high-net-worth investors and institutional investors with the skills and knowledge for investing in complicated as well as less liquid investments.
- In India, Regulation 2(1)(b) of Securities and Exchange Board of India (SEBI)

Regulations (AIFs) (2012) lays out the definition of AIFs.

- AIF does not comprise funds that are covered by SEBI (Mutual Funds) Regulations, 1996), SEBI (Mutual Funds) Regulations 1996 SEBI (Collective investment Schemes) Regulations, 1999 or any other rules of the Board to govern the activities of managing funds.

Topic 59. BUDGET COULD HAVE PAID MORE ATTENTION TO FODDER

Important for Subject: Government Schemes

Rashtriya Gokul Mission comprises of two parts, namely:

- The bovine national program breeding and the National mission to increase bovine productivity

Objectives:

- The development and conservation of native breeds a targeted and scientific way.
- Implement a breed improvement programs to improve the indigenous cattle breeds, in order to improve the genetic composition and improve the number of cattle.
- Increase milk production and increase efficiency.
- Distribute disease-free genetically superior bulls to provide natural service.
- Important initiatives of the Rashtriya Gokul mission:
- Awards to encourage farmers and breeder societies to raise Indigenous bovine breeds:
- Gopal Ratna Awards to farmers who maintain the highest quality herd of indigenous breeds and using the most effective management methods.
- Kamdhenu Awards for the best-managed Indigenous herds of Institutions/Trusts/NGOs/ Gaushalas the most well-managed breeders Societies.
- Gokul Gram Gokul Gram RashtriyaGokul Mission envisages the establishment of integrated cattle development centres Gokul Grams to create indigenous breeds, including the possibility of 40% of nondescript breeds (belonging or appear to be belonging to no specific kind or class) with the goal of:
- Support the rearing of indigenous cattle and conserve in a scientific way.
- Propagate genetically superior bulls of breeds indigenous to the area.
- Improve Modern Farm Management methods and encourage Common Resource Management.
- Make use of animal waste in a sustainable method i.e. Cow Dung, Cow Urine National Kamdhenu Breeding Centre: (NKBC) is being developed as an Centre of Excellence to develop and protect Indigenous Breeds in a holistic and scientific way.
- "E-PashuHaat"- NakulPrajnan Bazaar:An e-market portal linking farmers and

breeders, to ensure bovines are free of disease. germplasm.

- PashuSanjivni: An animal wellness program encompassing the provision of animal health cards ('NakuSwasthyaPatra') along with UID identification and uploading data on National DataBase.
- Advanced Reproductive Technology: Including Assisted Reproductive
- Techniques- in-vitro fertilization (IVF) or Multiple Ovulation Transfer of Embryos (MOET) and the sex-sorted semen method to increase the number of healthy bovines that are female.
- National Bovine Genomic Center for Indigenous Breeds (NBGC-IB) is planned to be set up to select breeding bulls with high genetic merit, even at a young age by using highly precise genetic technology.

Implementing Agency:

- Rashtriya Gokul Mission will be implemented by the "State Implementing Agency (SIA which includes Livestock Development Boards).
- The State Gauseva Ayogs have been given the power to support proposals submitted to the State SIA's (LDB's) and oversee the execution of the proposed proposal.
- Every agency that plays a role in the indigenous cattle development process are "Participating Agencies" like ICAR, Universities, Colleges, NGO's, Cooperative Societies and Gaushalas.
- The reason why conserving Indigenous breeds are the issue of the moment?
- Indigenous bovines are strong and resilient, and are especially suitable for the climate and the environment of their respective breeding regions and their productivity are less susceptible to being affected by the effects from climate change.
- The milk of animals that are indigenous is rich in fats and SNF amount (The ingredients in milk that are different that butterfat, water, in shape of casein lactose, vitamins and minerals, which significantly contribute to the nutritional quality of milk)

Revised version of the Rashtriya Gokul Mission (HTML0)

- The new edition of Rashtriya Gokul Mission and National Livestock Mission (NLM) proposes to concentrate on the development of entrepreneurship and improvement of

breeds in buffalo, cattle, sheep, poultry piggery, and goats through incentives for individual entrepreneurs, farmer producer organizations farmer cooperatives as well as joint liability groups, self-help organizations, Section 8 companies for the development of entrepreneurship, and state governments to provide breeding improvement infrastructure.

- A breed multiplier farm element in the Rashtriya Gokul Mission is going to provide capital subsidy of up to Rs 200 lakh to set up a breeding farms that have at minimum 200 milch cows or buffalo that are bred with the latest technology.
- The entrepreneur is accountable for the management of and will be capable of selling at minimum 116 calves that are elite each year on the farm starting in to the 3rd year.
- The businessman will also begin earning income from the sale of 15kg of cow milk every day for a total of 180 animals in the very first year.
- This breeding farm will be broken even in the initial year following the introduction of milk into animals.
- Furthermore, the method of rewarding breed multiplication farms will lead to the hiring of 1 lakh farmers.
- The initiatives of the grassroots in this field are further boosted through web-based applications such as e-Gopala which provide in real-time information for livestock farmers about the availability of germplasm that is disease-free at relevant centers, vet care, etc.
- National Livestock Mission (NLM) was established in 2014-15's financial year and is designed to provide an improvement in both the quantitative and qualitative aspects of livestock production systems as well as capacity development for all those involved. It is in operation as a part of the White Revolution - Rashtriya Pashudhan Vikas Yojana from April 2019.
- Goals Sustainable growth, fulfilling the Need for Fodder, synergy between the ongoing plan, promoting the development of skills, genetic improvement as well as conservation. Risk management, and the participation of communities.

The National livestock Mission is organised into the following sub-Missions:

- Sub -Mission on Livestock Development- The sub-mission on Livestock
- Development will include activities to solve the problems for the general expansion of

livestock species such as poultry, in addition to buffalo and cattle, through an overall approach. The Risk Management part of the sub-mission will however encompass buffalo and cattle with other minor and major livestock.

- Sub-Mission to Pig Development in North-Eastern Region The sub-mission will seek to build synergies between research and development agencies by implementing appropriate measures, which may be necessary for complete development of pigs within the North Eastern Region including genetic improvement, health coverage and post-harvest activities.
- Sub-Mission on Fodder and Feed Development The Sub-Mission is designed to tackle the issue of a shortage of fodder and animal feed resources, in order to provide an incentive into the livestock industry, making it an enterprise that is competitive for India as well as to maximize the potential of exports.
- The sub-mission will specifically focus on enhancing the production and efficiency of feed and fodder through the adopting improved and suitable techniques that are best suited to a particular Agro-climatic regions that includes arable as well as non-arable zones.

Sub -Mission on Skill Development, Technology Transfer and Extension:

- The sub-mission will serve as a platform to research, develop, or modify technologies, such as frontline demonstrations on the field in conjunction with researchers, farmers, extension personnel and others when it is not feasible to accomplish this via existing arrangements.
- National Animal Disease Control Program for Foot and Mouth Disease and Brucellosis is a 100percent centrally-funded program that is 100% centrally funded that has a total expenditure of approximately Rs. 12,652 crore between 2019 and 2024. The goal is to stop Foot and Mouth Disease and Brucellosis by 2025 through the vaccination process and ultimately elimination in 2030.

Revised Version of National Livestock Mission

- The poultry entrepreneurial program from the NLM will grant an investment subsidy of up to Rs25 lakhs for the establishment of a farm as a parent with the capacity of raising 1,000 chicks.
- Based on this model the hatchery is anticipated to hatch at least 500 eggs a day. This

is then the hatching of chicks, which are then later reared for up to four weeks. After that, the chicks could be given to farmers in the area to rear.

- The rural entrepreneur who runs the hatchery will supply chicks to farmers.
- Entrepreneurs will be able break even within 18 months of launching the company. It is anticipated that the business will create employment for at least 14, 000 people.
- In the case of goat and goat-based entrepreneurship it is possible to avail for capital subsidies of 50% of up fifty lakh.
- A businessperson who follows this model should establish a breeder farm, then build the entire chain, and eventually offer the livestock to farmers or to the public market. Every entrepreneur is eligible to establish a breeder farm that has 250 buck/ewes and 500 doe animals with genetic merit that is high from the state and central government-owned university farms.
- This business model is predicted to yield a net profit that is greater than 33 lakhs for the entrepreneur every year.
- For Piggery, the NLM will offer 50% capital subsidies of up to 30 lakh rupees.
- Every entrepreneur will be assisted by the creation of breeder farms, which include 100 boars and 10 sows which are expected to produce 2400 piglets per year.
- A new litter of piglets will be available for sale each six month. This plan is expected to yield an income of Rs1.37 crore in the first 16 months, as well as 1.5 thousand jobs.
- The updated plan of NLM along to the Rashtriya Gokul Mission and the Animal Husbandry Infrastructure Development Fund could drastically increase the efficiency and traceability standards for our livestock.

Topic 60. SAMARTH SCHEME

Important for subject: Government Schemes

The Ministry of Textiles has called for proposals from potential implementing partners to participate in its Samarth scheme. The scheme will run until the end of March 2024.

- The ministry has created an application window for the implementation partners - industrial and industrial organizations to apply for registration by March 14 2023.

About Samarth Scheme:

- Samarth (Scheme to Build Capacity in textile industry) is the major scheme for developing skills that was approved in the continuation of the Integrated Skill Development Scheme for the 12th Five Year Plan(FYP), Cabinet Committee of

Economic Affairs.

- The Office of the the Development Commissioner (Handicrafts) implements the SAMARTH initiative to offer skill-building for handicrafts artisans in the component of 'Skill Development in Handicrafts Sector' of the National Handicrafts Development Programme (NHDP).
- The scheme covers the whole value chain for textiles, with the exception of spinning and weaving.

Objectives:

- To provide demand-driven, placement-oriented skilling programmes to incentivize the efforts of the industry in creating jobs in the organized textile and related sectors to promote skilling and skill up-gradation in the traditional sectors through respective sectoral divisions/organizations of the Ministry of Textile. To ensure that everyone across the nation.

Topic 61. TECHNOLOGY UPGRADATION FUND SCHEME

Important for Subject: Government Schemes

The Tiruppur Exporters' Association requested the Centre to introduce a new Technology Upgradation Fund Scheme retrospectively starting on 1 April 2022 to provide the interest benefits for exporting units.

- The exporting units had been anticipating for the TUF new scheme to go in force on 1 April 2022 just after the expiration date of the Amended Technology Upgradation Fund Scheme on March 31, 2022.
- Amended Technology Up-gradation Fund Scheme (ATUFS)
- The Ministry of Textiles had introduced Technology Upgradation Fund Scheme (TUFS) in 1999 to be a subsidy linked to credit.

Objective:

- modernization and advancement in technology for technological advancement of the Indian sector of the textile, which is promoting the ease of doing business, creating jobs and increasing exports.
- In the years since, this plan is being implemented with various versions.
- The current ATUFS was accepted in 2016 and was implemented using the web-based iTUFS platform.
- Capital Investment Subsidy is given to benchmarked machines that are used by the

industry, after physical verification.

- ATUFS is approved by the government for an time period from 2015-16 until 2021-22 with an allocation of an amount of. 17,822 crore
- The scheme is administered with a two stage monitoring mechanism by Technical Advisory-cum-Monitoring Committee (TAMC) and Inter-Ministerial Steering Committee (IMSC).
- In the year 2019, IMSC decided to introduce the physical verification of machines and the calculation of subsidy prior to release of liability for committed violations under earlier models of the program.

Topic 62. INDIA'S NORMS FOR PUMPED STORAGE HYDRO PROJECTS AIM TO FACILITATE ENERGY STORAGE

Important for Subject: Geography

The Ministry of Power recently issued draft guidelines for promoting projects for pumped storage (PSPs) across India.

Hydroponic storage pump (PSH) Plants

- Storage hydroponics that are pump-pumped (PSH) plant are storage systems that are based upon hydropower operation across two reservoirs (upper and lower) with an elevation variation.
- When demand is present, downward water flow produces electricity using the help of a hydraulic turbine and the water is returned to the reservoir in the upper part by using grid power as well as RE source with an efficiency range of 75-80 to 80 percent.
- PSP Potential in India
- The country is home to 574 large dams and provide an ideal opportunity to develop PSP plants by putting them between two massive dams or using one dam with a second reservoir on top of a hill in a particular way.
- In India according to the government estimates, it has the potential to produce 103 gigawatts (GW) from PSP. At present, India has around 4.7 gigawatts (GW) of PSPs installed capacity and of that, 3.3 GW is operational.

Significance:

- It is commonly employed to stabilize the grid and to maintain high power levels. Due to the fluctuation of renewable energy generation, the significance in energy storage technologies, such as PSPs and battery storage has gained importance.
- Operating price per Kilowatt hour is less than the Battery storage devices.
- PSP plants are extremely efficient options for combination power from Renewable Energy power with the power system.
- PSP plants PSP plant will result in the potential to have a extremely low effect on wildlife and require only a few resettlements or rehab (R&R) problems.

Issues:

- Numerous issues have slowed the expansion in the number of PSPs across India.
- A higher initial cost, a high tariff of the power used to move water uphill, long gestation time.

Topic 63. SUGARCANE WORKERS

Important for Subject: Geography

Sugar

- India is the top consumer and producer of sugar. It's also the second largest exporter according to government statistics.
- In India Sugarcane is cultivated as an Kharif Crop. It requires a an extremely humid and hot climate with an average temperature of 21degC-27degC.
- 75-150 cm rain is beneficial for sugarcane cultivation.
- The need for irrigation is in areas that have less rainfall.
- Sugarcane can be grown in any soil that is able to hold moisture. The ideal sugarcane soil is a deep, rich loamy. The soil must be abundant in calcium, nitrogen and Phosphorus but not too much. It should be not too acidic or too alkaline.

Sugar Industry's Location in India

- The sugar industry is spread across two zones of operation It includes Uttar Pradesh, Bihar, Haryana and Punjab in the north, and Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh in the south.
- South India has tropical climate, which makes it suitable for greater sucrose content

giving greater yield per square meter as when compared with north India.

Topic 64. GSI DISCOVERS GOLD DEPOSITS IN ODISHA

Important for Subject: Geography

Steel and Mines Minister Prafulla Kumar Mallik has been informing the state

- Assembly the gold-bearing deposits were discovered in three districts in Odisha which include Deogarh, Keonjhar, and Mayurbhanj.

What else can you learn about the stories?

- Geological Survey of India (GSI) conducted a preliminary investigation and found Gold deposits within the Adas region that includes Deogarh, Gopur, Gazipur, Kusakala, Adal, Saleikana, Dimirimunda, and Karadanga region of Keonjhar.

Gold Reserves in India

1. Gold is usually found in Auriferous [(of minerals or rocks) with goldrock.
2. It can also be found in the sands of many rivers.
3. Gold is also known as an the world's currency.
4. Mineral resources, that are in in terms of metal ore(primary) are found in
5. Bihar (45 per cent)
6. Rajasthan (23 percent)
7. Karnataka (22 per cent)
8. West Bengal (3 per cent)
9. Andhra Pradesh and Madhya Pradesh (2 percent each)
10. Resources in the sense of content of metal
11. Karnataka, Rajasthan, Bihar, Andhra Pradesh, Jharkhand, etc.
12. Kolar Gold Field, Hutti Gold Field and Ramgiri Gold Fieldare the three most important gold fields.

Karnataka:

- Karnataka is the biggest Gold producer in India.
- Gold mines are found within the Kolar (Kolar Gold Field Kolar [Kolar Gold Field Dharwad, Hassan and Raichur [Hutti Field] districts.

- Kolar Gold Fields among the most deep mines in the world. Gold mines are typically the deepest mines of the world. Mponeng Gold Mine located in South Africa is the deepest mine in the world. (3.9 kilometers deep)
- Hutti mines are being exploited to the max and the material left is of a very low grade. Mining has almost stopped because of a lack of profit.
- Kolar Gold Field Kolar Gold Field is also running out on quality reserves and is currently on the brink of closing.

Andhra Pradesh:

- The second most important producer for gold production in India.
- Ramagiri located in Anantapur district has been identified as the most significant gold mine in AP.
- Alluvial Gold[gold scattered in silt and deposits of placer[gold bearing rocks] that are in small quantities are found in numerous rivers.

Jharkhand:

- The sands in the Subarnarekha (gold streak) river are dotted with alluvial gold.
- Sona nadi in Singhbhum district is important.
- Sonapat valley is a second major area that has alluvial gold.

Kerala:

- The river terraces that run along of the Punna Puzha along with the Chabiyar Puzha are filled with gold from alluvial sources.

Topic 65. COMBINING SOCIAL WELFARE AND CAPITAL MARKET THROUGH SSE

Important for Subject: Economy

About Social Stock Exchange:

- The SSE could be a separate section within the existing stock exchange and aid social enterprises in raising money from the public using its mechanisms.
- It can be used as an opportunity for companies to solicit funding for social projects to increase visibility and offer more transparency on the mobilisation of funds and their use of funds.
- Retail investors are able to invest in securities issued by social enterprises that are for-profit (SEs) that are part of the Main Board.
- In other instances, only institutional investors and investors who are not institutional can invest in SEs' securities.

Who can be listed or registered for the SSE?

- Any non-profit entity (NPO) or social enterprises for profit (FPSEs) which establishes the importance of social intention is regarded as an enterprise that is social in nature (SE).
- The recognition of social enterprises would allow the company to be listed by the SSE.
- In accordance with SEBI's regulations that the companies must be working towards eradicating or reduce poverty, hunger or malnutrition by promoting education, employment and equality; empowering women and LGBTQIA and communities; promoting sustainable environmental practices; protecting the national heritage and culture or closing the digital divide among others.
- At minimum 60% of the efforts are to be directed at achieving the stated goal.
- This will be determined by listing that in the three years immediately preceding the period, at least 67% of its average income came from eligible activities, and the expenses (in the same amount) was made in pursuit of the goal; or, the targeted population comprise six-seven percent of population of beneficiaries.
- Corporate foundations as well as religious or political organisations as well as

activities like professional or trade organizations as well as housing and infrastructure firms (except low-cost housing) are not considered as SE.

- Furthermore, non-profit organizations (NPOs) are deemed not eligible if they depend on corporations for more than 50% of its funds.
- What are the methods used by non-profit organizations (NPOs) and For-Profit Enterprises (FPEs) raise funds?
- NPOs are able to raise funds through the issuance of zero Coupon Zero Principal (ZCZP) instruments from private placement, public issue, or through donations by mutual funds.
- SEBI was earlier aware that NPOs because of their nature are primarily socially impact-oriented and are not revenue-generating.
- Therefore it was necessary to give NPOs direct access to the securities market to raise funds. Thus, ZCZP instruments were launched.
- Another option for structured finance to NPOs are The Development Impact Bonds.
- After the successful completion of a project, and having achieved agreed upon social metrics, at agreed rates and costs, a grant is given for the NPO.
- The person making the donation after achieving social metrics will be known as "Outcome Funders."
- Since the above payment is based on post facto that means the NPOs will need to raise funds to fund their activities. This is done through an "Risk Funder".
- It is required to ensure that an NPO has been registered at the SSE in order to facilitate the issue.

For-Profit Enterprises:

- It may raise funds through the issue of equity share (on principal board), SME platform or innovators growth platform of the stock exchange) or by issuing Equity shares for the Alternative Investment Fund including Social Impact Fund or issuing debt instruments.
- For-profit enterprises (FPEs) are not required to be registered with social stock exchanges prior to when it raises funds via SSE.
- However, it must be in compliance with the entire provisions that are in ICDR Regulations (Issue of Capital and Disclosure Requirements) in order to raise funds via

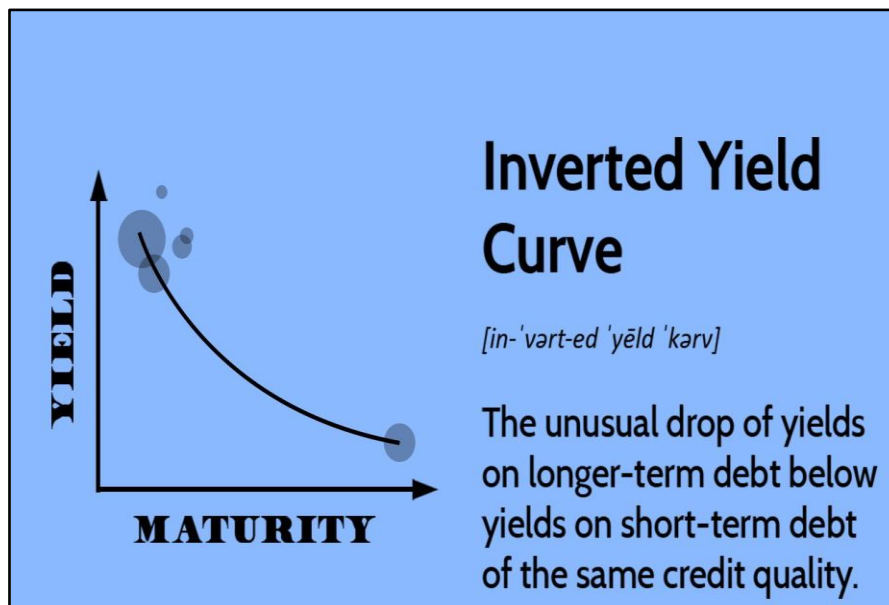
the SSE.

Zero Coupon Zero Principal (ZCZP) Instruments:

- ZCZP can be described as financial products that don't charge interest at a periodic interval however, they are sold at the price of a discount from their original value and expire at par.
- It has a zero-coupon and zero-principal structure it is the structure of a debt security similar to bonds.
- When an organization takes out loans by issuing a regular debt securities, such as a bond, it must to make interest payments as well as the principal amount when the bond is due to mature.
- However, with ZCZP instrument the entity issuing these securities and then raises funds this is not a loan, but rather it is a donation.
- Therefore, the entity borrowing is not required to pay any interest (which is why there is no coupon) and it doesn't have any obligation to cover the principle (zero principal) also.

Topic 66. YIELD CURVE INVERSION

Important for Subject: Economy



Yield on bonds

- Bond yield refers to the rate of return that an investor receives on bonds. The term

"required yield" refers to the amount of interest an issuer must provide to attract investors.

- The amount of money investors make is called yield.
- Investors don't have to keep bonds until they mature. Instead, they can sell them at a greater or less price to investors who are not their own. should an investor make profits from selling the bond, that's an element of the yield.

Yield Curve:

- The yield curve represents a visual representation of the the structure and nature of interest rates, and the relationship between long-term and short-term rates of yield on bonds. This is plotted using the bond yields on the vertical scale, and the number of years until maturity in the horizontal direction.
- The yield curve's slope offers an estimation of future interest rate fluctuations expected in the near future as well as the degree in economic growth.
- A yield curve informs us the price of long-term and short-term debt.

The yield curve is inverted

- A yield curve that is inverted is exactly opposite to that of a normal yield curve (therefore it is called an abnormal yield curve).
- If there is a yield for the shorter maturities is higher than that for maturities with longer durations, the yield curve slopes downwards and the graph appears like it's been reversed.
- The inverted yield curve can be unusual it is a reflection of the expectations of bond investors for an increase in long-term interest rates, usually caused by recessions.
- As is evident from the blue curve on the graph above, it happened in the year 2000, during the dot-com bubble.

The normal yield curve:

- The general rule is that longer-term yields generally higher than short-term ones due to the risk of long-term investment. Because this is the standard design that yield curves take it is referred to as "normal yield curve."
- It is believed that the rates of short-term interest are heavily affected central banks such as the US

- Federal Reserve and the long-term yields are determined by the expected rates of interest for short-term time in the near future as well as the market's perception of the inherent risk.
- A normal yield curve usually occurs in the event that an economy is not in recession nor is any significant chance of overheating.
- The usual form of the yield curve is upward-sloping, i.e. short-term yields (yields of bonds with a short time period) are less than long-term yields.

What caused Indian G-sec yields change recently?

- The G-sec yield curve was inverted on Friday's weekly auction last week. This was in contrast to similar events across the US. and RBI taking bank request for a higher yield during the auction for the G-Sec with a medium-term maturity.
- However, there was a strong demand for the G-Sec over the long-term from insurance companies as well as the provision of funds with a lower yield.
- At the time of the auction the cut-off yield for 2036 paper was at 7.4527 per cent, whereas the yield for the 2062 paper was at 7.3822 percent. Thus, the yield curve was inverted.

What is the meaning?

- Experts believe that an inversion of the yield curve could signal a coming economic slowdown or recession.
- However, this may be temporary if the demand for medium-sized paper from banks grows.
- At present, banks are demanding higher yields on G-Secs that are maturing in the medium term to hedge against the possibility of the panel that sets rates opting for a rate increase at its next meeting to address the problem of the core inflation that is a sticky. After around a year it is expected that there will be rate cuts that will help the economy.
- Twenty-nine countries, which include those in the US, Canada, Germany, Singapore and France, have a completely reversed yield curve'.

What are the steps RBI taking to rectify the curve?

- The central bank is expected to try to make sure that yield curve is sloped upwards as

the G-Secs' tenor rises.

- In light of the banks' aversion to risk for G-Secs with a medium-term expiry date, RBI, in consultation with the government, released an updated calendar for March's auction of Government of India Treasury Bills increase the demand for these bonds.
- The government will borrow Rs1.95-lakh crore in the next month through T-Bills in addition to Rs1.45-lakh crore announced in the previous calendar.

The yield on Bonds

- The bond yield is the amount of profit an investor earns from bonds. The term "required yield" refers to the amount of yield an issuer has to offer in order to draw investors.
- The amount of money investors earn is referred to as yield.
- Investors are not required to keep bonds until they mature. Instead, they can sell them at a greater or less price to investors who are not their own. Should an investor make profit from the sale of the bond, that's part of its yield?

Yield Curve

- An yield curve can be described as a visual representation of the pattern of interest rate and the relationship between long-term and short-term yields on bonds. This is plotted by the bond yield on the vertical side, and the number of years until maturity across the horizontal line.
- A slope in the yield curve gives an indication of the future interest rate fluctuations expected in the near future, as well as the extent in economic growth.
- A yield curve can tell us about the cost of both long- and short-term loans.

The yield curve is inverted

- Inverted yield curves are almost identical to that of a normal yield curve (therefore it is called an abnormal yield curve).
- If you find that the yield for maturities with shorter durations is higher than that for maturities that are longer the yield curve slopes downward and the graph appears like it's been reversed.
- A an inverted yield curve can be uncommon; it reflects bond investors expect a decrease in the longer-term interest rate usually caused by recessions.

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The normal yield curve

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What does it mean?

- Experts believe that an inversion of the yield curve could signal a coming economic slowdown or recession.
- However, this may be temporary if the demand for medium-sized paper from banks grows.

- In the present, banks are requesting higher rates for G-Secs with a medium-term maturity to hedge against the possibility of the panel that sets rates opting for a rate increase at its next meeting to address the problem of the core inflation that is a sticky. But, after about a year there is a chance that there may be rate reductions in order to boost the economy.
- Twenty-nine countries, which include those in the US, Canada, Germany, Singapore and France, have a completely reversed yield curve'.

What are the steps RBI taking to rectify the curve?

- The central bank will attempt to make sure that the curve of yield is sloped upwards when the tenor of G-Secs grows.
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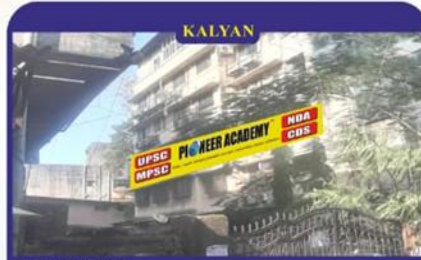
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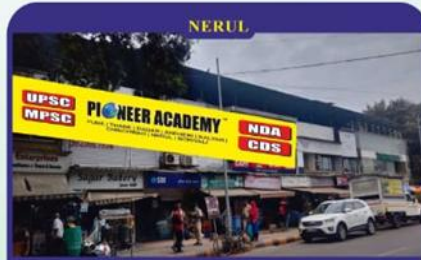
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