WEEKLY CURRENT AFFAIRS MAGAZINE for

U.P.S.C.-C.S.E.

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23 January to 31 January

PIONEER ACADEMY's

PATHFINDER

CURRENT AFFAIRS FOR CIVIL SERVICES

INDEX

Topic 1. LEOPARD 2 TANK

Important for subject: Science and Technology

Germany isn't sure if it wants to permit the Leopard 2 tanks to be delivered to Ukraine.

What exactly is a Leopard 2 tank?

- Leopard 2 is a Leopard 2 is a 3rd generation main battle tank designed by Krauss-Maffei during the 1970s to support The West German army.
- The tank first entered operational service on 1979 and replaced the earlier Leopard 1 as the principal battle tank of the West German Army.
- It's equipped by a 120mm smoothbore cannon manufactured by Rheinmetall and is powered by a twin-turbo V-12 diesel engine manufactured by MTU Friedrichshafen.
- It comes with night-vision technology as well as it has a distance finder laser that measures the distance from an object.
- It is also utilized by additional European forces, Canada and Indonesia.

- It has served in wars within Afghanistan, Kosovo and Syria.

How can it benefit Ukraine?

- The Leopard 2's supply of Leopard 2 would help offset the superiority of Russia's artillery.

What is the reason Germany need to approve the transfer of leopards owned by other nations?

- The importation from German tanks without Berlin's consent is illegal.
- The contracts a country sign to purchase weapons made by German makers and German military stocks, require the country to obtain a re-export permit through the government of the United States should they decide to export these weapons to another country.
- The United States has similar requirements and so do many other countries which include Switzerland.
- Other tanks available for sale to Ukraine comprise:
- Challenger 2. tanks from Britain
- Stryker Combat vehicle by USA
- M1 Abrams tanks from in the USA (though they say that the USA hasn't made any promise to supply tanks for Ukraine).

Topic 2. TO LOWER THE RISK OF KIDNEY DISEASE, EAT OILY FISH, SHOWS RESEARCH

Important for subject: Science and Technology

A higher concentration of Omega 3 fatty acids that are found in seafood are linked with a slightly lower risk of developing chronic kidney disease as well as a slow loss of kidney function according to study.

- They are not associated with greater levels of omega-3 derived from plants. acid fatty acids.

Kidney disease chronic:

- It affects approximately 700 million people around the world and may cause kidney

failure and death therefore it is important to determine the factors that could delay its onset and progress.

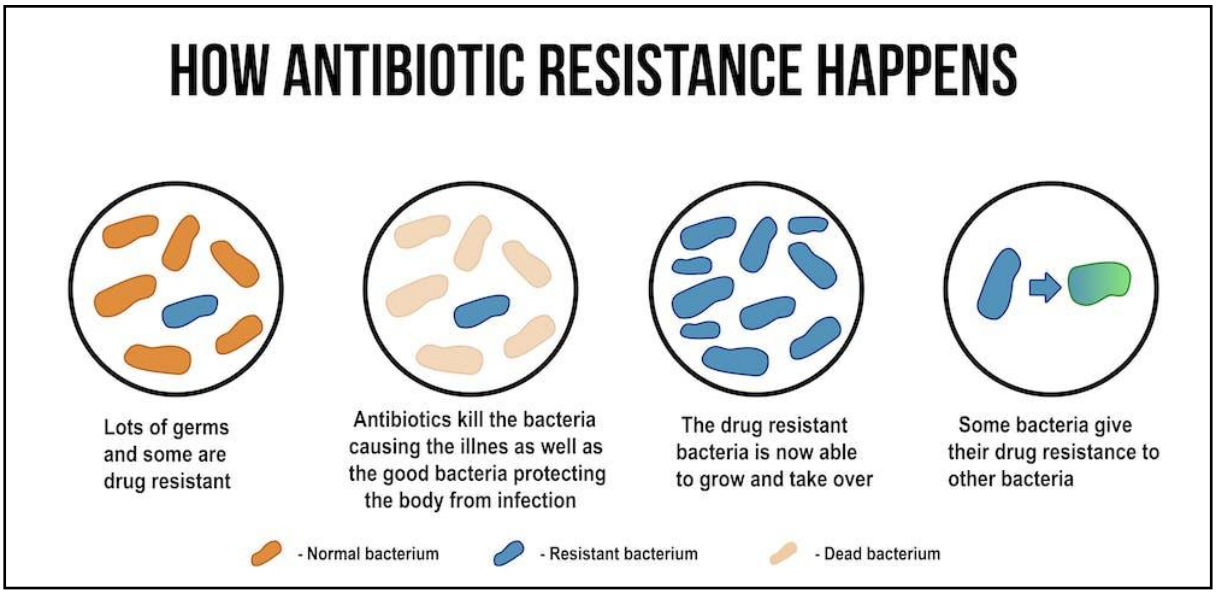
- Omega 3 polyunsaturated fats (n-3 PUFAs) could have positive impacts on renal function however the evidence from human studies is insufficient.

About Omega-3 Fatty Acids

- Omega-3 fats are nutrients that can be obtained through foods (or supplements) which help to build and keep the health of your body.
- They're crucial to the construction of every cell wall that is a part of.
- They also serve as an energy source that can help maintain the heart and lungs, blood vessels and immune system operating as they should.
- Two of them that are EPA as well as DHA -are found in specific fish.
- ALA (alpha-linolenic acid) is another omega-3 fatty acid that can be found in plants, such as seed and nuts.
- DHA concentrations are particularly significant in retina (eye) as well as brain and the sperm cells.
- Our bodies require fatty acids for perform and function, but they also provide many health advantages.
- The sources of omega-3 fat acids

Topic 3. DEALING WITH DRUG-RESISTANT PATHOGENS

Important for subject: Science & Technology



Pathogens are those that develop resistance to drugs and we have to find newer , more effective drugs against which they do not have any defense.

Antimicrobial peptide (AMP):

- These are peptides that bind their bodies to those of pathogens to stop it from infiltrating our cells.
- Peptides are short long chains made of amino acid.
- AMPs are made by the human body, and well as other living things.
- Today, approximately 5 000 AMPs are recognized and cataloged.
- The AMPs are showing to be more sophisticated than pathogens invading the host.
- These peptides are potent antimicrobials with broad spectrum which establish themselves as novel therapies, and have the possibility of killing gram-negative and positive bacteria, fungi and enclosed viruses, as well as malignant or mutated cells.
- Contrary to antibiotics AMPs are also effective against viruses.
- The problem is with the AMPs

The issue is how do you make AMPs?

- The possibility exists to chemically synthesize AMPs. Another possibility is to use the DNA of organisms and force it into producing Peptides.
- However, both take time, are costly, and have no guarantee of production.

Bacteriophages

- They are viruses that enter the bacteria and lyse -- breaking the bacteria open from inside. Bacteriophage therapy is a great option as an alternative to antimicrobials.
- The optimal conditions for phage usage which includes their concentration, their duration and order of their administration, and their use in conjunction with appropriate antibiotics, will determine the effectiveness and the credibility of this medication.
- However, it is not an option for the long run because bacteria may evolve resistance to bacteriophages as well.

Addressing AMR: The need to take a more comprehensive approach:

- Researchers are developing different deeper strategies to discover the solution to the issue of AMR.

They are working on:

- Understanding 'host-pathogen interaction'.
- Certain pathogens invade the victim (our) cell and disable the immune system through the release of specific proteins. Understanding this process would aid to stop it.
- Understanding the fundamentals of cell-intrinsic defense and immune dysregulation that drives the pathogenesis.
- The objective is to find specific and common themes in host defence by using a variety of models of infectious diseases.

'host-based therapies'

- It is based on the usage of "interferon signalling pathways'.
- Interferons are a kind of protein that is released by cells after a virus has entered the cell's area and are part of the cytokine family.
- The development of technologies that discern between bacterial and viral illnesses, limiting the unnecessary prescription of antibiotics.
- Yet another strategy is for proper disposal of antibiotics and antibiotic contaminated material, to prevent environmental contamination and the emergence of AMR.

Topic 4. 'REVAMP ACCREDITATION PROCESS FOR ORGANIC CERTIFICATION COMPANIES'

Important for subject: Science & Technology

The Indian government needs to revamp the process of awarding an organic certification to newly established companies, and also conduct an extensive investigation into these companies. A Chennai-based trust for public interest and services has advised the Prime Minister Narendra Modi.

Organic Farming: Products and Certification

- In India, the Food Safety and Standards Authority of India (FSSAI) regulates organic food products.
- In November 2017 In November 2017, the FSSAI introduced organic food law that regulates the production distribution, marketing and importation of organic food items to India.
- All food items that wish to be labelled "organic" in India must be certified by one of the two certification systems.
- National Programme for Organic Production (NPOP)
- Participatory Guarantee System for India (PGS-India)

PGS- India

- PGS India is a self-certification system that is intended exclusively for the domestic market which is under the Ministry of Agriculture and Farmers Welfare.
- The organic regulation was enacted to tackle the issue of mislabeling and fraud on foods that are advertised by the name of "organic".
- It allows it to allow the introduction of natural foods to India without the need for re-certification in India in the event that it is proven that the standards in the country exporting have been deemed to be comparable to NPOP.

NPOP

- National Programme for Organic Production (NPOP) is an non-governmental certification scheme operated by the Ministry of Commerce and Industry since 2001.
- This program set out the guidelines and norms that govern the production of organic food.
- Businesses and farmers that produce organic vegetables, fruits grains, processed food products must adhere to these guidelines.

- The NPOP certification program is carried out through The Agricultural and Processed Food Products Export Development Authority (APEDA) and National Accountability Bureau (NAB).

Organic Farming Certification Mechanism:

- In India the certification agencies and acts were established and are administered by the Ministry of Commerce and Industry, Government of India.
- The National Program for Organic Production (NPOP) notified under the Foreign
- Trade and Development Act (FTDR) aims to encourage farmers to grow organic materials, issues certificates according to the requirements established by the agency and evaluates organic certification programs according to the regulations of the agency and acknowledge the programs run by agencies.
- The Ministry of commerce and industry is at the top and the steering committee is created from those who are members of Ministry of Agriculture, Ministry of Commerce and Industry and Agriculture and Processed Food Products Export Development Authority.
- The steering committee creates the policy for accreditation in the country and organic standards. The committee also formulates guidelines and rules that govern the use of organic certification marks.
- The process to obtain organic certification for farming in India includes a number of guidelines.
- At first, the owner of an agricultural property must fill out an application using an established format with the government agency. A specific amount is paid in order to execute the procedure and to verify the field.
- Prior to that, the person who is applying for the organic certification must ensure that the farm is in compliance with the standards stipulated in the NPOP.
- These set of rules are: to convert an organic farm, supply organic inputs to your farm total abstention from radiation technology and ensuring the authenticity of farming methods, external contamination of the farm shouldn't be an issue and the methods used to farm should be sustainable.
- There are additional requirements that the applicants must fulfill prior to receiving organic certification:

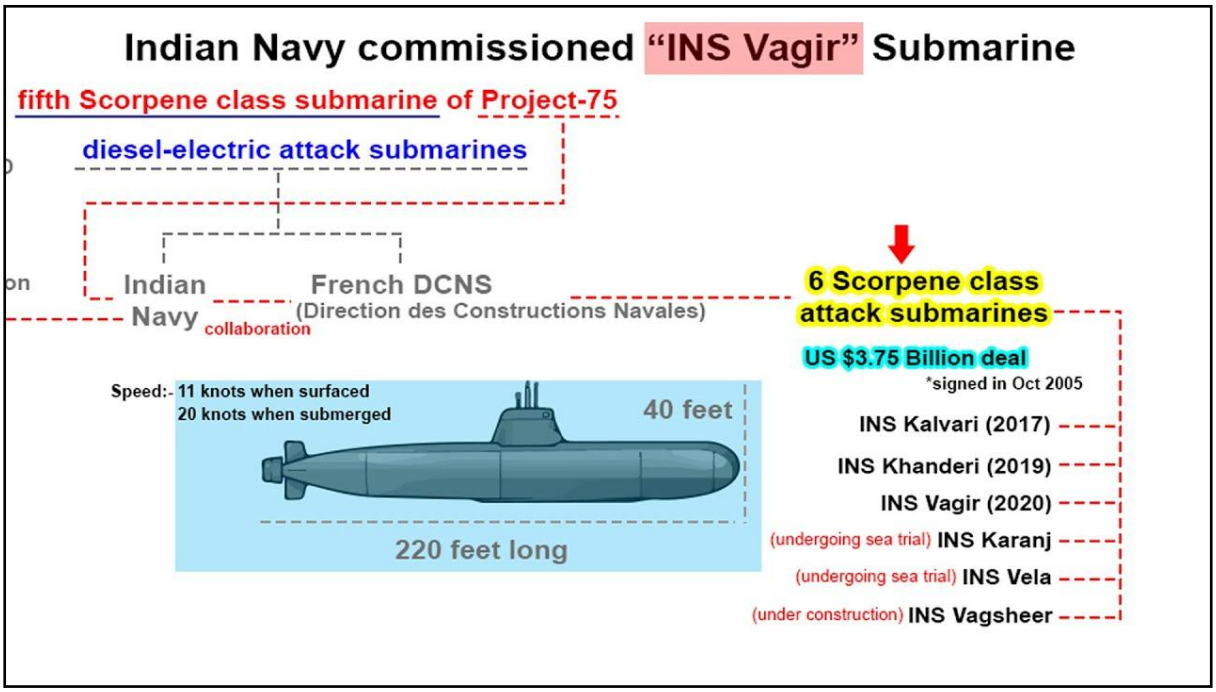
The update of his production schedule for the year

- Let the certified inspectors to conduct inspections on-site with access to the production materials including land, operations and.
- The records of the farm and its activities for five years are kept so that representatives of the agency are able to review the documents prior to certifying the farm.
- The fee must pay the accredited agency within the stipulated time frame.
- The authorities must be informed of any changes that are made during production like the making use of banned substances or other prohibited substances which are in violation of the standards established in the NPOP.
- Standards Specified For Organic Farming Certification
- The primary principle is the changing the farming practices from the farms. The term "conversion" refers to the time period between beginning of the organic process and approval of crops. In three years, the whole farm, including livestock, must be converted in accordance with the specified standards.
- The care for organic structure should be maintained so that the transformed farms as well as the livestock don't switch to traditional methods.
- These seeds used in farming are organic and certified by the authority that certifies.
- If there is no organic seeds non-treated materials may be used, but using genetically altered seeds is banned.
- The transition period for certification is minimum three years however it could be extended through an accreditation program that is based upon the environmental as well as other factors in the past.
- It is suggested that diversity be maintained in order to increase the quality of soil organic matter, microbial activity, etc.
- Synthesized fertilizers should not be allowed for use on the farms. Only those that are biodegradable and of plant or animal sources are allowed.
- Pesticides and products for disease control produced from micro organisms and local plants are accepted. Physical and thermal methods for controlling weeds are permitted.
- Chemicals are not allowed.
- Items that are used for covering the farm could be that are made of polypropylene and polyethylene. The polychloride products are limited.

- Soil erosion needs to be stopped and water depletion is controlled clearing the land by burning organic matter needs to be avoided, and the primary forest areas should not be removed.
- Wild-harvesting are only certified if they have been they are found to be sustainable and stable. Harvesting of produce needs to be removed of contamination and polluted areas.

Topic 5. INS VAGIR, FIFTH SCORPENE SUBMARINE, COMMISSIONED

Important for subject: Science and Technology



INS Vagir, which is the fifth conventional submarine in the class of Scorpene and was officially commissioned to the Indian Navy.

- Additionally, INS Kalvari, the first Scorpene class submarine built by the Indian Navy, will be equipped to an in-house Air Independent Propulsion (AIP) system that was developed in collaboration with the Defence Research and Development Organisation (DRDO) the Ministry of Defence (MoD) has announced in a press release.
- Six Scorpene-class diesel-electric submarines of the conventional diesel-electric type are currently being built at Mazagon Dockyards Limited in Mumbai under Project 75.
- With the introduction of the INS Vagir In addition, the Indian Navy now has one nuclear and 16 conventional submarine, **which include:**

1. 7 Russian Kilo class submarines
2. Four German HDW submarines
3. Five Scorpene class submarines

- INS Arihant which is indigenous nuclear ballistic missile submarine
- The sixth and last of the Scorpene-class submarines with French origins, INS Vagsheer, which is being constructed in India through technology transfer, is currently in the process of sea tests and will become handed over to the Navy in 2024..

Kalvari-class submarine

- Vagir is an class Kalvari submarine that includes vessels like Vagir, INS Kalvari, INS Khanderi, INS Karanj, INS Vela, INS Vagir and INS Vagsheer.
- In April of 2022, INS Vagsheer was launched and was scheduled to be operational by 2023.
- In maritime lingo the term "class of ship" is a set of vessels that share identical make, function, and displacement.
- The category is usually named after the first vessel of the class.
- This type of submarines is equipped with Diesel Electric transmission systems and these are typically attack submarines, also known as 'hunter-killer type.
- They are, therefore, specifically designed to sink and target naval vessels of adversaries.
- They are about 220 feet long, and they have a an average height of 40 feet.
- It is capable of reaching the highest rates of speeds reaching 11 knots (20 km/h) on the surface while it can reach at 20 knots (37 km/h) when submerged.

Technical characteristics

- Vagir can be capable of carrying out a range of missions including anti-submarine warfare, anti-surface combat, gathering intelligence mining and surveillance missions.
- It comes with sophisticated stealth features and is equipped with guided torpedoes that have a long range as well as anti-ship missiles.

Air Independence Propulsion Systems (AIP)

- AIP gives an submarine the capability to remain submerged far from sensors of enemies, for a prolonged period of time without ever surfacing.
- A diesel-electric vessel that isn't outfitted with AIP must snorkel regularly to recharge the batteries that are the power source for its propellers and other devices.
- The practice of snorkeling requires you to travel under the surface with the submarine's periscope as well as the generator's exhaust pipe extending above the surface..
- Submarines are required to climb to periscope levels and then extend the snort masts above the water line every day or twice in certain cases to inhale air that is needed to run noisy diesel engines (which are dependent on atmospheric pressure) to charge their batteries.
- This greatly increases the chance of being detected.

Significance of AIP

- Radars in modern anti-submarine platforms for warfare are able to quickly detect periscopes and exhalation pipes and eliminate that element of surprise that is essential to submarines.
- AIP systems reduce the requirement for snorkeling because it can generate energy to charge its batteries when completely submerged.
- In turn, it enhances the submarine's capacity to go in the dark.
- The majority of AIP systems that are installed in submersibles use either compressed or liquid oxygen or hydrogen fuel cells to minimize the requirement to use external power sources.
- The AIP of DRDO is based on Phosphoric Acid Fuel Cell technologies. This has a significantly longer life span and higher efficacy, making it affordable.

Topic 6. GM MUSTARD IS IRREVERSIBLE

Important for subject: Science and Technology

If the commercialization in the form of GM Mustard is irreversible, Supreme Court asks government.

- What happens if the possibility of commercial release GM Mustard is irreversible The In the end, is it the most important thing?

The court asks the government.

- The government says that they are aware of the risks are understood and the approval will not be broad However, it would be with specific conditions that encompass every possible scenario or element of risk.
- It is claimed that the regulations in GAA is a good thing. Genetic Engineering Appraisal
- Committee (GEAC) which cleared the environmental release of Dhara Mustard Hybrid-11 (DMH-11), a genetically-engineered variant of mustard, was "horrendous" and riddled with conflict of interest.
- Department of Biotechnology had provided funding to DMH 11 and later became in the regulator mechanism.
- The publication of the hybrid variety of mustard was approved in spite of warnings issued by the Parliamentary Committee and the Supreme Court's Technical Expert Committee report calling for its prohibition.
- Furthermore, the government had not put the bio safety report regarding the GM crop in the public domain.

About Genetically Modified Mustard (DMH-11):

- The most complete form the full form DMH can be described as Dhara Mustard Hybrid. It is a genetically modified plant.
- It has a gene for resistance to herbicides. i.e herbicide resistant.
- It was created by researchers who are part of CGMCP. Centre for Genetic Manipulation of Crop Plants (CGMCP), Delhi University.
- They created the hybrid that consists of two genes by a soil-based bacterium dubbed Bacillus amyloliquefaciens.

- The barstar-barase GM technique was used to create DMH-11. The researchers used the popular Indian mustard variety called 'Varuna' (the barnase line) along with the East European 'Early Heera-2' mutant (barstar).
- It has three essential gene families: Bargene, Barnase and Barstar which are all originated from soil bacteria.

Concerns relating to GM Mustard:

- There is also a suspicion that seeds from this crop are not suitable for regenerating. Thus, farmers have to purchase new seeds each time they plan to cultivate the crop.
- It is also possible that these crop varieties may cause disturbances in the diversity of species.
- The most obvious consequence of these crop is the spreading of herbicide-resistant weeds over large areas of land used for agriculture. This could lead to a disaster in the future.
- Numerous studies show that the the introduction of herbicide-resistant crops has caused negative effects on the environmental. This outcome had been observed in a variety of countries, including those of the US, Australia, Canada and Argentina.
- Genetically modified seeds GM crops are generally made by a few companies.
- This kind of monopoly could cause seed buyers to have only a few options, and also price manipulation by corporations.
- Then there exists the ethical issue of whether it's appropriate to infringe on the natural ecosystem's inherent values by mixing species.

About Genetic Engineering Appraisal Committee

- Genetic Engineering Appraisal Committee (GEAC) is the body for appraisal that permits commercial releases of GM crops.
- The Genetic Engineering Appraisal Committee (GEAC) is part of the Ministry of Environment, Forest and Climate Change (MoEF&CC).
- It is in charge of the assessment of all activities that involve massive use of harmful microorganisms and recombinants in industrial production and research from an environmental perspective.

- The use of an not-approved GM version could be punished with a jail sentence of 5 years or a fines of up to Rs 1 lakh under the Environmental Protection Act 1989.
- GEAC is headed by the Additional Secretary and Special Secretary to MoEF & CC and co-chaired with an official who is from the Department of Biotechnology (DBT).

Topic 7. 90 FOSSIL NESTS BELONGING TO INDIA'S LARGEST DINOSAURS UNCOVERED – TITANOSAURS

Important for subject: Science and Technology

Within central the Indian Narmada Valley, researchers discovered the nesting spots of 92, which contained more than 256 fossilized eggs from titanosaurs. These were the largest dinosaurs ever to exist.

- The Lameta Formation which is situated in the Narmada Valley is famous for its fossils of dinosaur eggs and skeletons from The Late Cretaceous Period that lasted between 145 and 66 million years in the past.
- Based on the design of nests, it can be possible that these dinosaurs laid egg eggs into shallow pits similar to the modern day Crocodiles.
- Certain pathologies found in eggs, for example, a rare instance in which there was "egg-in-egg," suggest that titanosaur sauropods had reproductive physiologies like birds, and could have laid eggs in a sequential manner like contemporary birds.
- It is believed that the presence of multiple nests within the same region suggest the possibility that these dinosaurs, as well as contemporary birds used colonial nesting behaviour.
- The tight spacing of nests However, the nests' close spacing allowed little space for adult dinosaurs. This lends evidence to the notion that adult dinosaurs abandoned their young ones (newborns) to care for them.
- The results are significant to the understanding of palaeontologists about the way dinosaurs lived and developed.

Topic 8. BREAST CANCER: MORE INSIGHTS ON HOW HORMONAL THERAPY WORKS

Important for subject: Science and technology

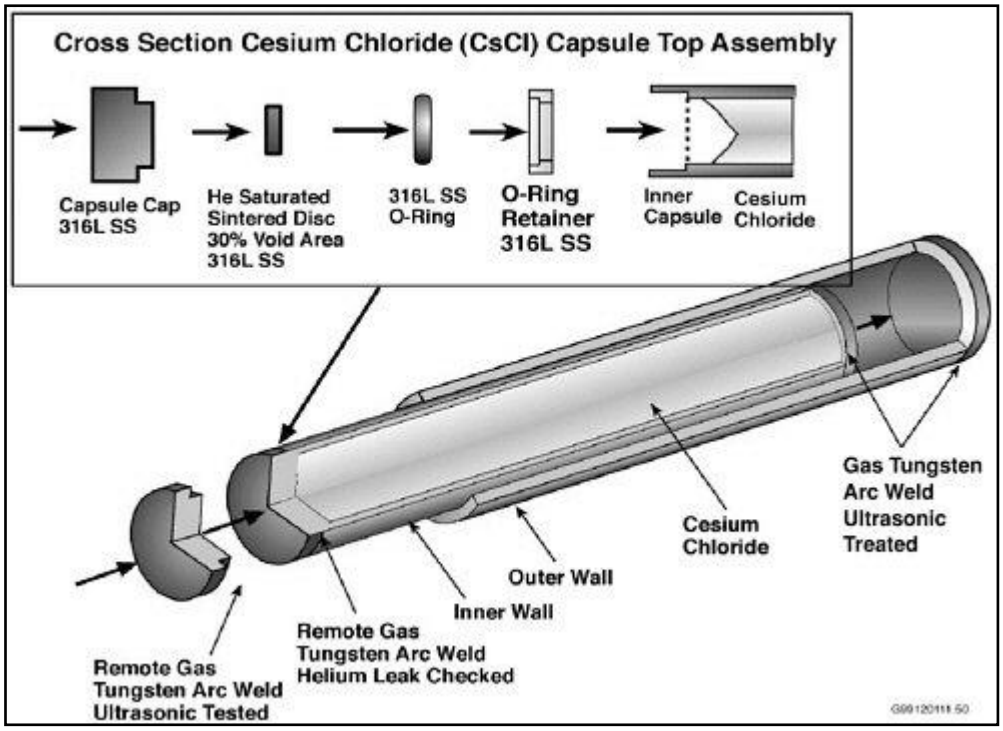
Research conducted by researchers at researchers from the Integrated Cancer Genomics Laboratory at the Advanced Centre for Training, Research, and Education in Cancer (ACTREC) in Mumbai's Tata Memorial Centre has shed more insight into the molecular process that progesterone treatment prior to breast cancer surgery is likely to improve the chance of survival of patients.

Hormone Therapy for Breast Cancer

- Certain types of breast cancer are influenced by hormones, such as progesterone and estrogen.
- Breast cancer cells are characterized by receptors (proteins) which bind to progesterone and estrogen, which aids in their growth.
- The majority of types of hormone therapy will either reduce estrogen levels within the body or prevent estrogen from aiding in the growth of breast cancer cells.
- Hormone therapy may be effective in removing cancerous cells virtually everywhere in the body, and not just in breast cancer.
- It's advised for women suffering from tumors that have hormone receptor positive.
- It is not a solution for women whose tumors do not have hormone receptors (these tumors are referred to as hormone receptor negative).
- Therapy with hormones is commonly used following surgical procedures (as an adjuvant treatment) to decrease the possibility of cancer recurring.
- Sometimes, it's begun prior to surgery (as an adjunct therapy).
- It is generally used for at least 5 years.

Topic 9. CAESIUM-137

Important for subject: Science and Technology



The tiny capsule of radioactive material has been missing from a road within Western Australia.

- The transporter had lost unique piece of cargo on the way it was a tiny capsule that contained an extremely radioactive substance which was utilized in an radiation gauge at mining site.
- The Western Australian Department of Fire and Emergency Services are currently searching for the ceramic capsule that is missing.

Caesium-137:

- The capsule is filled with caesium-137, the radioactive isotope which releases electrons (or beta radiation) as well as high-energy photons (or Gamma radiation).
- It is blocked by the outer shell of the capsule, however the radiation from the gamma spectrum flows through
- The source's activity is of 19 gigabecquerels. This means that it produces around 19 billion high-energy photons every second.
- Caesium-137 is a dangerous substance however the radiation it generates is also very

beneficial.

- It is employed in certain cancer treatments to measure the thickness of the metal, and the rate of flow of liquids and also to calibrate radiation gauges.
- **Half-life:** Caesium-137 has a half-life of about 30 years that means that the amount of radiation produced by the source is expected to decrease by 30 percent every 30 years, and then it ceases to exist completely.

Topic 10. NO FOREIGN INVESTMENT CAP ON SOVEREIGN GREEN BONDS (SGRBS)

Important for subject: Environment

The green bonds that are sovereign an dissued from India's Indian Government will not be subject to any restrictions on foreign investments according to the Reserve Bank of India said on Monday.

- They are classified as securities with a specific designation under full access method, the central bank announced in a statement.
- The RBI has earlier in the month announced the launch of an auction for 160 billion rupees ($1.93 billion) of green bonds issued by sovereign governments in two tranches. Half of which will be sold on Wednesday.
- The money will be utilized to finance wind, solar and small hydropower projects, along with other projects of the public sector which assist in cutting emissions of our economy.

Accessible route

- Fully accessible routes (FAR) was introduced by RBI that allows certain specific types that are Central Government securities are opened to non-resident investors with no any restrictions, besides being accessible to investors from the domestic market as well.
- Today, the Central Bank has added green bonds from sovereign governments to its list of securities.

The significance of this move:

- SGrBs will be distributed through the Uniform Price Auction.

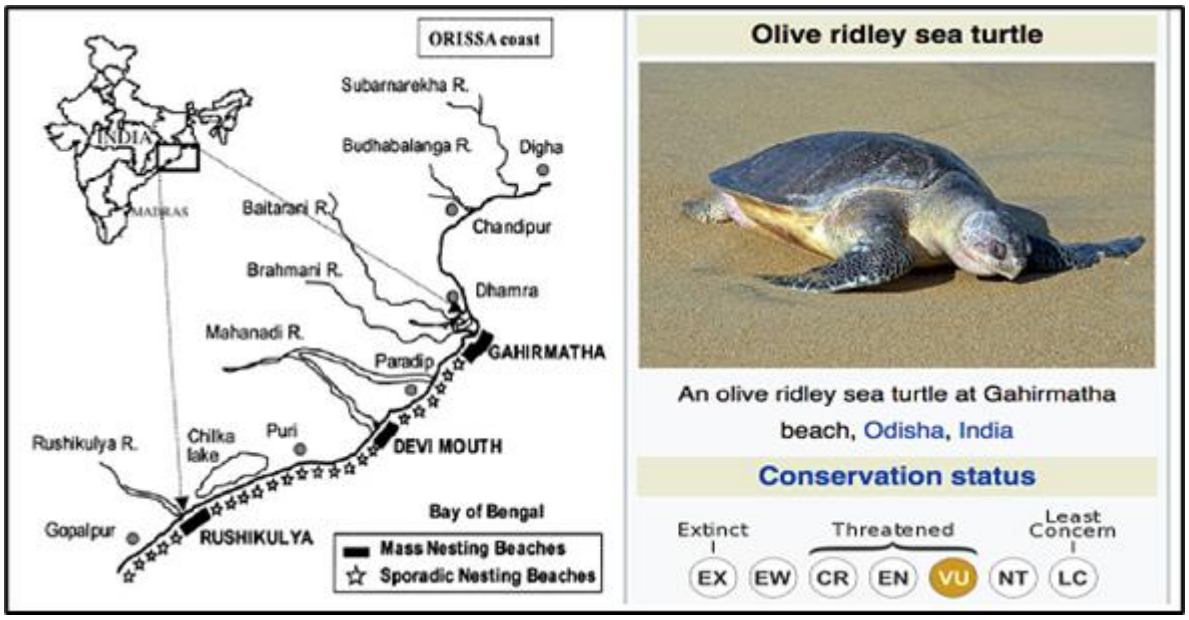
- 5percent of the amount available for sale is to remain for investors who are retail.
- The SGrBs will be qualified for trading on markets that are secondary to the primary market.
- SGrBs will count as a suitable investments for SLR purposes.

Sovereign green bond

- A sovereign bond can be described as credit instrument that is issued by the central government or the state government to get funds from investors.
- This is in line with the promise that the fund that is mobilized will be used for eco-system or climate related projects.
- Sovereign Green Bonds Framework Recently the Union Minister of Finance & Corporate Affairs has approved the final Sovereign Green Bonds Framework of India.
- The Framework will be able to follow on the heels that India has taken in its pledges made in "Panchamrit" as elucidated by the Prime Minister during Conference of Parties (COP) 26 in Glasgow in November 2021.
- It will further reinforce India's commitment to it Nationally Determined Contribution (NDCs) goals, which were adopted in the Paris Agreement.
- Green Finance Working Committee (GFWC) was constituted to verify important decisions on the issuance of Sovereign Green Bonds.
- It has also been evaluated as "Medium Green" and an "Good" governance scoreby an independent second opinion provider based in Norway called CICERO. provider CICERO.
- "Medium Green" rating medium green' score is attributable to solutions and projects that have significant progress towards the long-term goal, but are not yet there.
- The majority of fossil fuel activities have been removed from the framework as well as renewable energy projects based on biomass which rely on feed stocks from protected

Topic 11. MASS MORTALITY OF OLIVE RIDLEY TURTLES

Important for subject: Environment



Hundreds of endangered Olive Ridley Turtles (Lepidochelys Olivacea) have been washed up on the coast in the region between Kakinada as well as Antarvedi located in the Godavari region during the annual breeding season along the eastern coast.

- The breeding areas The breeding grounds Sakhinetipalli, Malikipuram, Mamidikuduru and Allavaram witnessed the death toll of the turtles in the last few weeks.
- A total of as 70 Olive Ridley turtles which have been discovered deceased on their nesting areas Between Kakinada in the Indian Ocean and Antarvedi.

Reasons

- The effluents that are released from the aqua-pondsa long the coast as well as the discharges of pipelines from the onshore drilling infrastructures are responsible for the massive mortality of turtles.
- Mechanised boats that are equipped with engines that speed beyond the limit of capacity are turning out to be dangerous for Olive Ridley turtles on Andhra coast.

About Olive Ridley:

- They are Olive ridley turtles have the distinction of being among the largest and

smallest among sea turtles found around the globe.

- They reptiles have carnivore as their name suggests. and their name comes due to their olive-coloured carapace.

1. Wildlife Protection Act, 1972: Scheduled 1
2. IUCN Red List: Vulnerable
3. CITES: Appendix I

- They can be present in warmer waters in the Pacific, Atlantic and Indian oceans.
- It is believed that the both females and males of olive ridley turtles both grow in size.
- In Odisha, the Gahirmatha Marine Sanctuary is known as the largest rookery in the world (colony with breeding mammals) that includes sea turtles which is then followed by the beaches in Mexico as well as Costa Rica.
- They are most well-known by its singular mass nesting, known as Arribada in which hundreds of females gather at the beach together to lay eggs..
- They nest their eggs over 5 to 7 day within conical nests approximately 1 1/2 feet deep. They dig them using the hind flippers of their
- They develop in between 45 and 60 days dependent on the temperature of the sand as well as the environment during the period of incubation.

Breeding Grounds of Olive Ridley in India

- Olive Ridely Turtles visit the beaches of the Odisha coast every year between
- between November and December and continue to stay through April/May to allow nesting.
- The turtles favor the beaches that are narrow near bays and estuaries to lay their eggs.
- Three rivers' mouths where turtles gather together for nesting in large numbers in the form of Dhamra River, Rushikulya River, Devi River.

Operation Olivia:

- Operation Oliva has been launched by the Indian Coast Guard in the state of Odisha.
- It is a mission every year which aims to safeguard the Olive Ridley sea turtles during their breeding season as well as to protect their habitats for breeding.
- The Mission was launched this year in conjunction with the Odisha forest department of the state. Two specially-designed ships belonging to the coast guard as well as

several aircrafts have been involved in this unique conservation of nature activity.

- Two ships will ensure that fishing vessels are not allowed to get into the main breeding areas of turtles, such as Gahirmatha marine sanctuary Dhamara River, and Rushikulya beach

Topic 12. UNAUTHORISED USE OF 4 HIGHLY HAZARDOUS PESTICIDES

Important for subject: Environment

Chlorpyrifos is not approuvé for use or fipronil, atrazine or paraquat in the field indicates infractions to national regulations.

- Report from Pesticide Action Network revealed that the safety of food products and the environment are at risk because of the widespread use of four extremely hazardous pesticides: chlorpyrifos, fiproniland atrazine, and paraquat
- Central Insecticides Board and Registration Committee India's pesticides regulator has authorized specific uses for agricultural chemicals. However, the state agricultural departments and industrial sectors have recommended four chemicals to be used on greater crops than their allowed use.
- Highly dangerous pesticides (HHPs) are approved to be used in the United States for only specific combinations of crop pests. However, they can be employed for a variety of food crops and other non-food ones without approval.
- Chlorpyrifos has been approved for 18 varieties in India and the study showed that it was utilized for 23 different crops.
- The maximum residual amount (MRL)of agricultural produce is determined based on the accepted usages.
- Unapproved uses are largely left uncontrolled for MRLs which is a major security issue for food in the United States and also poses a threat to the international trade in agricultural products.

About Central Insecticides Board & Registration Committee (CIBRC):

- Central Insecticides Board & Registration Committee (CIBRC) under the
- Directorate of Plant Protection, Quarantine & Storage, Department of
- Agriculture & Cooperation was created through the Ministry of Agriculture in the year 1970.CIBRC was set up to regulate the importation production and sale,

transportation, distribution and application of insecticides in order to minimize the risks to animals and humans and to address other issues to.

- Insecticides Act, 1968 was in force at the 1st of August 1971 following the release of Insecticides Rules, 1971.
- The Central Insecticides Board (CIB) provides advice to on the Central Government and
- The State governments on technical issues arising from the administration of the Act and also to perform the other duties that are assigned to the Board by or in accordance with these regulations.

The main functions include:

- Give advice to on behalf of the Central Government on the manufacture of insecticides in accordance with the Industries (Development and Regulation) Act 1951.
- Indicate the functions of categorizing of insecticides in the form of in terms on their toxicity as well as ability to be used in aerial applications.
- Provide the tolerance limit for residues of insecticides and the establishment of minimum intervals between application of insecticides and harvesting on various commodities.
- Indicate the shelf-life of insecticides
- Registration of Insecticides / Certificate of Registration
- The Insecticides Act and the Rules made there under the Act, there is mandatory registration of insecticides at the central level.
- The licences for their production formulation, sale and distribution are addressed at the state level.
- Therefore, to ensure the effective enforcement of to ensure the effective enforcement of Insecticides Act, the following organizations have been set up on level Central and State levels under the Ministry:
- Central Insecticides Board (CIB)
- Registration Committee (RC)
- Anyone who wishes to make or import an insecticide can apply for the Registration Committee to register of the insecticide, and it is necessary to submit separate

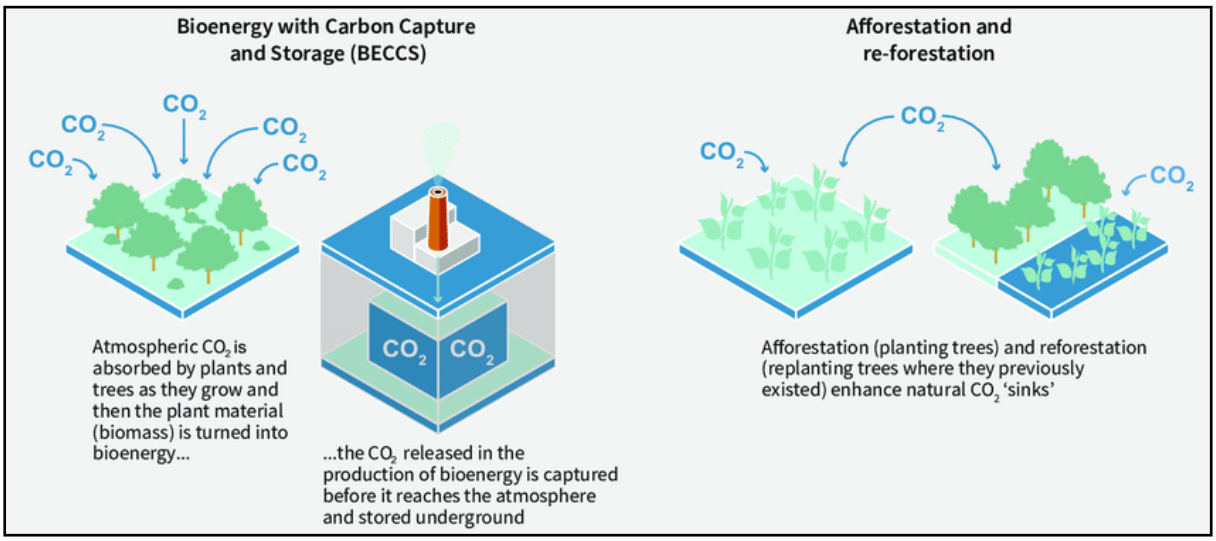
applications for each insecticide in order to be granted the certificate of Registration.

Licence to make insecticides

- According to the Insecticides Rules 1971, a licence is required to obtain from the concerned State Government office either to manufacture, sell, exhibit for sale or distribute any insecticide/pesticide.

Topic 13. CARBON DIOXIDE REMOVAL

Important for subject: Environment



The development of CDR is increasing, as does the distance between CDR determined by IPCC and the efforts to achieve them.

About Carbon dioxide removal

- CDR refers to "Anthropogenic actions that help remove carbon dioxide from our atmosphere and storage of it in geological ocean or terrestrial reservoirs or in the form of products.
- It covers the existing and possible human-caused enhancements to biochemical or geochemical sinks, as well as the direct capture of air and its storage however it excludes CO2 emissions that are not directly caused by human activity."
- CDR is also referred to as negative CO2 emissions.
- In the environment of net zero greenhouse gas emission targets, CDR is increasingly integrated into climate policies as a fresh part to mitigation strategy.
- CDR strategies include afforestation and agricultural methods that capture carbon

from soils, bio-energy that incorporates carbon storage and capture ocean fertilization, enhanced weathering in addition to direct air collection integrated and storage.

- The Intergovernmental Panel on Climate Change (IPCC), in its most recent report, listed 541 possible pathways to limit the rise in global temperatures by 1.5 milli meters Celcius or 2 degrees Celsius. Most of these paths involve some form of CDR.
- Potential to mitigate climate change:
- There's two methods to eliminate carbon dioxide one of which is the traditional method involving managing land, principally through afforestation and reforestation, and "new CDR methods"
- Presently, over two billion tonnes of CO2 (GtCO2) each year are being eliminated globally as per the report.
- The present CDR of 2 GtCO2 annually year (99.9 percent) is derived from traditional sources.
- The remaining 0.002 GtCO2 (0.1 per cent) comes from innovative CDR methods like bio energy based on carbon storage and capture bio char, direct air capture using carbon storage and capture according to the document.
- By using the existing CDR techniques that are safe and economically utilized and economically scalable, there is possibility to eliminate and sequester 10 , 000 tons of CO2 each year. This would reduce carbon dioxide emissions from greenhouse gases at around a fifth the amount at the rate at which they are produced.
- The pace of innovation in CDR is increasing dramatically. The government is investing heavily in research and development that is funded by the public.

CDR vs Carbon storage and capture (CCS):

- CDR could be misinterpreted as carbon capture and storage (CCS) which is a method that involves CO2 is extracted from sources that are not centralized like gas-fired power stations which emit CO2 in an extremely concentrated stream. The CO2 is compressed, stored and used.
- In the case of sequestering carbon dioxide from power plants that are gas-fired, CCS reduces emissions generated by the source point However, it does not decrease emissions of carbon dioxide that is already present in the air.

Topic 14. LAKE VICTORIA

Important for subject: Environment

The world's largest lake, Lake Victoria, has suffered from the effects of a range of non-sustainable human-caused activities in the past five decades. The Delhi-based Non-Profit Centre for Science and Environment and the National Environment Management Council (NEMC), Tanzania have jointly published a report on the management of the quality of its water.

The report's findings:

- Mwanza city is considered an area of high-traffic which contributes a large pollution burden from industrial effluents and domestic sewage and the dumping of waste materials.
- It also identified two rivers that are that of the Mirongo as well as the Nyashishi as major water bodies that carry industrial and domestic pollutants and industrial pollution, respectively.
- The study revealed an enormous pollution levels in the rivers. This could be being

discharged into the lake.

About Lake Victoria:

- Lake Victoria is the world's second-largest freshwater lake in terms of surface area.
- The area of its catchment includes parts that are part of Kenya, Tanzania, Uganda, Burundi and Rwanda.
- Also known in the form of "Darwin's Dreampond" The lake is renowned for its abundance of biodiversity that are unique.
- In terms of size, Lake Victoria is the largest lake in the world and lies in a shallow depression within Africa.

Threats:

- IUCN report evaluated the worldwide extinction risk from 651 aquatic species, which includes dragonflies, molluscs and fishes as well as crabs, shrimps, crabs and aquatic plants that are native of the Lake Victoria Basin, in East Africa.
- African Lungfish was decreasing across the Lake Basin mostly because of overfishing as well as poor fishing practices, and environmental degradation since wetlands were being transformed into agriculture land.
- The purple-coloured Water Hyacinth has been accidentally introduced into the Lake
- Victoria was discovered in South America in the 1980s and, at its height, covered about 10 percent of the surface of the lake. It decreases oxygen and the nutrient supply in the column of water which adversely affects the native biodiversity.
- Tanzania has declared that it will create the Lake Victoria Fisheries Trust Fund (LVTF) to conserve biodiversity and to guarantee well-being of communities who depend on Lake Victoria for their livelihoods.

Topic 15. EXXON SCIENTISTS ACCURATELY FORECAST CLIMATE CHANGE BACK IN THE 1970S

Important for subject: Environment

Climatic collapse as we see it today in our global environment could have been prevented in large part possibly if we had been aware of Exxon's forecasts and then acted.

- One of these instances occurred in the 70s when Exxon, the world's largest oil producer Exxon was able to disregard its own research conducted for it about the effects on fossil fuels..
- A new study published by the scientific journal Science has discovered that Exxon's forecasts of the time of its forecasts have been to be extremely precise however, Exxon did nothing to stop its own predictions from taking place.
- Instead the company decided to keep its position in the oil industry and provide funds to doubt the scientific evidence and delay a more coherent response.
- Actions that could be taken If the Forecast is followed up
- ahead of the curve for emissions
- US government pledges to have the goal of a zero carbon economy in 2000.
- Solar gives energy and also food
- Further research has led to huge economic growth since the technology is not just produces electricity but also food by making utilization of seawater greenhouses.
- In 2000 North Africa is the largest exporter of solar power plants all over the globe.
- Petrol is now a popular hobby in the latter half of the 1980s, the first electric vehicle that was produced, the EV1.
- The car is powered by Nasa's patent-pending batteries and material from the space age to create cars that are superior to petroleum vehicles in all aspects but with a wide range.
- Exxon's PR machine has developed a "plugging into the Sun" program that promotes micro rooftop solar panels that recharge the EV1s at no cost.
- The micro-grids designed to charge cars are ideal for nations that don't have huge electrical grids.
- In the latter half of 1990, huge "liquid metal" batteries could be used for storage of energy during the winter months and create an energy reserve that is sufficient to

enable the development of huge solar and wind projects all over the world.

- This renders the use of coal and oil costly for production of energy and the use of it is reduced, and finally incorporated into the history books by the year 1997.

Collapse averted

- In the wake of the potential to produce gasoline, a number of renewable energy companies are beginning manufacturing "synth oil".
- In the year 2000 Humanity produces only a small amount of greenhouse gasses for production, transportation or energy.
- But the climatic collapse we see it in our current world has been largely prevented.

Topic 16. NOBLE'S HELEN: ARUNACHAL PRADESH YIELDS INDIA'S NEWEST BUTTERFLY

Important for subject: Environment

Noble's Helen Noble's Helen, recorded in the Namdapha National Park, is disappearing from previously well-known areas in Myanmar, China, Thailand, Laos, Cambodia and Vietnam.

- A butterfly that has disappeared from the previously-known areas of distribution across Myanmar as well as the southern part of China to Vietnam is being documented this for the very first time India.
- Butterfly enthusiasts documented butterflies and recorded "extremely rare" Noble's Helen (Papilio noblei) from three places in three locations in the Namdapha National Park of Arunachal Pradesh between September 2019 and September 2021.

The Noble butterfly: Helen Butterfly:

- It is a butterflies that swallow tail with a wingspan of between 100 and 120 millimeters.
- It also has a white spot that is located in the dorsum of the forewing.
- **Scientific name: Papilio noblei**
- distribution:They are found in Myanmar, Yunnan, Hubai (China), North Thailand, Laos, Cambodia, Vietnam.
- The species is thought as extremely rare in within its ranges previously identified.
- A species known as Noble's Helen which is the closest species to Papilio Antonio of

the Philippines and distinguished by a larger white dorsal spot It was previously common in the mountains with moderately high elevations within northern Thailand.

- In addition to Thailand this species of butterfly called the swallowtail has been recorded from
- Myanmar, Yunnan and Hubai regions of China, Laos, Cambodia and Vietnam.
- Namdapha the national park

Geography

- Namdapha National Park is the largest protected area within the Eastern Himalaya biodiversity hotspot and is situated within Arunachal Pradesh.
- The reserve is considered to be India's largest tiger reserve in the eastern part of India. It is situated within the Changlang district in Arunachal Pradesh close to the border between India and Myanmar.
- It is located at it is the international border that connects India with Myanmar (Burma) in the Changlang District in the state of Arunachal Pradesh.
- Namdapha protected area is located between the Namdapha protected area lies within Dapha Bum ridge of Mishmi Hills in the North Eastern Himalayas and Patkai Ranges.
- It is situated close of the trijunction Indo-Myanmar China-China.
- It was designated as a National Park in 1983.
- It's located in the sub-tropical geographical zone and is a subtropical climate zone..
- One of the most remote wilderness areas in Asia, Namdapha and its surrounding areas, are bordered by Patkai hill ranges to the south, south-east as well as to the north by the Himalaya in the north. The region is located close to China-Indiana trijunction.
- The entire region is mountainous and is part of the catchment area that flows into the River Noa-Dihing which is a tributary of the huge Brahmaputra river that flows westwards across in the center of Namdapha.

Biodiversity:

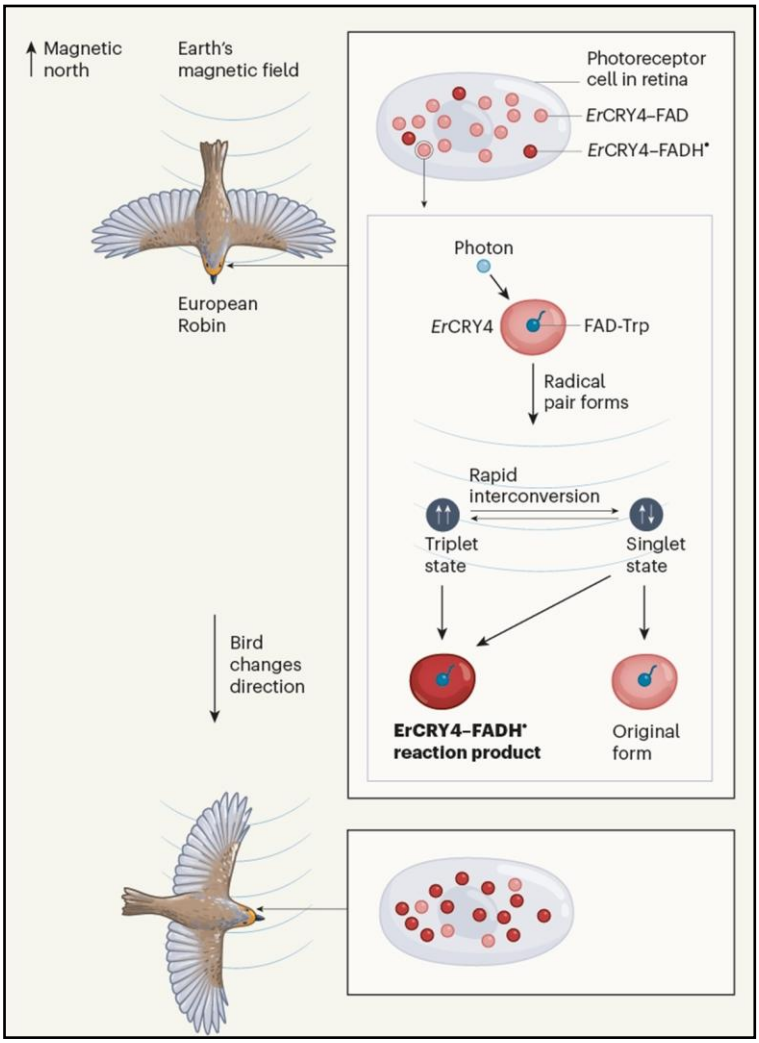
- It is the only place in the world to possess at least Four Feline kinds of large cats including that of the Tiger, Leopard, Snow Leopard and Clouded Leopard and numbers of Lesser cats.
- Other important species are elephants, black bears Indian Bison, several species of

reptiles, deer's, and a wide range of arboreal species.

- The bird species most well-known are the White Winged Wood Ducks, a rare and threatened species and the magnificent Indian hornbills and jungle fowls and pheasants make in the midst of the forest, and is home to other vibrant animals and birds.
- Hoolock Gibbons (Hylobates Hoolock), a extremely threatened and the only "ape" species that is found in India is located in this national park.
- It is known for its critically endangered species, such as that of the Namdapha fly-squirrel.
- Flora: Sapria himalayana, Amentotaxus, Cephalotaxus, Pinus merkusii (Sumatran pine) and Abies delavayi (Delavay's Fir) etc.

Topic 17. MIGRATORY BIRDS AND EARTH'S MAGNETIC FIELD

Important for subject: Environment



The magnetic field of Earth is in flux and disturbances could be the cause of wandering birds that are stranded, says the study.

- A study released by Scientific Reports has found that the Earth's magnetic field could be a factor in birds becoming lost during migration- also called bird vagrancy.
- Although birds can become lost in clouds, storms as well as dense fog a growing number of studies suggest that they depend on earth's magnetic field for navigation, especially when travelling for far distances.
- There's evidence growing that birds actually can observe the geomagnetic field.
- Scientists analyzed 2.2 million data records from bird records from 150 species that were captured and released in the period between 1960 and 2019 and discovered that bird's ability to utilize their geomagnetic fields were hindered when there was disturbances in the field of magnetic energy.
- The geomagnetic field, also known as the invisible magnetic field of Earth that extends across to the North Pole to the South Pole is heavily affected by a variety of external and internal forces.
- When the Earth's magnetic field gets perturbed, it would result in birds having 'distorted mappings' which would land them in totally different places.
- Being in an area that is not well-known could be detrimental to birds, as they might have a difficult time to find food sources and habitat.
- However it can also cause species whose natural habitats have changed as a result of changes in the climate to more suitable habitats, resulting in expanding their ranges.
- While other variables such as weather are involved in vagrancy, the frequency of the birds that were captured along with geomagnetic disturbances were strongly correlated in the spring and autumn migration. The relationship was most evident in the fall migration.
- Although the study was only conducted on birds, the results can help scientists understand the reasons behind why other species that migrate, such as whales are stranded away from their home.

Topic 18. DRY COLD WINTER AND RABI CROP

Important for subject: Geography

The India Meteorological Department has issued a forecast of "scattered to fairly widespread rainfall accompanied by thunderstorm activity" across Punjab, Haryana, Delhi and Uttar Pradesh though a fresh western disturbance is predicted to bring rain further over the northwest of India.

What will it mean for Rabi crop?

- This year, wheat is exhibited in larger area (341.13 acres) than prior years (339.87 lha) the expectation for this year's harvest is one of a record yield of the grain.
- Additionally, the wheat stock in the warehouses of the federal government on January 1st were had fallen to a record low of six years.
- The crop is at chance of heavy rains, hailstorms and early start of summer that could impact the production of wheat.
- However, there are two scenarios that could be positive:
- The public has more than adequate rice stocks enough to satisfy the requirements of the public distribution system.
- The prices for international wheat have greatly reduced.

The wheat crop

- This wheat was planted prior to mid-November is now in"boot" stage "boot" stage (by mid January) in which the ears (which carry the flowers and later the grain) are developing on top of the plants. It is a process of heading (when the earheads begin to appear from their stems) as well as flowering (pollination) occur within 90 to 100 days after sowing.
- This is followed by around 25 days of the early kernel development ("milk" phase) and 15 or more days of filling the grain ("dough").
- The rain at this point can boost the growth of the crop through cooling the canopy and permitting the natural fixation of nitrogen.

The rain can:

- Reduce the use of fertilizers.

- Clean up dust and dirt from the leaves
- Reduce the cost of irrigation

The situation of the mustard crop:

- Agriculturists have planted a record-breaking amount of 91.56 per lh of mustard. This is as compared with 84.47 LH in 2021-22.
- The cold winter, dry and cold is not good for mustard.

Reason:

- The mustard plant, which is usually planted by the end of October, begins flowering in 50-60 days, and then forming the siliqua (pods that contain seeds) in the following 35-40 days.
- The severe cold weather conditions could have caused damage to the crops due to frost in a variety of areas.
- The wide range of temperatures (high temperatures in the daytime, and drop to the lowest temperature in the night) in these areas can damage the mustard crop.

Chana crop situation:

- Chana can be described as the second largest crop of rabi in terms of size, with farmers sowing 110.91 lh.
- This is down from the previous year's 112.65 LH, but it's greater than the usual range of 98.86 per cent.
- Sowing runs from September 30th (in Karnataka and Andhra Pradesh) until the end of October (Maharashtra, Madhya Pradesh, Rajasthan along with Gujarat) and also the first week beginning in the month of the month of November (Uttar Pradesh, Haryana, and Punjab) The duration of the crop growing from 100-110 days up to 120-130 and 130-140 day in these three regions.
- There's been no loss due to freezing, because flowering should begin at the end of January/early February and the pods will be set about 25-30 days following the time.
- The condition of the crop is satisfactory However, rain could be useful at this point.

Topic 19. HOW ISM VARIABILITY LED TO MORE SHOWERS IN THE BAY

Important for subject: Geography

The regions that surround northern Bay of Bengal (BoB) were more prone to rainfall than other regions of India over the past 10200 years, according to the latest study.

About the research and its results:

- Birbal Sahni Institute of Palaeosciences Lucknow Reconstructed the background of variation in ISM from this region making use of both biological (phytoliths NPPs, phytoliths and carbon stable isotopes) as well as the abiotic (environmental magnetic parameters and the grain sizes of) proxy data that precede instrumental records (records made prior to in the 18th century).
- The new study examined the patterns that shaped the Indian Summer Monsoon Rainfall (ISMR) over the course of 10,000 years - - a time that witnessed the rise and fall of many ancient civilizations across the globe, many which were linked to the instability of climate.
- The study shows that a significant ISMR was observed between 10,200 and 5,600 years ago in this region However, the ISMR diminished by 4,300 years ago.
- The ISM was strengthened between 3,700 and 2,100 years ago after which it changed to a dry mode for a time.
- The ISM recovered its strength around 200 to 100 years back. Of the weakened times, the one which was observed about 4,300 years ago was by far the most severe ,and had a detrimental influence on our ecosystem.

What is the reason for the variation in ISM?

- According to the study the changes in the millennial scale of the ISM rainfall could be due to variations in solar insolation and the dynamics of the inter tropical convergence zone (ITCZ -- which is an area in which the northeast and southeast trade winds join).
- The centennial-scale fluctuations could be triggered by events such as
- North Atlantic Oscillation, El Nino Southern Oscillation and Indian Ocean Dipole.

The significance of this study:

- Indian farming is heavily dependent ISM.

- The Bengal Basin located at the direction that runs along the Bay of Bengal (BoB) branch of the ISM is extremely dependent on changes to ISM strength.
- A minor shift in ISM strength can have detrimental impacts on the socio-economic situation of the region.
- But, no systematic long-term record (beyond the time period of the instrument) of the past ISM variations in the region was made available.
- The study will help us to understand the long-term effects of the effects of climate change on the ecosystems, and could assist in preventing future extreme climate events.

Topic 20. ORGANIC FARMING

Important for subject: Geography

The total growth in land in India with organic cultivation was around 39,000 hectares according to IFOAM Organics International information.

More information about this News:

- India is among the the top three countries in organic farming expansion in 2020. Of the world's total 74.9 million mh in organic farming. Australia is the most efficient with 35.7 milli hours. In contrast, India has 2.8 million mh.
- Contrarily, of the total of 34 lakh organic farmers around the globe, only 16.2 lakh in India are organic farming certified by the USDA.

Organic Farming:

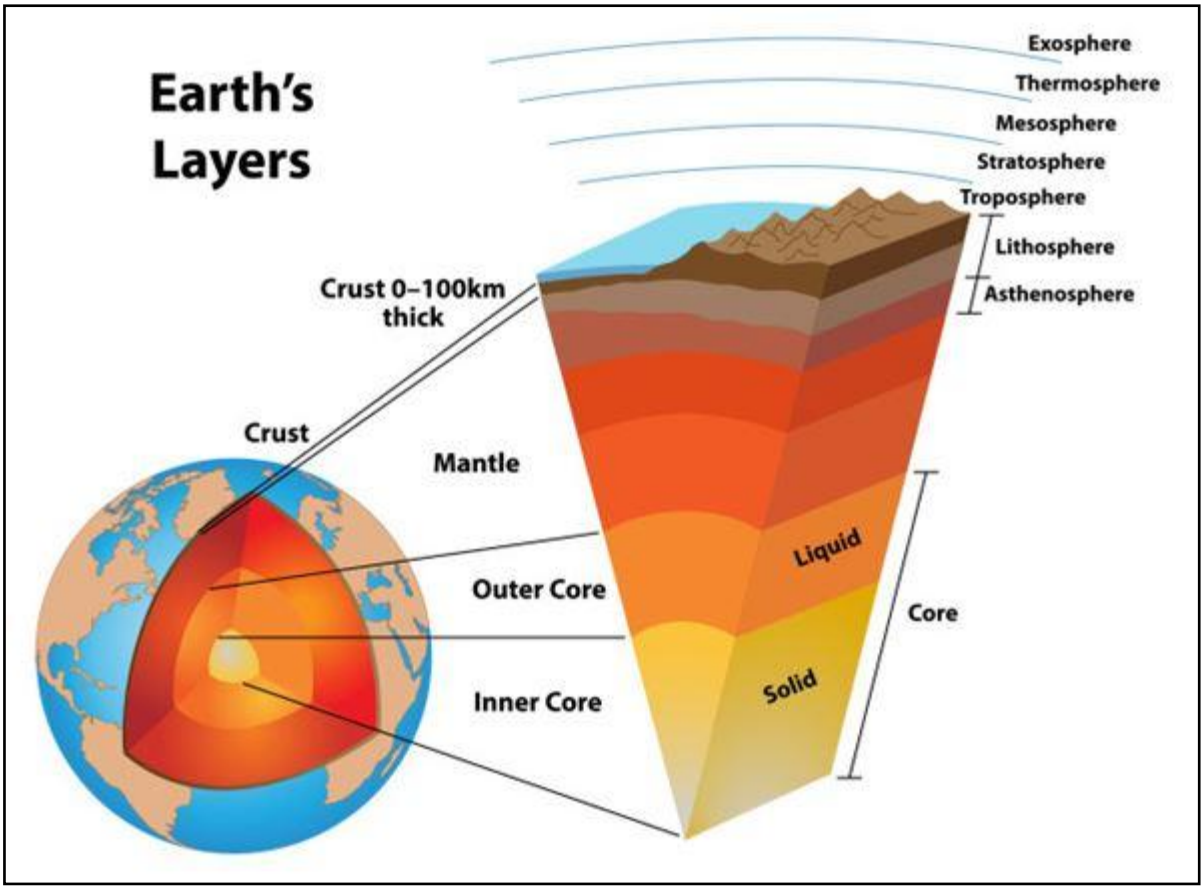
- Organic agriculture refers to a form of farming that is free of chemical fertilizers, pesticides and growth regulators and animal feed ingredients.
- Organic farming methods rely on rotation of crops and crop residues and animal manure and green manure, legumes organic wastes, biofertilizers and organic wastes off the farm minerals bearing rocks to ensure soil productivity, etc.

Organic agriculture in India

- Sikkim was the first state anywhere in the world that has completely organic.
- North East India has always been organic and the use of chemical products is lower than the rest of India.
- Madhya Pradesh tops the list with 0.76 million hectares of land that is organically grown that's more than 27 percent of the total area of organic cultivation in India.
- The three top states -- Madhya Pradesh, Rajasthan and Maharashtra -make up approximately half of the total area that is organically grown.
- The most important organic exports from India include flax seeds soybean, sesame, tea the medicinal plant, rice, and pulses.
- State with the highest exports: Assam, Mizoram, Manipur, & Nagaland.

Topic 21. EARTH'S INNER CORE ROTATING SLOWER: STUDY

Important for subject: Geography



The Earth's inner core might have slowed in the middle of the planet currently spinning at a slower rate than the layers that are above,

- The inner core of the planet could rotate at a different pace as the rest of the planet and the rate could change.
- The rotation of Earth's core might have slowed and the core of the planet now spinning at a slower speed than the layers below the core, according to new research.
- The slowdown could alter how fast the entire planet rotates, as being a factor in how the core develops over the passage of time.

The study

- In the study released in Nature Geo science, scientists used the database of earthquakes in order to examine the behaviour of Earth's inner core solid in the course of the course of.

- The inner core is suspended as the ball bearing within the molten metal ocean of that outer core.
- Due to this cocoon of liquid This means that the "ball bearing" will not rotate at the same speed as the rest of the world.
- In the past, some researchers have discovered that the core's rotation is slightly faster than the mantle or crust and crust, which is a phenomenon referred to as "super rotation."
- However, it had been slowing down prior to coming into the same time as Earth's rotation in 2009, according to the study.
- In this new study, researchers looked at earthquakes from 1995 to 2021, focusing on repeating quakes or doublets with similar waveforms observed in the same area.
- In analyzing the changes in timing and propagation of the signals they can calculate the rate of movement of the core that is believed to move independently of the mantle and all the other planets.
- They observed that the outer of the core's super-rotation (faster rotation in relation to the mantle's rotation mantle) ended around 2009. They claimed that the changes were visible from various parts of Earth and confirmed that it was a planet-wide phenomenon. Then, the core started sub-rotating or turning more slowly than the mantle.

Earth Interior

- The Earth's inner structure is made up of four layers: the crust's outermost layer and the solid but viscous mantle beneath it, the iron-nickel liquid outer core along with the iron-based inner core.
- The core inside is a solid ball which is approximately 3/4th the size of the moon.
- It was first discovered in 1936 by seismologists who noticed patterns in the way vibrations caused by seismic events moved across the earth's interior.
- Variations in the direction and speed of these waves suggested that the core of the planet must be solid.
- This solid ball is housed within the outer core of liquid and spins in a fluid manner. The liquid core basically disconnects it from all the other cores of the world and allows it to spin more or less.

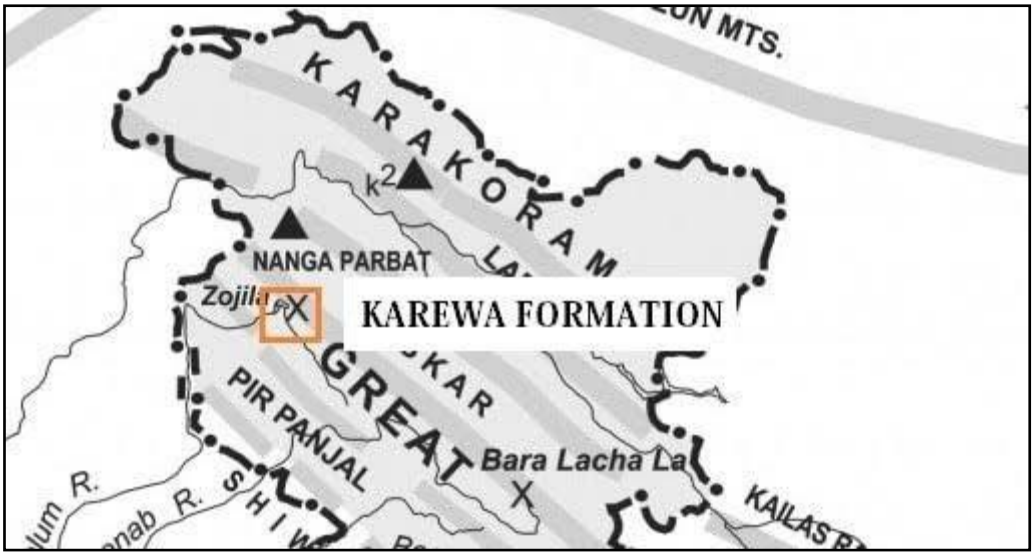
- The outer liquid core creates the magnetic field that surrounds the Earth and the inner core is because of electromagnetic forces.
- If there are differences in the mantle's structure and the outer core, gravitational disturbances drive up or down the rate of rotation of the inner core.

The core of the earth

- It is the smallest layer that surrounds the earth's core.
- It is separated from its mantle through Guttenberg's Discontinuity.
- It is made mostly from ferrous (Fe) along with Nickel (Ni)and hence it is sometimes referred to as
- The core is about 15% of earth's mass and 32.5 percent of the earth's mass.
- Core is considered to be the most dense layer of earth and its density ranging from 9.514.5 - 14.5g/cm3.
- The Core is composed of two layers which are the inner core as well as an outer core.
- The inner core is in the solid condition and that outside core has entered a liquid state (or semiliquid).
- The discontinuity in the core's upper and lower core is referred to Lehmann Discontinuity.
- Barysphere can be a reference to the central part of the earth or the entire interior.

Topic 22. KAREWAS

Important for subject: Geography



The lush soils of Kashmir's karewas collapse under the pressure of infrastructure.

About Karewas:

- Karewas Are alluvial deposits that originate from different soil types and sediments, such as clay, sand, silt as well as shale, mud loess and lignite.
- Geologist Godwin Austen first coined the term "karewas" during the year 1859.
- The Karewas of Kashmir cover two hundred square kilo meters which is spread out over the Valley.
- Karewas are the softest sediments. They are typically composed of sand and clay. But, certain beds might also include rocks, prints of volcanic ash, and coal in some areas.
- The remainder that is the rock lithology found in Kashmir is composed of hard rocks and can be seen with any naked eyes.

Formation in Kashmir Valley

- Kashmir valley is located in between it the Great Himalayas and the Pir Panjal ranges of the Kashmir Himalayas. In the past when the upward movement of the Pir Panjal ranges took place and it was evident that the stream of water was stopped.
- The entire Kashmir valley was transformed into the basis of a vast lake. Slowly, glacial sediments have built up within the lake. Thus creating a large lacustrine plain.
- In the following years the water receding and the deposits that were not consolidated remained these non-consolidated mud and gravel deposits are referred to as Karewa formation.

Significance of Karewas:

- Geological Treasure The karewas bed can aid in studying the climate at the time that they created. Additionally the folds and faults from karewas can be essential to learn concerning the geological processes that occurred within the Valley.
- Lifespan of the valley: almond and walnut trees, which make up the majority of cultivation Saffron farming: the moisture-retaining nature of this type of plant makes it suitable for farming saffron.
- Predict future climatic circumstances: In studying Karewas, it is possible to forecast the future climate conditions of Europe.

- threats to karewas Mining that is illegal and unregulated among the main threats to the Karewas.
- The Karewas are endangered by rapid urbanisation as well as illegal extraction land use.
- Karewa soils now cover the the base of highways and railway lines.
- Karewas sites are being transformed into residential commercial areas.

Topic 23. RESEARCHERS OFFER TIPS TO SAVE KERALA'S SINKING ISLAND – MUNROE THURUTHU ISLAND

Important for subject: Geography

A study in collaboration with the National Centre for Earth Science Studies (NCESS) has identified that human activities are the primary cause of the suffering of Munroe Thuruthu residents, Kerala's first group of refugees from climate change.

Munroe Thuruthu Island

- Munroe Thuruthu (13.4 sq. km.) is an islet string located at the confluence of Ashtamudi Lake and the Kallada River.
- It is situated within the Kollam district in Kerala.
- The name was derived from it was named after Colonel John Munroe, the British resident of the then Travancore State.

Ashtamudi Lake

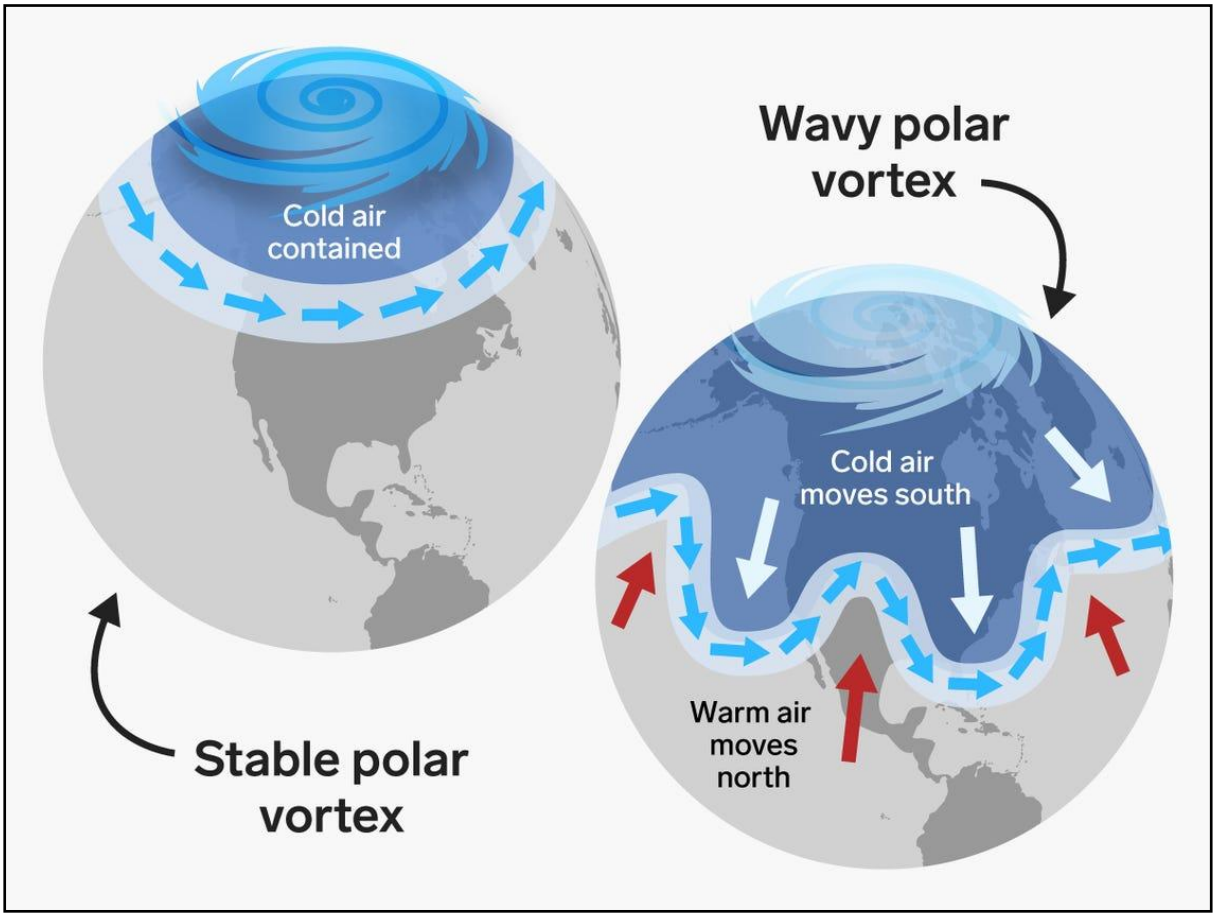
- Ashtamudi Lake or Ashtamudi Kayal is located located in the Kollam district in Kerala.
- It is home to an exclusive wetland ecosystem as well as the largest palm-shaped water body.
- Ashtamudi refers to "eight braids" from the indigenous Malayalam language.
- The name is a reference to the lake's terrain, which includes many branches.
- Lake Kadamba is known as the entry point towards the backwaters and backwaters of Kerala and is well-known for its backwater houseboats and resorts.
- Ashtamudi wetland is included as wetlands with international significance according to the Ramsar convention for the protection and sustainable use of wetlands.

Kallada River

- Kallada River is the longest river in Kollam District, Kerala, India.
- The river is located within Kulathupuzha which is a part of the Western Ghats and flows west to reach the Arabian Sea after travelling a distance of 120 km.

Topic 24. POLAR VORTEX

Important for subject: Geography



Cold weather in Asia is because of the same thing which brought record-breaking cold temperatures to the US in the last month.

- It's been an unusually cold and snowy January across Asia--from China, Japan as well as in the Korean Peninsula where heavy snow and blizzards have temporarily closed roads as well as unusually cold temperatures throughout South Asia, including many areas of India.
- Scientists have concluded that the extreme cold in Asia is in large part due to the so-called "polar vortex this is the same phenomenon that caused extremely cold

temperatures across the United States last month.

Polar vortex:

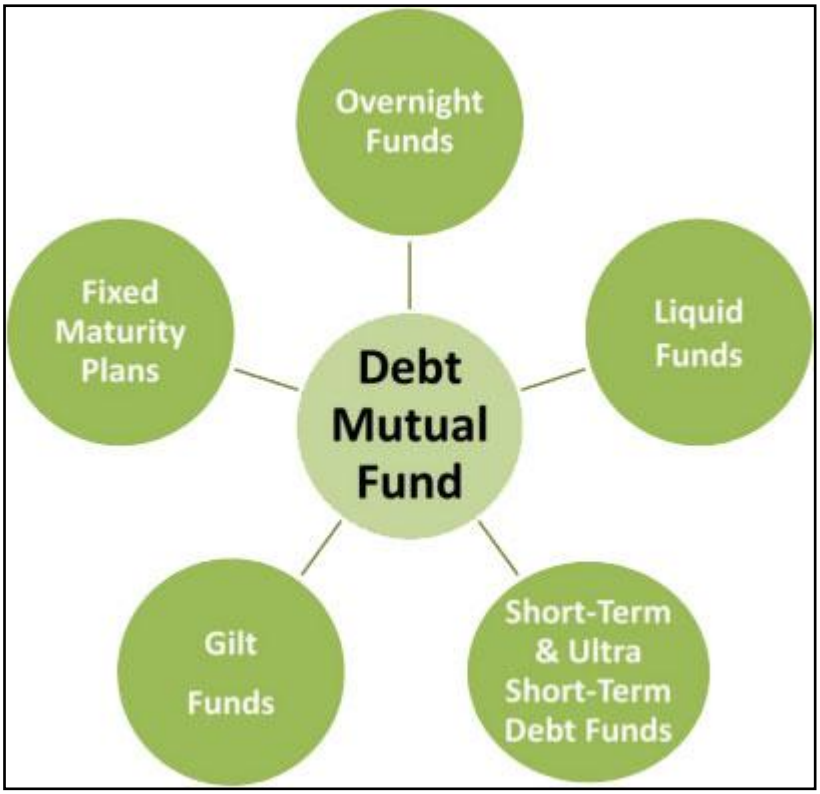
- The term is used to describe the vast expanse of cold air that typically is a part of the Arctic but sometimes shifts towards the south from towards the North Pole. The phenomenon has been around for a long time regardless of the fact that the term Polar Vortex became popular only in the last few years.
- The Polar vortex is fixed by the Earth's rotating and temperatures that differ between Arctic and mid latitudes.
- As the temperature variations increase and the Polar vortex could shift to the south..
- The Polar Vortex delivered Arctic temperatures into Central Asia before slowly moving to the east.
- The bulge's southward direction is caused by an change within the jet stream which is a ring of powerful wind which blows from west to east along the edges of the vortex.

Polar Vortex and Climate Change:

- Scientists believe it is likely that as the Earth gets warmer, shifts in the polar vortex are expected to increase in frequency and noticeable. However, there isn't a consensus as to whether the frequency that extreme freezing events will rise as the warming continues.
- It's possible that the recently's droughts and dry conditions in Asia have made the region more vulnerable to extreme temperatures.
- There has been a noticeable decline in the intensity and frequency of cold extremes in a lot of the world since 1950s as The Intergovernmental Panel on Climate Change reported in its report this year.

Topic 25. PASSIVE DEBT FUNDS

Important for subject: Economy



Passive Funds

- A pass-through fund invests in an asset that follows an index of market value or a certain market segment to decide which market segment to invest in.
- In contrast to an actively managed fund, the manager of the fund doesn't decide which it will invest in.
- This usually makes passive funds less costly for investment than funds that are active which require fund managers to research and analyzing possibilities to invest in.
- Tracker funds, like ETFs (exchange trade funds) and index funds , fall under the umbrella of passive funds.

Passive debt funds

- Debt funds that are passive fixed-income mutual fund plans which monitor debt or market instruments.
- The funds invest in debt and money market instruments, such as Government Securities (Gilts / G-Secs), State Development Loans (SDL), PSU bonds as well as

Tri Party Repos (TPTs) as well as Tri Party Repos (TPTs).

- At present, debt funds in this category only invest on AAA-rated securities.
- The Sebi circular regarding passive funds introduces standards for each type of debt fund with the limits on exposure for each sector, the issuer (based on its rating) and the group.
- Implementation of these provisions could aid in reducing the risk of concentration for debt ETFs or index funds.

What are the various types of debt that are passive in India?

- There are three types of debt funds that are passive in India which are. liquid funds that are passive, Gilt funds, and the target maturity funds.
- Funds that are passive liquid invest in instruments that are overnight whereas they are passive Gilt funds are invested on Government Securities.
- The majority of these passive loans are targeted maturity funds.
- The Target Maturity Funds are passive scheme of debt mutual funds that track an index for bond underlying and have a defined date for maturity.
- At the time of maturity, you'll get the maturity money which include the value of the bonds in the portfolio as well as accrued interest.

Topic 26. STATE DEVELOPMENT LOAN

Important for subject: Economy

Tamil Nadu is planning to raise Rs51,000 crore during the 4th period (January-March) of the fiscal year 2022-2023 through auctions of bonds, also known as State Development Loans,

according to the Reserve Bank of India's borrowing calendar.

State Development Loans (SDLs)

- State Development Loans (SDLs) are securities that are dated and that are issued by state governments for satisfying their market borrowing needs.
- The purpose of distributing State Development Loans is to satisfy the budgetary requirements of state government. Every state is able to borrow up to a predetermined amount through State Development Loans.
- The SDL securities that are issued by states can be considered a credible collateral that can meet the requirements of banks for SLR as well as collateral to obtain liquidity under RBI's LAF including repo.
- A unique aspect for SDL is it's an instrument that is oriented towards market for states to draw funds from the market. If the state's fiscal strength is higher the state, less is the rate of interest (yield) it will have to pay for SDL borrowings.
- SDLs are basically securities, and the auctions are conducted off by the RBI via eKuber which is an electronic auction system used for securities issued by the government and different instruments. RBI organizes SDL auctions every fortnight.
- The interest rate as well as the yield on SDL securities is determined through auction.
- The interest rate may be slightly higher than the rate in Central Government securities (G-secs) of a similar duration.
- The participants in SDL are mostly commercial banks and mutual funds as well as insurance companies that are drawn to the higher, but not as high, interest rates of SDL (compared with central government bonds).

Topic 27. NEW BANK LOCKER AGREEMENT

Important for subject: Economy

RBI have delayed the date to banks to renew agreements with locker customers with existing customers of lockers in the form of a gradual manner until the 31st of December 2023..

Background

- A New Bank Locker Rule has been put into effective from January 1 2023 According to a Reserve Bank of India (RBI) announcement.
- In the last couple of days, a number of Banks have sent out text messages to their

customers in order to renew their safe agreement with their deposit lockers. In this regard existing locker depositors were asked to provide evidence of their eligibility to be eligible for an extension of their locker agreement.

- Furthermore these individuals also were legally required to conclude a renewed contract on or before the 31st of December 2022.
- RBI has requested banks to inform their current customers of their lockers regarding the renewal deadline until April 30, 2023.
- Banks must ensure that at at least 50% of their current customers have renewed their contracts on or before June 30, and at least 75 percent by the end of June-September 30, 2023.

What is a locker agreement?

- When the locker is allocated for the facility client, the bank must conclude an arrangement with the client for whom the locker is made available on a form that is which is stamped.
- An original copy of the agreement to hire a locker in duplicate, signed by both parties must be provided to the person who hires the locker to be aware of his or her rights and responsibilities.
- The original Agreement will be stored with the branch of the bank in which the locker is.

New Rules

- At the time the clock is over, banks must send an SMS and email alert to the registered email address as well as mobile number to provide confirmation to inform the client of the time, date and the possibility of remedy in case of an unauthorised access to the locker.
- Banks are capable of paying for the loss or damage to locker contents caused by the bank's lack of as per the new RBI rules.
- It cannot not be held responsible for any loss or damage of contents in lockers caused by natural disasters as well as acts by God such as flooding, earthquakes, lightning or storms or any other cause that is attributable to the customer's own fault or negligence as defined by the new guidelines.
- In order to ensure timely payment of the locker rental, banks are allowed to apply for

the Term Deposit upon allotment which would be able to cover three years of rent as well as the cost of breaking into the locker in the event the worst happens.

Topic 28. INDIA TO MOVE TO T+1 SETTLEMENT SYSTEM

Important for subject: Economy

After China, India will become the second nation worldwide to initiate the trade plus-one (T+1) process of settlement for the top securities listed on the 27th of January.

- Prior to 2001, stock markets used a weekly system of settlement.
- The markets were then switched to a settlement system that was rolling that was T+3, then to T+2 in the year 2003.

T+1 Settlement Plan

- The settlement cycle T+1 means the trade-related settlements need to be completed within a one day or within 24 hours following the completion of the transaction.
- For instance, under T+1, if someone bought shares on Wednesday they will be credited to the account in the customer's demat on Thursday.
- This is distinct from T+2, which will be resolved on Friday.
- A total of more than 256 top and large-cap companies, comprising Nifty as well as Sensex shares, could be included as part of the T+1 settlement beginning the 27th of January.
- It is believed that the United States, United Kingdom and Eurozone markets are still to be able to adopt the T+1 system.

Benefits of T+1 Settlement:

- Reduced settlement time A shorter cycle does not just reduce the amount of time to settle, but also decreases and frees up capital needed to secure this risk.
- Reduction in Trades Unsettled the Reduction in Unsettled Trade also decreases the amount of unsettling trades that are outstanding at any moment and reduces the unresolved exposure for the Clearing Corporation by 50%.
- The narrower the settlement cycle, the narrower the time window for a counterparty insolvency/bankruptcy to impact the settlement of a trade.
- Reduction of Blocked Capital Additionally the capital that is kept in the system to

protect against the risk of trading will decrease proportionately by the number of unresolved trades at any given point of time.

- Reduction of Systemic Risks A reduced settlement cycle can help in reducing risk to the system.

Does T+1 format make markets more secure?

- In a paper released in the Securities and Exchange Board of India (SEBI) the T+1 settlement cycle does not only decreases the duration, but also the amount of capital needed to finance the risk.
- A shorter settlement cycle reduces the amount of unsettling trades at any moment of time. This reduces the exposure of the unsettling trades towards Clearing Corporation by 50 per percent.
- The more streamlined it is the cycle of settlement, and the smaller is the window of time for a counterparty's bankruptcy or bankruptcy to affect the settlement of trade.
- Furthermore, the capital that is locked within the system to compensate for the risk of trading will decrease proportionally to the amount of unresolved trades at any given time.

Concerns of Foreign Investors:

- Foreign investors are concerned about worries about the operational challenges they might face when operating from various locations including times zones, data flow and foreign exchange concerns.
- They'll find it challenging to protect their total India vulnerability in USD terms at the time of the day in the system of T+1.

Topic 29. BUDGET TERMS

Important for subject: Economy

Budget and Revised Estimate

- Budget estimates represent the concept of the upcoming government projects as well as their development. The updated Estimate explains the cost of the projects which will be incurred.
- Estimates of the budget work as a critical procedure and demonstrate the transparency

of the work and the budget funds for the state. The budget estimates committee is a forum for all finance ministers and public service regarding their decisions on actions and suggestions for future initiatives for the benefit of the public.

- Revisions to estimates only are sanctioned only if the prior sanctioned estimates are higher than five percent because of material quality and rates. Also, it covers the matter of material quantities.
- It is an evaluation which is announced at the end of the year.
- Budget deficits
- Fiscal deficit, as it is known, is what is the gap between the total expenditure and the total of non-debt revenue. It is the amount that the Government spends as a percentage.
- Since positive fiscal deficits show the amount of expenditure that is over and over the receipts from revenue and other sources It must be financed through capital receipts that generate debt.
- Primary deficit is the difference between fiscal deficits and interest payments.
- A revenue deficit is calculated by subtracting capital expenditure from deficits in fiscal spending.

FRBM Act and amendment

- The law was passed in August 2003.
- It is aimed at making the Central government accountable for ensuring an equitable distribution of fiscal resources across generations and macroeconomic stability for the long term.
- The Act will set limits for the Central government's debt and deficits.
- The law limits the deficit fiscal at 3% GDP. It also stipulates that the deficit in revenue be reduced to zero.
- In order to ensure that States also have a sound financial plan The 12th Finance
- The Commission's recommendations of 2004 tied credit relief with States by enacting similar laws.
- The States have now enacted their own Financial Responsibility Laws, which provides an identical 3% the Gross State Domestic Product (GSDP) limitation on their budget deficits each year.

- The law also calls for more transparency in the fiscal administration for the Central government as well as the execution of fiscal policy within the medium-term frame.
- The budget for the Union government is accompanied by the Medium Term Fiscal Policy Statement which outlines the fiscal and revenue deficit goals for a 3-year period.
- The regulations for the implementation of the Act were published on July 4, 2004.

Amendment in 2018

- The rules were modified in 2018 and most recently to allow the setting of a specific goal of 3.1% for March 2023.
- The NK Singh committee (set in the year 2016) suggested that the government set the fiscal deficit at 3.3% of GDP for the years prior until March 31, 2020. reduce it down to 2.8 per cent in 2020-21. Then, up to 2.5 in 2023.

Expenditure

Capital expense:

- Capital expenditure is made with the intention of enhancing the value of assets that are durable or to decrease recurring liabilities.
- Think about the cost of building new schools or hospitals.
- All of them are considered capital expenditure because they lead to the creation of assets.

Revenue expenditure:

- Revenue expenditure is any expense that does not increase assets or decrease the liability.
- The expenditure of salary and wages, as well as subsidies or interest payments are generally categorized as revenue expenditure.

Receipts

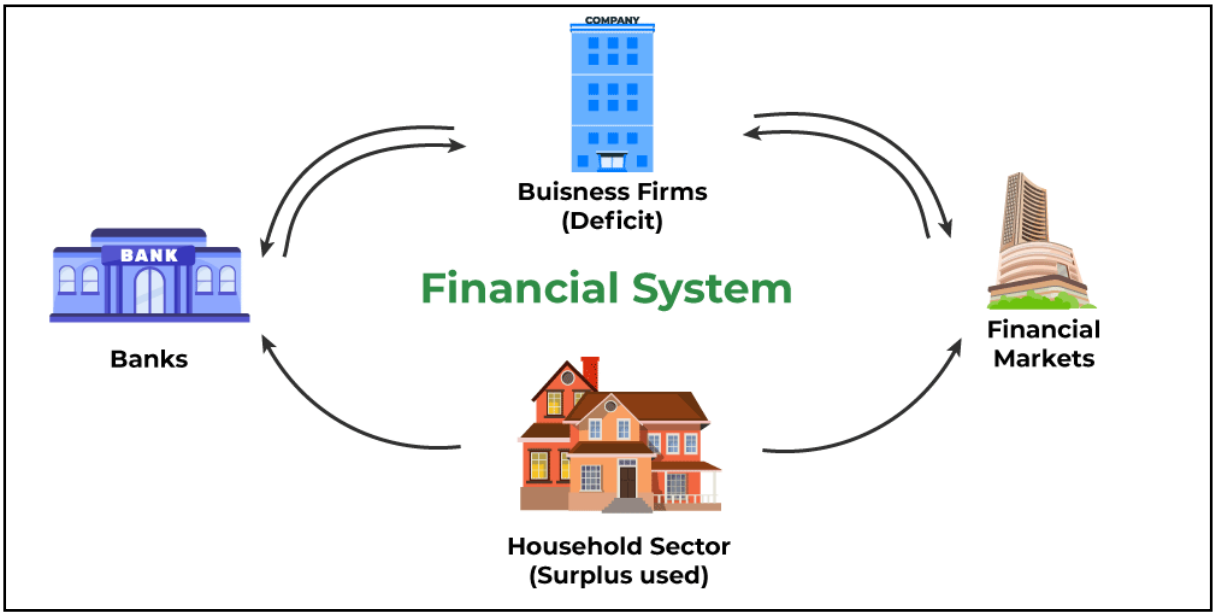
- The Government's receipts comprise three parts: revenue receipts, capital receipts not debt and capital receipts that create debt.
- Receipts from revenue involve receipts that aren't tied to the increase in liabilities, and

include revenues from tax and non-tax sources.

- Non-debt receipts are a part of capital earnings that don't create additional liabilities.
- The recovery of loan proceeds and the proceeds from investments would be considered as non-debt revenue since the revenues from these sources do not directly increase the amount of debt, or any future obligations to pay.
- Capital receipts from debt are ones that have greater liabilities and future payments obligations of the government.

Topic 30. UNDERSTANDING FINANCIAL MARKETS

Important for subject: Economy



Financial market is a market where sellers and buyers take part in trade. It is platform that facilitates traders to buy and sell financial instruments/securities.

- The primary purposes of the financial market include:
- It facilitates interaction between lenders and investors.
- It offers pricing information that results from the exchange between sellers and buyers on the market, when they trade their financial assets.
- It ensures the security of transactions that involve financial asset.
- It provides liquidity by offering the investor with a means to dispose of financial assets.
- It helps to reduce the cost for transactions and data.

Financial markets are comprised of two main segments:

Money Market:

- Market for overnight and short-term instruments and funds that have one year of maturity or less than one year.
- The market covers the trading and issue of short-term non equity debt instruments such as Treasury commercial papers, bills bankers acceptance, deposits certificates and more.
- Money Market consists of all institutions and organisations that facilitate or deal in short-term credit instruments. They comprise RBI cooperative banks, commercial banks, financial companies that are not bank-owned such as LIC, GIG, UTI and special institutions like Discount as well as Finance House of India (DFHI).
- The principal money market instruments also known as securities (financial asset) are as below.
- RBI will be the principal regulator of the money market.

Capital Market:

- Market for long-term fund-both debt and equity that have a maturation time greater than one year.
- On this marketplace, capital funds comprised of debt and equity are issued as well as trade. This also includes private source of debt as well as equity, as well as organised markets such as stock exchanges.
- The SEBI agency is the main regulator of the capital market.
- The market for capital can further be divided into secondary and primary markets.

Primary Market:

- In the primary market, new securities are offered at first. It allows a government or company to establish a relationship with an investor.
- It does not have a distinct physical existence, but is considered to be so for analysis of economics.

Secondary Market:

- Secondary Market is a place where securities that were previously sold are being

resold.

- It exists physically, like the Bombay Stock Exchange (BSE) in Dalal Street, Mumbai.
- It provides liquidity and confidence to investors looking to buy new securities on the Primary Market.
- Secondary market can be either an auction or the dealer market. Stock exchange is a component in an auction marketplace Over-the-Counter (OTC) will be part of the market for dealers.

Topic 31. PURANA QILA PREPARES HISTORY WALK FOR G20 GUESTS

Important for subject: History

In the G20 Summit in Delhi in September, guests are taken on a trip to Purana Qila to journey back in time 2,500 years.

- At present one of the trenches that were excavated on the site is currently transformed into a visitors' place as part of an organization called the Archaeological Survey of India (ASI) which is where visitors who visit can view "a continuous habitation of 2,500 years" According the agency.
- Eight metres below level of the ground in the trench excavated are evidence of the pre-Mauryan era (6th until the 4th century BC) and slowly the trench will rise the layers of soil contain the cultural remains of several other kingdoms in Delhi that existed prior to when the time when the Mughals entered -- including the Mauryan empire and the Shungas empire, Kushanas and the Rajputs.

PuranaQila

- PuranaQila is located by the the river Yamuna it is considered to be the fort that was the first in Delhi.
- There is a rumor that forts were constructed by the Pandavas to protect their kingdom Indraprastha since some greyware from that time was discovered in the excavations.
- PuranaQila in Mughals
- PuranaQila was revamped in 1533 by Humayun around 1533and it took five years to finish.
- The fort was constructed within Din Panahwhich was a small city located in Delhi. Sher Shah Suri defeated Humayun in 1540, and seized the fort in 1540.

- Sher Shah Suri was the ruler for five years, and during his time of rule, he built a number of structures inside the fort . He called the fort Shergarh.
- After the second time The renovation of Fort continued under Humayun.
- Shah Jahan wanted to shift his capital away from the fort he had built in the past, which is why he constructed Lal Qila or Red Fort.
- New Delhi became the capital of British India in 1920 and Edwin Lutyens linked Rajpath with PuranaQila.
- **Gateways of Fort**
- Fort's walls are high by 18m and the perimeter of the fort measures 1.5km. The fort has three gates inside the fort, which include Bara Darwaza, Humayun Darwaza, Talaqi Darwaza
- It is believed that the Bara Darwazais still in operation and is facing to the west. Humayun Darwaza was named for this because the tomb of Humayun is visible from this location.
- Talaqi Darwaza or forbidden gate is the third gate in the fort. Each gate has two stories and are constructed using Sandstone. Each gate has two bastion towers that are made of marble.
- **Qila-iKuhnaMosque:** Sher Shah Suri constructed this mosque in 1541. Five doors are in place with pointed arches inside each. In this mosque, the monarch and his courtiers used to pray.
- Sher Mandal Construction of Sher Mandal was initiated by Babur and was completed by Humayun.
- The structure is made of red sandstone, and is an octagonal shape. Babur made use of the structure as an observatory as well as a library.

Topic 32. ETIKOPPAKA TOYS

Important for subject: History

The Union government's decision to confer Padma Shri on him in the category of art is a great honor to Etikoppaka wooden toy maker, and can go a long way in promoting the craft as well, according to C.V. Raju.

More About Etikoppaka toys:

- These are toys that are made by the artisans from Etikoppaka village which lies on the

banks of the Varaha River in Visakhapatnam district of Andhra Pradesh.

- The toys are constructed from wood and are coloured using organic dyes derived from lacquer, seeds, bark roots, leaves and roots.
- The craftsmen primarily use wood of the tree known as "ankudu' (Wrightia Tinctoria) which is natural and soft.
- The toys are none rough edges. They're rounded around all the sides. Etikoppaka toys were awarded a Geographical Indication (GI) tag in the year 2017.

Playthings made of lacquer

- In the making of the Etikoppaka toys Lac, a colourless resinous secretion that is found in many insects, is employed.
- The already created vegetable dyes are added to the lac to complete this process of Then the final product obtained is a the most vibrant and colourful lacquer.
- It is used to decorate Etikoppaka toys. Etikoppaka toys that are sold around the world.
- So it is no wonder that the playthings are known as lacquer toys because of the use of a lacquer coating.

Topic 33. MUGHAL GARDENS RENAMED AS AMRIT UDYAN

Important for subject: History

The famous Mughal Gardens at the Rashtrapati Bhavan (President's House) in Delhi has been named Amrit Udyan.

- The group of approximately 15 gardenwill all be named Amrit Udyan..
- Gardening areas within the vast Presidential Estate -- Herbal Garden, Musical Garden and Spiritual Garden -- will be given their own names.

Mughal Gardens in India

- These were designed in an Islamic design by Mughals from India as well as other nations.
- The gardens are often regarded as a space to relax and meditate.
- The Mughals were known for their appreciation of gardens. The Mughals were known to appreciate gardens.
- Babur Nama, Babur says that his favourite type of garden is that of the Iranian

Charbagh design (literally the there are four gardeners).

- It is distinguished through its rectangular layouts divided into equal sections These gardens can be seen across areas previously controlled by Mughals.
- From the garden surrounding Humanyun's Tomb within Delhi and The Nishat Bagh in Srinagar, they are all constructed in this manner - which is why they are called Mughal Gardens.
- One distinctive aspect in this garden is the usage for water ways often used to define the different quadrants of the garden.
- Gardens are formal in design and are symmetrically designed with square or rectangular forms.
- They were not only essential to ensure the health of the plants in the garden, but were also a significant element of its design.
- The fountains are often constructed to symbolize how life cycles are shaped.
- Mughal gardens enclosed by a high sturdy wall. The wall's top is decorated with battlements with serrated crests.
- Its entrances are usually massive and stunning. Doors are massive wooden structures adorned with heavy metal nails, spikes and iron.
- Examples: The Taj Mahal Garden, Agra Fort, Humayun's Tomb Garden, and the Red Fort Garden.

Topic 34. SEA WINDS ERODE SUNDARBANS TEMPLE

Important for subject: History

The effect on climate changes, particularly the rising salinity of the air is eroding exterior of the wallof Jatar Deul which is a terracotta neo-Romanesque Shiva Temple.

- It is located in Raidighi located in South 24 Parganas, West Bengal.
- Based on the Archeological Survey of India, "the outer brick wall of the temple is getting eroded, with the edge of bricks suffering steady corrosion due to increase in air salinity,"
- The temple is in danger of erosion caused by the action of water or air salinity.
- Trees act as a barrier for coastal winds in the upper portion of the temple, which helps reduce the erosion that occurs on this side.
- Stone temples that are located near the coastline -- like the famous Konark temple in

Odisha are not affected by salinity because the porosity of stones is significantly smaller than brick.

About Jatar Deul temple:

- It is a Hindu Temple which is dedicated to Lord Shiva.
- The Temple is situated on a tiny hills in the region of the southern Sundarbans
- A copper plaque discovered close to the temple around 1875 suggest Raja Joychandra built the temple in 975 AD.
- The temple is designated a National Monument Importance through the Archaeological Survey of India (ASI).

Structure:

- The temple faces towards the east and is based on the Kalingan style of architecture.
- Temples are constructed over an elevated platform.
- It is a gate with arched arches that leads to the holy sanctum.
- The sanctum is beneath the level of the ground.
- The sanctuary contains Ling as images, idols and pictures of the gods and godsof Hindu pantheon.
- The temple's walls were decorated with intricately designed bricks, however the majority of them are gone because of non-planned reconstruction.

Kalingan design style for architecture

- It is a type of Hindu architecture that flourished during the past in Kalinga earlier was known as Utkal and was part of the Kingdom of Magadha or the current east Indian State of Odisha.
- In Kalinga style, Kalinga style - the temple is comprised of two buildings which are a hall and tower. The Tower is known as Deula, while the hall is known as "Jagmohan".
- The style is comprised of three distinct kinds of temples: Rekha Deula, Pidha Deula and Khakhara Deula.
- Rekha Deula:It is a high-rise with sikhara. Rekha Deula: Rekha Deula means a shrine that has different parts in a line. Eg: Rekha Deula in the Lingraj Temple of Bhubneshwar.

- Pidha Deula:Pidha Deula refers to the square structure with a the pyramid-shaped roof that is similar to the vimanas. Eg The hall of assembly of Konark Sun Temple. Konark Sun Temple.
- Khakhara Deula: It's a completely different style of architecture, closely looking like similar to Dravidian Gopuran style. Temples dedicated to feminine gods like Shakti are temples of this kind. Examples include the Baitala temple in Bhubneshwar is dedicated to Chamunda.

Topic 35. SC PRESSES NEED FOR REFORM ON TEDIOUS BAIL PROCESSES

Important for subject: Polity

In a recent meeting at a recent conference in Varanasi, Justice Kaul said the flow from bail cases and remission appeals to the Supreme Court was so high that "some kind of revolution" or "out of the box thinking" will be required from the government to make changes.

Indian Law on Bail

- The CrPC does not define bail, but categorizes offences under the Indian Penal Code as 'bailable or non-bailable'.
- The CrPC authorizes magistrates to issue bailfor bailable crimes as an issue of law.
- It would require the posting of a bail bond with or with no security.
- For non-bailable crimes a magistrate will decide whether the defendant is suitable to be granted bail.
- Infractions that are not bailable can be prosecuted and allow officers to detain without warrant.
- The section 436 in the Code of Criminal Procedure, 1973 stipulates that anyone who is who is accused of a bailable crime under the I.P.C. may be granted bail.
- However, Section 437 of the Code of Criminal Procedure, 1973lays the groundwork for the fact that a suspect has no right to bail in cases that are not bailable.
- It is at the discretion of the judge to issue bail in cases of non-bailable crimes.

Topic 36. ATTORNEY GENERAL RAISES SERIOUS OBJECTIONS TO FILING OF PETITIONS IN SC AGAINST STATES' RELIGIOUS CONVERSION LAWS

Important for subject: Polity

Attorney General R. Venkataramani, on Tuesday in the Supreme Court raised serious objections to petitions submitted to the Supreme Court against various States lawful religious conversions.

- The case involves anti-conversion laws of nine states, including Uttar Pradesh, Himachal Pradesh, Madhya Pradesh, Uttarakhand, Gujarat, Chhattisgarh, Haryana, Jharkhand and Karnataka
- The petitions argue that the State laws constitute an unjust interference with a person's rights to choose a faith or the choice of a life with a partner.
- One of the petitions filed in the batch is filed by Jamiat Ulama-iHind, which requested to the Supreme Court to declare religious conversion laws, especially those from five States as constitutionally unconstitutional claiming they put the individual decision of an individual to accept different faiths under the watch of the state.
- The law on religious conversions in question require a person seeking to convert, or a priest who will be the sole celebrant of the ceremony, to seek permission prior to the ceremony from the District Magistrate in the area. Additionally that burden fell for the new convert to prove that they were not compelled or "allured" to change faith.
- The petitioners have argued that the state laws have an impact that is 'chilling' the right to practice and spread one's religious beliefs as enshrined by Section 25 of the Constitution.
- The state's scrutiny of a decision made by a person to change religion is a serious violation of the personal freedoms of an individual and in violation of articles 21 (right to privacy, dignity and respect) and Article 25 (freedom of religious belief) from the Constitution
- The government has resisted the role for Citizens for Justice and Peace the NGO affiliated by activist Teesta Setalvad when it comes to the supreme court to challenge laws governing conversion of religion.
- According to the government, these are State laws as well as they are being heard by the State High Courts are hearing these. There are petitions in the State High Courts

and petitioners from the same court have filed petitions to the Supreme Court

Attorney General

- The Attorney General (AG) of India is a member of the Union Executive. AG is the most powerful law enforcement official in India.
- The Article 75of the Constitution provides for the post in the office of AG of India.
- AG was appointed by President, based on the recommendation of the Government.
- He/she must be a person who is eligible to be appointed as a judge of the Supreme Court, i.e. they must be citizens of India and have been an advocate of a higher court in the last five years, or an advocate for any high court for at least 10 years or be an outstanding jurist, according to the opinion by the president.
- Terms of Office the term of office is not fixed in the constitution.
- The procedure and the grounds for the demotion the office AG are not outlined by the Constitution.
- The President is the incumbent during the presidential pleasure (may be removed at any point).

Duties and Functions:

1. Provide guidance for Government of India (GoI) on legal issues, that are assigned to her by the President.
2. To perform other legal obligations of a nature that are given to her/him by the President.
3. To appear on behalf on behalf of GoI in all matters before the Supreme Court or in any matter at every High Court in which the GoI is involved.
4. To represent the GoI in any referral that the President makes in any matter to the Supreme Court under Article 143 (Power of the President to confer with the Supreme Court) of the Constitution.
5. To fulfill the duties assigned to them under the Constitution or other laws.

Rights and Limitations:

- He/she is entitled to speak as well as participate in the proceedings both Houses of Parliament or their joint sittings, as well as all committees of Parliament of which he or she may be a member, however, without the voting right.

- The member enjoys all rights and privileges that are granted to Parliamentarians.
- He/she is not in the category of public servants. He is not barred from the practice of law for private use.
- However, the person should not issue a statement or hold a meeting on behalf of the GoI.
- The Solicitor General for India and the Additional Solicitor General India aid the AG in the discharge of their official duties.
- Corresponding Office in the States: Advocate General (Article 165).

Topic 37. SC TO EXAMINE PLEAS ON ELECTORAL BOND SCHEME TODAY

Important for subject: Polity

It is expected that the Supreme Court is going to look into whether petitions challenging validity of the scheme of electoral bonds require a referral to Constituent Bench.

- The petitions that have been in the limbo for around eight years claim this scheme opened possibilities for anonymous contributions to political parties, days before the polls are due.
- The petition has claimed that amendments made through Finance Acts of 2016 and 2017 both passed by the House of Representatives as money Bills which, in conjunction with an electoral bond scheme "opened the floodgates to unlimited political donations".
- The amendments have lifted the restrictions on donations to political campaigns by corporations and have legalized anonymous donations.
- The Finance Act of 2017 has made it possible to use electoral bonds that are not required to be disclosed under the Representation and Peoples Act of 1951, which opens the way to uncontrolled, unreported sources of funding for political parties.
- The Finance Act, 2016 has changed also the Foreign Contribution Regulation Act (FCRA) 2010 to allow foreign corporations with affiliates in India to finance political parties in India effectively, opening up Indian the political system and its democracy to lobbyists from around the world.
- The Supreme Court is on January 31st to determine if petitions that challenge the validity of the electoral bonds should be submitted to an Constitution Bench.
- As per the Department of Economic Affairs (DEA) the sale of electoral bonds came

from

- March 2018 through December 2022 in 24 stages for a total of Rs10.23 crore for the taxpayer.
- The charges comprise Rs8.33 per cent in bank commissions and Rs1.90 crore for printing costs.
- While Rs. 6.74 lakh bonds for elections was printed, bonds totalling around Rs. 11699.84 million were offered for sale.
- Another issue that is being considered by the Apex court is a case relating to a government announcement that permits the sale of electoral bonds for another 15 days during Assembly elections.

Topic 38. CENTRE TO ROLL OUT PROCESS TO SET UP 16TH FINANCE COMMISSION SOON

Important for subject: Polity

It is expected that the Union Government is expected to start the process of setting up the 16th Finance Commission.

- The Finance Commission is a constitutional institution that is charged with formulating the revenue-sharing model that is shared among both the Union with the States and their distribution between the States.
- According to the Indian Constitution, a Finance Commission will be set up every five years.
- 15th Finance Commission 15th Finance Commission was created in November of 2017, with a mandate to formulate suggestions on the five-year timeframe from 2020-21. The commission's mandate was extended by one year until 2025-26 which ended the cycle.
- The most recent time that a Finance Commission was granted a 6-year time frame was that 9th Finance Commission which was created in 1987.
- The Union Finance Ministry will usually notify the guidelines of the Finance Commission and the Commission is typically given about two years to consider its scope of reference, discuss with States and make its recommendations.
- Experts think that a major new issue that the 16th Finance Commission would be the coexistence with GST Council. GST Council which is another permanent

constitutional institution.

- Experts are of the opinion that the GST Council's decision on tax rate changes may alter the calculations of revenue done by the Finance Commission for sharing fiscal resources.

Finance Commission

- Finance Commission is a constitutional institution with the aim of distributing specific revenue resources between the Union and States' Governments.
- It was adopted by Article 280 of the Indian Constitution by the Indian President.
- It was established to establish the financial relationships among both the Centre as well as the States. It was established in 1951.
- It is the responsibility to the Commission to offer proposals to the president in regards to distribution between the Union and the States of allocation among and between the Union as well as the states of net proceeds from taxes which will be divided between them or perhaps, split between them, and the division to the States of their percentage of the revenues and the guidelines to determine the allocation of grants to aid of the revenue of the States from the Consolidated Fund of India; any other issue which is brought by Commission by the president for consideration in the interest of sound financial management. Commission is to determine the procedure and exercise the powers to carry out their functions that Parliament might in law confer to them.

Composition of Finance Commission

- Chair: Heads the Commission and oversees the activities. He should have had experience in public affairs prior experience.
- Four Members.
- The Parliament is the one who determines the legal qualifications of Commission members of Commission and the methods of selection.
- Qualifications of Finance Commission Chairman and Members
- The Parliament has specified that the chairman must be an experienced person in public matters.
- The four members must be certified as judges in the High Court or be proficient in financial or financial matters, and be in administration or have knowledge of

economics.

- All nominations are made by the President of the country.
- Disqualification grounds for Members: found to have unsound mind, or involved in an act of violence in the event of an interest conflict
- The period of office of the member of the Finance Commission is specified by the President of India and in certain instances the members are appointed for a second term.
- The members are required to provide time or serve on the Commission according to the schedule set by the President.
- The pay of members is as per the rules in the Constitution.

Advisory Role of Finance Commission

- The recommendations of the Finance Commission are of an advisory nature only and are therefore are not binding on the government..
- It is the duty of the government to follow its recommendations regarding the grant of money to states.

Topic 39. INDIA AND EGYPT REITERATE SUPPORT FOR NON-ALIGNED MOVEMENT

Important for subject: International Relations

The Non-Aligned Movement was formed during the Cold War as an organization of States who did not want to officially join or with one of the United States or the Soviet Union and instead sought to remain neutral or independent.

- It was founded in the year 1960 in Belgrade in the which was then Yugoslavia under the direction of then Indian Premier Secretary Pandit Jawaharlal Nehru the The President of Egypt Gamal Abdel Nasser and the President of Yugoslavia Josip Broz Tito.
- The concept of the group was first conceived in 1955 when discussions were held during the Asia-Africa Bandung Conference held in Indonesia.
- It was the initial NAM Summit Conference took place in Belgrade, Yugoslavia in September 1961.
- It was home to it's members are 120as in April 2018, comprising 53 nations from

Africa 39 from Asia 26 countries from Latin America and the Caribbean and two members from Europe (Belarus, Azerbaijan). There are 17 countries as well as 10 international organizations who are observers at NAM.

- The Non-Aligned Movement was founded and hosted its first conference (the Belgrade Conference) in 1961 under the direction by Josip Broz Tito from Yugoslavia, Gamal Abdel Nasser of Egypt, Jawaharlal Nehru of India, Kwame Nkrumah of Ghana as well as Sukarno from Indonesia.
- The goal of the organization was stated in the Havana Declaration of 1979 to guarantee "the national independence, sovereignty, territorial integrity and security of non-aligned countries" in their fight against imperialism, colonialism, neocolonialism and racism and all forms foreign oppression.
- In the cold war, during the cold war era, the NAM played an important part in stabilizing world order, and also ensuring safety and peace. The non-alignment of NAM does not mean neutrality of the state in global matters It was always an intervention of peace in international affairs.

NAM Functioning

- NAM has no permanent secretariat, nor does it have a formal structure.
- Its administration is rotatable and non-hierarchical.
- NAM adopts decisions by consensus. These decisions need not necessarily be universal. It rather requires significant agreement.
- It also has Coordinating Bureau which is based at the UN in New York City.
- NAM is held every three years during each year's NAM Summit Conference of Heads of State.
- At the Summit there is a chair elected for the post, which is which is held for three years.
- In NAM each member country has the same weight.
- The current chairman for NAM Is Ilham Aliyev. He is the president of Azerbaijan. The position is held until 2022.

The 10 Principles of Bandung:

- Respect for the fundamental rights of human beings and the objectives and

fundamentals in the Charter of the United Nations.

- Respect for the territorial integrity and sovereignty of all nations.
- Recognition of equality for all races, and of equality between all nations small and large.
- Non-interference in an internal affairs a country.
- Respect the rights of each Nation to safeguard itself whether individually or collectively as per the Charter of the United Nations.
- The non-use of collective defence agreements in order to protect the particular needs of any of the major powerhouses.
- Avoiding acts or threats of aggression or use of force to impede the territorial integrity or independence of any country.
- All international disputes can be settled through peaceful ways.
- Promotion of cooperation and mutual interest.
- The respect for the rule of law and obligations international.

Topic 40. INDIA TO RAISE AT WTO EU'S PLAN TO LEVY CARBON TAX ON IMPORTS

Important for subject: International Relations

With 15% of India's exports to the EU the proposed CBAM could place Indian exporters into a difficult spot.

- India could bring up the issue of carbon tax to be set on the European Union, in the WTO.
- According to top officials from officials of the Department of Commerce (DoC), India will raise the question about CBAM (carbon the border adjustment mechanisms) in all relevant forums within the WTO.
- The tax will be in place in 2026 while the period of transition will start in 2023 the time that importers within the EU must declare (every quarterly) the emissions related to imported goods.

About Carbon Border Adjustment Mechanism

- The European Union has proposed the Carbon Border Policy, also known as "the carbon Border

- Adjustment Mechanism -to tax certain products such as steel and cement which are carbon-intensive starting in 2026.
- It is a tax on imports based upon the carbon emissions generated by the manufacturing process that is being questioned.
- In the form of a price for carbon, it reduces emissions. In a trade-related way it impacts exports and production.
- This makes it imperative for industries that use carbon to adhere to more stringent emission standards.

Opposition:

- BASIC is a group consisting of Brazil, India, South Africa and China and
- Thus, the large economies which depend on coal in a significant way over the past few years, have expressed general worries and reiterated their right to utilize fossil fuels for a while during their eventual transition into clean energy sources.
- They agreed that carbon border taxes which could cause market distortions and worsen the trust gap between parties should be prevented.

Topic 41. GENERAL ASSEMBLY DIVIDED OVER UN REFORMS

Important for subject: International Relations

It was UN General Assembly President Csaba Korosi, during his trip to India declared it was the case that reforming the UN Security Council was a member-driven initiative that will need the participants of the UN General Assembly (UNGA) to come together and approve Resolutions requiring the reforms.

- The process of urging P5 or the UN Security Council (UNSC) or P5 to agree with a suggestion that comes from P5 of the UN General Assembly for reform begins with the adoption of a resolution at the UNGA.
- But, this resolution has not been ratified since the UNGA has been always very divisive.
- As per President of the UNGA President, out of 193 members of the UNGA There are five negotiation groups and they've been neutralizing the demands of each other.
- The UNGA President also said it was the case that permanent members (P5) had been "historically not enthusiastic" about reforms to the UN system. He has also argued

that the function in the UNGA is just as crucial as that of the P5 members of the UNSC in ensuring the reform of UN reform. UN system.

- He said that the mechanism of veto within the UNSC was more than 77 years old and has become a tool to stop any work done by the world body on a variety of concerns.

Intergovernmental Negotiations (IGN)

- The UNGA President, in the month of October 2022 attempted to restart the process of reforms by naming two negotiators to the program of reform who would oversee negotiations for the Intergovernmental Negotiations (IGN) as co-chairs.
- The designated negotiators comprised two Permanent Representatives, namely Tareq M.A.M. Albanai of Kuwait and Michal Mlynar of Slovakia.
- IGN is the group which is responsible for the problem that is UN reform.

India's position regarding UN reforms

- India expressed discontent over the slow pace of implementation of changes to the UNSC.
- India's External Affairs Minister of India at the last week's Voice of the Global South Summit had stated that the UN as an "frozen 1945-invented mechanism" and had stated that a small number of the world powers were solely focused on the advancement of their own interests, instead of focussing on the wellbeing of the world community.
- India's membership: India has served seven times in the UN Security Council as a non-permanent member. In January 2021 India joined the UNSC for the 8th time.

UNSC Reform

- UNSC is thought of as the central point for the UN system.
- It is the only organ of the UN with teeth that can bite. It is the main voice on all important decisions made in UN
- The Chapter VI section of the UN charter grants a mandate to the UNSC to resolve conflicts in a peaceful manner through mediation and to negotiate an end to the war through peacekeeping.
- Chapter VII of the UN charter gives the authority to UNSC to enforce economic and

military sanctions

Method for reform

- The UNSC reforms require for an amending the Charter of the United Nations.
- In the initial stage in the first stage, it is the UN General Assembly must approve the reform with at least two-thirds majority.
- After being approved by the UN General Assembly, the modified Charter is then to be approved by at least two-thirds of all members including the five permanent Security Council members.
- As per Article 108 of the Charter all permanent participants of the Security Council must ratify the modification or else it won't be recognized.

Topic 42. MONUMENT MITRA SCHEME

Important for subject: Government Schemes

The government will transfer about 1,000 monuments that are under the supervision by the Archaeological Survey of India to the private sector for maintenance as part of the Monument Mitra Scheme, announced Govind Mohan, the Secretary of the Ministry of Culture on Wednesday.

- Corporate companies will assume the responsibility of these monuments in the context of their corporate social responsibility.
- As part of the scheme the monument facilities will be renovated through the private sector.
- The government has set a target to transfer over 500 sites in the revised Monument Mitra Scheme by the closing of Azadi the Amrit Mahotsav which will be on 15 August 2023.

Monument Mitra scheme

- The plan will create over a thousand statues to the umbrella of private industry.
- Private sector companies will remodel the monuments.
- They'll do this as component of their Corporate Social Corporate Social Responsibility.
- Revamping refers to making a structure more efficient or altering it's appearance.

- These monuments will get upgraded with regard to amenities. The monuments will receive lighting and sound systems. Shops will be open. Initiatives to boost tourism will be put into place.
- The program will become carried out under the Ministry of Culture.
- One thousand of the monuments chosen in the scheme are under the care under the Archaeological Survey of India.

Topic 43. PROMOTE 'ONE DISTRICT ONE SPICE', URGES NITI AAYOG MEMBER

Important for subject: Government Schemes

Dr Ramesh Chand, Agricultural Economist and member of Niti Aayog has urged All-India Spices Exporters Forum (AISEF) to come up with the "one district one spice" action plan to encourage the cultivation of spices, as a follow-up of the "One District One Product" initiative by the central government in order to drive economic expansion.

- In the entire amount of crop land of about 200 million hectares of the country spice crops are only grown in 2.2 percent of the area of cultivation which is equivalent to 4.4 million acres.
- However, the share of spices in as a percentage of the entire crop industry is 6percent.

One District One Product (ODOP)

- The initiative was announced in January 2018 through government officials from the Uttar Pradesh Government, and because of its success, was later approved in the Central Government.
- The One District, One Product (ODOP) followed by the 'One District, One Product' introduced by Ministry of Food Processing Industries for helping districts realize maximum potential encourage socio-cultural and economic growth and provide employment opportunities especially in rural areas.
- The initiative is implemented through the Districts as Export Hubs initiative launched by the Directorate General of Foreign Trade (DGFT), Department of Commerce.
- It is a centrally financed scheme, which is shared between the federal government and state governments in 60:40 contribution

Significance

- The ODOP initiative aims to realize the dream by the Prime Minister Hon'ble of India to promote sustainable regional development that is balanced across all districts across the nation.
- The concept is to choose to brand, market, and promote one product from every District in the nation.
- To promote an overall socioeconomic development across all regions
- To draw investment to the District, to increase manufacturing and exports
- To create employment for the District
- In order to create an ecosystem for innovation/use of technology at the District level.
- In order to make them marketable with both the domestic as in the international market

Topic 44. G20 TASK FORCE ON DIGITAL PUBLIC INFRASTRUCTURE

Important for subject: Governance

The Union government has established the India's G20 Task Group for Digital Public Infrastructure for Economic Transformation, Financial Inclusion and Development.

- The task team will be co-chaired India's G20 secretary Amitabh Kant and Infosys chairman Nandan Nilekani.
- The goal Task force to manage and assist in achieving India's G20
- Agenda and priorities of the Presidency regarding digital public infrastructure and financial inclusion, as well as improving digital identity, and innovative services based on technology, such as digital payment systems like UPI as well as the governance frameworks.

Digital Public Infrastructure (DPI)

- It is the Open-Source Identity Platform that allows users to connect to a array of public and private services through the development of apps and other products.
- It covers electronic forms for ID and verification of civil registration, payment (digital transactions and money transfer) and data exchange along with information and systems.
- These digital platforms for public use are customizable, localizable and interoperable,

and use the public data base for open design models for innovation.

- As an example, Unified Payment Interface (UPI) architecture's interoperability can be seen in more than 300 banks providing links to bank accounts using UPI that are accessible by users via 50+ apps from third parties.
- The platforms that make up DPI are founded on the core values of consent-based protocols for sharing data and are based on equity, openness inclusiveness, fairness, trust and transparency hence decreasing the divide between the digital world and the physical.

Significance:

- Due to DPI's cost-effective and accessible platform, India has been able to expand the boundaries in public services delivery, and also digitally leapfrog the competition, with the public sector setting regulatory limits, as well as the private industry innovating and competing the market.
- DPI can also allow countries to keep the strategic control of their digitalisation process, guarantee digital collaboration and increase capacity over time.
- A recent study from the Bank for International Settlements (BIS) has shown that due to DPI, India has delivered in just 10 years what would take 50 years to accomplish.
- The study by C-DEP Centre for Digital Economy Policy Research (C-DEP) estimates that digital ecosystems in the nation could contribute more than 5percent on India's GDP.
- The 2022 deadline is UN Development Programme and the Digital Public Goods Alliance nations from all over the globe, will be sharing DPGs along with best practices for the development of DP
- Funders also provided 295 million dollars to develop an inclusive public infrastructure for digital with DPGs.

Applications:

- India is considered to be an international leader within this DPI movement, and has been set up in the wake of numerous massive DPIs as opposed to technological innovations that came from developed countries:
- JAM triplet which connects Aadhaar mobiles, Aadhaar, and bank accounts

- Digi Locker for documents and storage in digital format
- Bharat Bill Pay is a single-stop solution to pay multiple times
- UPI, Aadhaar Enabled Payment Systems (AePs) and Immediate Payment Service (IMPS)
- CoWin for vaccination

Topic 45. APEDA TO USE RIVER NAMES AS BRAND TO EXPORT AGRI PRODUCTS

Important for subject: Agriculture

In its promotion strategy to promote exports of agricultural products The Agricultural and Processed Food Products Export Development Authority (APEDA) proposes using the river's names as a tag line as well as branding options for Indian agricultural products.

- APEDA is looking for agri products that could be procured in the Gangetic, Brahmaputra, Cauvery and Godavari river basins, in addition to other areas across the nation.
- According to APEDA the GI-labeled agri products have been very well received in the international market.

What is a Geographical Indication?

- It's an indication
- It comes from a certain geographic region.
- This is used in order to denote the origin of agricultural, natural or manufactured items
- It is an emblem on goods with a distinctive geographic origin and its the evolution over time with respect to its distinctive quality or reputational qualities.
- It's a sign of authenticity that ensures registered users who are authorized or at a minimum those living within the geographical area are able to use well-known brand names.
- The GI tag in India is controlled by the Geographical Indications of Goods (Registration and Protect) Act, 1999. The GI tag is provided by Geographical Indications Registry (Chennai).

What is the purpose behind the registration of indications of geographic location?

- It grants legal security to geographical indications registered in India It prevents the illegal use of an Registered Geographical Indication by others.
- It encourages the prosperity for producers of goods within a geographic area.

What indications aren't registrable?

- To be registered indications, they must fit within the meaning that is defined in section 2(1) of the GI Act, 1999. As such, they need to comply with the provisions in section 9 that bans registration of a Geographical Symbol.
- The use of which could be likely to mislead or cause confusion.
- The use of which is contrary to any law at the time in force, or
- that contain or are constituted of shocking or obscene matter;
- that includes or contains subject matter that could harm at the moment of its inception or affect the religious sensibilities of any group or segment of Indian citizens; India or
- that would otherwise be disposed of for protection at a trial; or
- which are considered as generic terms or signs of goods and are consequently, no longer for protection in the country of origin or are in decline in the country in which they originated;
- Even though they are true to the region of the territory or location from which the goods originate but falsely imply to individuals that the goods originate from a different territory or location, depending on the situation.

How long does the application for Geographical Indication is valid?

- Registration of a geographic designation is in effect for a time of 10 years. It can renew from time for another intervals of 10 years every.

Topic 46. RAMACHARITMANAS

Important for subject: Art & Culture

On the 11th of January Bihar education minister Chandra Shekhar said the Ramcharitmanas propagates hatred within the society.

About Ramacharitmanas

- Ramcharitmanas is based on the Ramayana Sage Valmiki's epic.
- The book is considered to be the most sacred book in the region of Indo-Gangetic and one of the world's most sought-after holy books.
- In across the Hindi coreland area, the word "Ramayan" often actually means Ramcharitmanas.
- Tulsidas one of the Brahminwhose initial name used to be Ram Bola Dubey, composed the Ramcharitmanason the bank of the Ganga in Varanasi.
- He was a part of the time of Akbar and shared poetic exchanges and with Bairam Khan's son the mughal commander Bairam Khan.
- It is believed that he began writing his Ram Navami poem in 1574 and finished the poem in the following couple of years.
- Tulsidas wrote the tale about Lord Ram popular with people due to his writing in the dialect of the region that was understood by the majority of people.
- Differentialities in Ramayana as well as Ramacharitmanas
- Both are inspired by the Lord Ram however the major distinction between them is the author and the date that they were composed.
- Ramayana was composed by Sage Valmiki in Treta Yuga. In contrast, Ramcharitmanas was written by Tulsidas in Kaliyuga.
- Ramayana is written in Sanskrit and Ramcharitmanas was written in the Awadhi Language.
- Slokas was utilized in writing Ramayana while, Chaupais format was used to write Ramcharitmanas.