

WEEKLY CURRENT AFFAIRS MAGAZINE for



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

JULY-VOL-IV-2022

23 July to 31 July



- UPSC/MPSC/NDA/CDS/CAPF/AFCAT
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Topic 1. INVASIVE FROG AND SNAKE COST WORLD ECONOMY \$16 BILLION

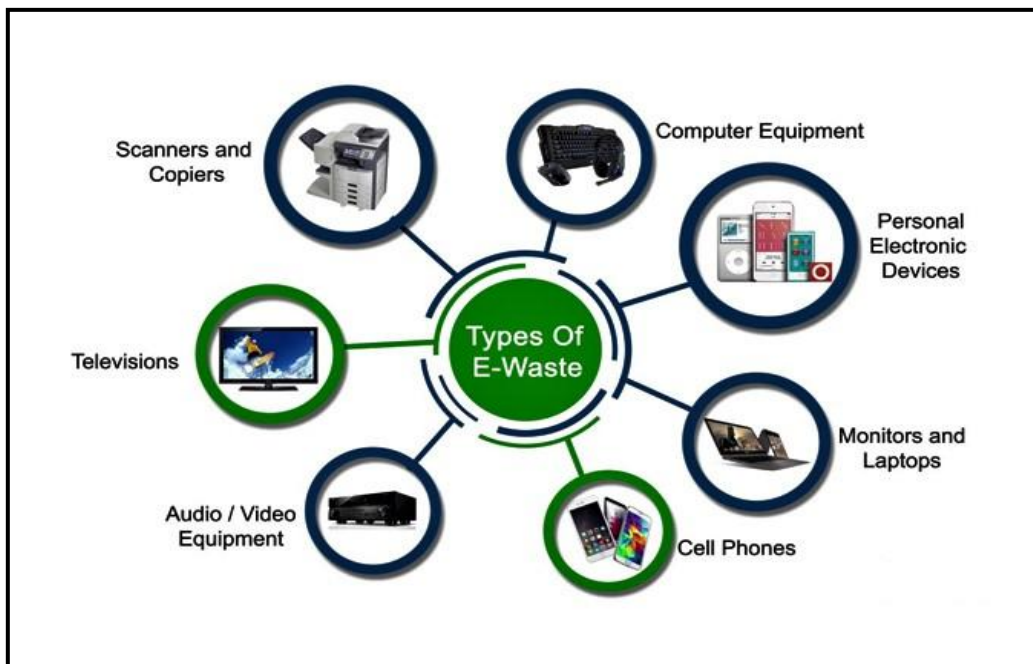
Important for subject: Environment

According to a study that was published in Scientific Reports Two invasive species such as the American bullfrog as well as the tree snake with brown color caused the world to lose an estimated of \$16 billion in the period between 1986 and 2020 due to their causing issues ranging from damage to crops as well as power interruptions.

- The brown-and-green frog, known as lithobatescatesbeianus and weighs over two pounds (0.9 kg), had the greatest impact in Europe.
- This brown snake also known as boigairregularis has spread in uncontrollable numbers over Pacific islands, including Guam and Guam and the Mariana Islands, where the species was introduced by U.S. troops in World War II.

Topic 2. E-WASTE

Important for subject: Environment



New e-waste regulations threaten jobs, collection network. India's informal sector is responsible for handling electronic waste (or electronic goods that have outlived their shelf lives).

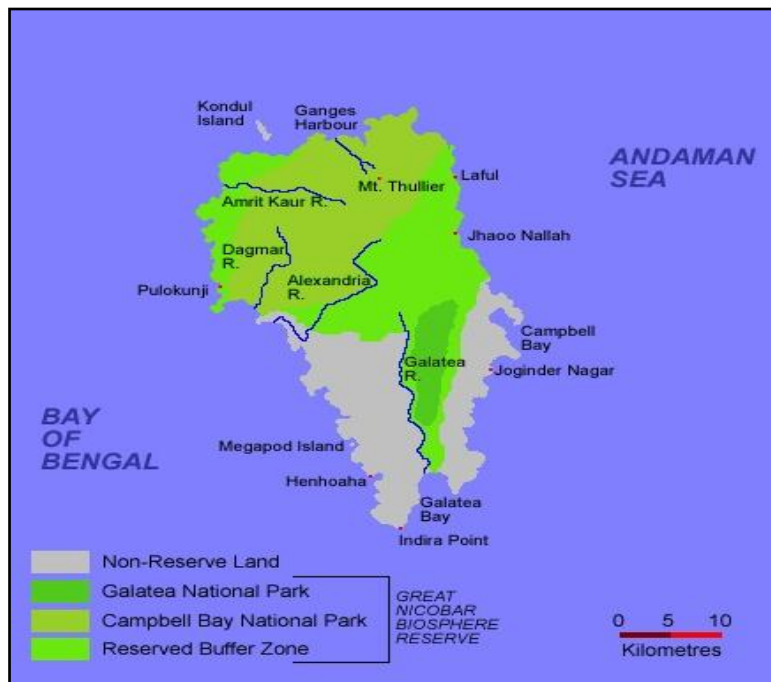
- The E waste Management Rules (2016) were introduced by the environment ministry.
- This system of extended producer responsibility (EPR), requires electronic product manufacturers to ensure that a certain percentage of their goods are recycled every

year.

- They are required to keep records each year that prove this.
- Most companies however didn't maintain an in-house unit in charge of recycling and this gave rise to network of government-registered companies, called Producer Responsibility Organisations (PRO)
- Who acted as an intermediary between manufacturers of electronic goods and formal recycling units that were technologically equipped to safely and efficiently recycle end-of-life electronic goods.
- Draft Notification for Electronic Waste Management.
- The Environment Ministry published a draft notification in May that eliminates PRO and dismantlers.
- It vests all responsibility for recycling with authorized recyclers.
- There are only a few of them in India.
- Recyclers can source waste and recycle it.
- These certificates can be purchased by Companies equivalent to their annual commitment target.
- Companies do not need to engage PROs or dismantlers.
- Companies will not be responsible for making sure that their products are recycled as recyclers will likely create their own supply chains.
- The electronic management system used to track material sent in for recycling and the output claimed by recyclers when they claimed GST (Goods and Services Tax).
- These rules establish a trading system for certificates similar to carbon credits that allows companies to temporarily cover shortfalls.
- Electronics manufacturers and consumer goods companies must ensure that at least 60% of their electronic scrap is recycled by 2023.
- The targets are to increase these numbers to 70% and 80% respectively in 2024, 2025 and 2025.
- Companies that fail to meet their annual targets may be subject to a fine or 'environmental compensation'. These regulations will be implemented by the CPCB (Central Pollution Control Board).

Topic 3. THE CONTAINER TERMINAL THAT COULD SINK THE GREAT NICOBAR ISLAND

Important for subject: Environment



India's government is working on a huge development project that will include a container terminal and airport, township and a power station on Great Nicobar Island, which is strategically located in the Andaman and Nicobar Islands.

- Opponents of the project point out that it will negatively impact primitive tribal groups as well as wildlife, including leatherback turtles and species like saltwater crocodiles and Nicobar crab-eating Macaques, migratory birds, and leatherback turtles.
- The project is located in an active seismic zone with high risk. Civil society organizations have asked for its revaluation.
- Great Nicobar Island is located in the south of India. It is one of the most strategic areas of the Andaman and Nicobar Islands region.
- It is actually closer to Sumatra and Myanmar than the Indian mainland. In 2013, it was also included in UNESCO's biosphere program. It is home to "one of the most well-preserved tropical rain forest in the world."
- It also contains the Great Nicobar Biosphere Reserve. The Ministry of Home Affairs has classified PVTG 75 tribal groups as PVTGs. Only for them, the Ministry of Tribal Affairs implements 'Development of PVGs'.

- Article 366 (25) provides for a process for defining Scheduled Tribes.
- Primitive Tribal groups (PTGs), who are less developed than other tribal groups, were created by the Dhebar Commission in 1973.
- The Government of India changed the name of the PTGs to PVTGs in 2006. The highest number of PVTGs is found in Odisha, which has 75.
- Five PVTGs are found in the Andaman Islands, including Jarawas and Onges, Sentineles, Sentineles, Sentineles, Great Andamanese and Shom Pens.

Topic 4. AFRICAN CHEETAHS TO BE MOVED AROUND FOR HEALTHY GENE FLOW: EXPERT

Important for subject: Environment

THE CHEETAHS ARE COMING

HOW MANY?
20
8 from Namibia + 12 from SA

WHERE?
Kuno National Park, Madhya Pradesh
(Kuno National Park will have a 600-hectare fenced enclosure to house the Cheetahs)

What is the long-term population size expected?
36 (max)

Are there similar relocation programmes?
South Africa to Malawi, Mozambique

What is the carrying capacity of Kuno?
21 Cheetahs

Could it share its space? Yes, with Asiatic lions

Are there threats? Yes, with Kuno's existing leopard population

They are currently preparing for their transcontinental journey with the 12 African cheetahs that will fly to India next month from South Africa.

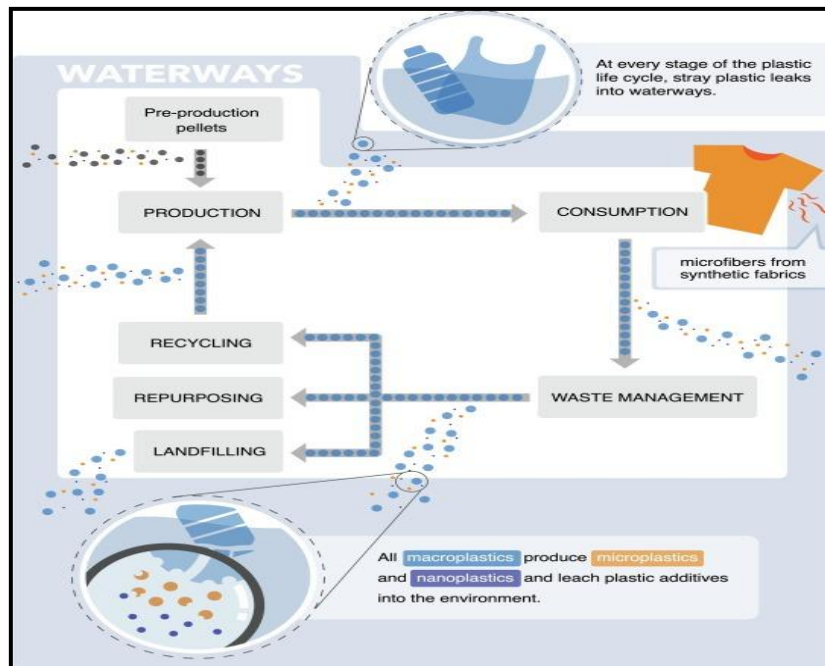
- These are the 20th batch of 20 Indian cheetahs that India will receive in its cheetah rehabilitation plan at Kuno National Park, Madhya Pradesh Action Plans for Introduction of Cheetah in India: Project Cheetah is an initiative to restore India's extinct large mammal, the cheetah.
- Over five years, 50 cheetahs are to be brought into National Parks.
- To save cheetahs one must not only protect their prey-base, which includes certain endangered species, but also other endangered species in the grasslands and open forests ecosystems. Some of these species are at risk of extinction.
- Important consideration in such conservation efforts is to ensure that animals are not sourced in a way that threatens the survival of the original population.
- India will source cheetahs primarily from Southern Africa as it is impossible to source

the critically endangered Asiatic Cheetah in Iran.

- This can ensure that India has sufficient cheetahs for many years.
- Cheetahs originating from Southern Africa have the highest genetic diversity of all extant cheetah lines, which is an important characteristic for a founding stock. Furthermore, the Southern African cheetahs were found to be ancestral to all other cheetah lines, including those found in Iran.
- KunoPalpur National park (KNP), Madhya Pradesh, was rated the most popular of all the central Indian states.
- Its suitable habitat and sufficient prey base are the reasons for this high ranking.
- KNP covers 748 sq. km. It is located in Sheopur-Shivpuri deciduous, open forest landscape.
- It has a potential to support 21 cheetahs. Other recommended sites include Nauradehi Wildlife Sanctuary and Madhya Pradesh Gandhi Sagar Wildlife Sanctuary-Bhainsrorgarh Wildlife Sanctuary.
- Madhya Pradesh Shahgarh Bulge in Jaisalmer. Rajasthan Cheetah lives in open plains.
- Their habitat is primarily where their prey lives - open plains, grasslands, scrubs, and open forests systems.
- They also enjoy semi-arid climates and higher temperatures than those in cooler regions. Iran is home to the critically endangered cheetah subspecies that is extinct locally in India.

Topic 5. INDIA AND CLEAN SEA CAMPAIGN

Important for subject: Environment



As part of the 30X30 commitment, Pollution India has committed to protect at least 30% of "our", lands, waters and oceans by 2030.

- India is part the High Ambition Coalition for Nature and People.
- It was established at the "One Planet Summit" (Paris, January 2021) to promote an international agreement to preserve at least 30% of the world's ocean and land by 2030.
- India also offered to provide science and innovation-based solutions for the implementation of SDG-Goal 14 through partnerships and environmentally-friendly solutions at the World Ocean Summit.
- Goal 14 is about the sustainable and conservation of the oceans, marine resources, and seas.
- Clean Seas Campaign - Launched in 2017, Clean Seas engages governments, the general population, civil society, and the private sector to develop effective action plans for marine litter and plastic polluting. Clean Seas is currently signed by 63 countries.
- Clean Seas 2.0 will initially focus on single-use plastics.
- It will also communicate the root causes of the production, use, and disposal of problematic, unnecessary, and avoidable plastics.

- This is an evidence-based approach. The topic areas of the report will include packaging, textiles, and ghost fishing gear.
- Two UNEP-focused river projects are used in 0: Counter MEASURE (Mississippi River Plastic Pollution Initiative) and Counter MEASURE (Mississippi River Plastic Pollution Initiative).
- "Counter MEASURE" uses cutting-edge technology in order to find the source of plastic pollution in Asia's river systems, primarily the Ganges or Mekong.
- The project uses a combination drone imaging, machine-learning, citizen science and geographic analysis to collect data that identifies hotspots for plastic waste and share it with partners and governments throughout the region.
- The "Mississippi River Plastic Pollution Initiative", which is led by UNEP, in partnership with the Mississippi River Cities and Towns Initiative and University of Georgia, relies on citizen science.
- The Global Commitment was co-led by UNEP and Ellen Mc Arthur Foundation. It established a common vision for a circular economy in plastics by 2025.
- UNEP has created a Digital Platform through the Global Partnership on Marine Litter to connect and connect stakeholders and information in order to encourage action to prevent plastic pollution from reaching the oceans.
- "SwachhSagar SurakshitSagar", Every year, the International Coastal Clean Up Day is observed on the third Saturday in September.
- The Government of India, along with other volunteer organizations and local societies, will conduct a cleanliness campaign called "SwachhSagar SurakshitSagar" along India's entire coastline this year.
- The Ministry of Earth Sciences, Ministry of Environment Forest and Climate Change and Indian Coast Guard will participate in the campaign.
- There will also be National Disaster Management Authority (NDMA), other social organizations and educational institutions.
- The campaign will have a large public participation, both physically and virtual, to raise awareness about marine litter, minimising plastic use,

waste management, and segregation at the source.

- It will be the longest-running and most popular coastal clean-up campaign anywhere in the world.
- It will include the participation of common men to spread the message of "SwachhSagar SurakshitSagar" in support of prosperity not only of coastal areas, but all of India.
- The clean-up campaign will take place at 75 beaches throughout the country. To raise awareness about SwachhSagar and SurakshitSagar, a 75-day campaign will begin on 03 July 2022.
- It will culminate on 17 September 2022 with the International Coastal Cleanup Day.
- To spread awareness and allow people to register for the voluntary beach cleanup on 17 September 2022, Eco Mitram has launched a mobile app.
- This campaign aims to create a change in behaviour among the masses by raising awareness on how plastic use is destroying marine life.
 1. Regional Seas Programme, 1974
 2. Clean up the world Campaign, 1993
 3. TUNZA, 2003
 4. Billion Tree Campaign, 2006
 5. Faith for Earth Initiative, 2008
 6. World Environment Day (June 5)
 7. Not all animals migrate by choice campaign, 2019.

Topic 6. STUDY SUGGESTS HABITAT LOSS IS LEADING TO INBREEDING OF INDIAN TIGERS

Important for subject: Environment

Tigers when kept in one location can only mate with the other tigers in their own population.

- Over time, this will result in inbreeding, they will end up mating with their relatives Whether this inbreeding compromises their fitness, their ability to survive, we do not yet know While genetic diversity across a population improves their chances of survival in the future, the study said population fragmentation of tigers can decrease this variation, and endanger them further.
- With 70% of the world's tigers living in India, the researchers said understanding the

genetic diversity of tigers in the country is critical to the feline's conservation worldwide.

- Conservation Status of Tiger: Indian Wildlife (Protection) Act, 1972: Schedule I
International Union for Conservation of Nature (IUCN) Red List: Endangered.
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Appendix I.
- Steps taken for Conservation: Conservation Assured | Tiger Standards (CA|TS): 14
Tiger Reserves in India have already been awarded with international CA|TS
accreditation and efforts are on to bring in more Tiger Reserves under CA|TS
accreditation.
- Project Tiger: It is a Centrally Sponsored Scheme of the Ministry of Environment,
Forests and Climate Change (MoEFCC) launched in 1973.
- It provides havens for tigers in the country's national parks.
- Petersburg declaration: With 2,967 tigers, India, four years in advance has achieved
the target set in the 2010 St Petersburg Declaration of doubling tiger population by
2022.
- India had around 1,400 tigers in 2006.
- The Heads of the Governments of Tiger Range countries at Petersburg, Russia, had
resolved to double tiger numbers across their global range by 2022 by signing the St.
Petersburg declaration on tiger conservation.
- During the same meeting it was also decided to celebrate 29th July as Global Tiger
Day across the world, which is since being celebrated to spread and generate
awareness on tiger conservation.
- There are currently 13 tiger range countries – India, Bangladesh, Bhutan, Cambodia,
China, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand and
Vietnam.

Topic 7. UN DECLARES ACCESS TO CLEAN AND HEALTHY ENVIRONMENT AS UNIVERSAL HUMAN RIGHT

Important for subject: Environment

India voted for the resolution and pointed out that the resolutions do not create binding obligations Every person on the planet has the right to live in a clean, healthy environment, declared United Nations (UN) in a historic resolution.

- The landmark development demonstrates that the member states can unite in the collective fight against the triple planetary crisis of climate change, biodiversity loss and pollution.
- This right was not included in the Universal Declaration of Human Rights, 1948.
- So, this is a historic resolution that will change the very nature of international human rights law United Nations Conference on the Human Environment: Stockholm 1972 It was first declaration of international protection of the environment Held in Stockholm, Sweden from June 5–16 in 1972.
- The meeting agreed upon a Declaration containing 26 principles concerning the environment and development; One of the seminal issue that emerged from the conference is the recognition for poverty alleviation for protecting the environment.
- Indira Gandhi attended it The conference led to increased interest and research collaboration which paved the way for further understanding of global warming, which has led to such agreements as the Kyoto Protocol and the Paris Agreement, and has given a foundation of modern environmentalism.
- The United Nations Environment Programme has been established by the United Nations General Assembly in pursuance of the Stockholm Conference United Nations General Assembly (UNGA): The United Nations General Assembly (UNGA) is one of the six principal organs of the United Nations (UN).
- It serving as the main deliberative, policy-making, and representative organ of the UN.
- Its powers, composition, functions, and procedures are set out in Chapter IV of the United Nations Charter.
- The UNGA is responsible for the UN budget, appointing the non-permanent members to the Security Council, appointing the Secretary-General of the United Nations, receiving reports from other parts of the UN system, and making recommendations through resolutions.
- It also establishes numerous subsidiary organs to advance or assist in its broad mandate.
- The UNGA is the only UN organ wherein all member states have equal representation.
- It has 193 members (all the UN member countries). The resolutions passed by the

General Assembly do not have the binding forces over the member nations.

- The General Assembly meets under its president or the UN Secretary General in annual sessions at UN headquarters in New York City. The first session was convened on 10 January 1946 in the Methodist Central Hall in London and included representatives of the 51 founding nations.
- The Assembly may also take action if the Security Council fails to act, owing to the negative vote of a permanent member, in a case where there appears to be a threat to the peace, breach of the peace or act of aggression.
- The Assembly can consider the matter immediately with a view to making recommendations to Members for collective measures to maintain or restore international peace and security.

Topic 8. WWF'S 'GOOD FOR YOU GOOD FOR THE PLANET' CAMPAIGN

Important for subject: Environment

A new study by WWF and Tesco revealed that food waste amounts to 10 per cent of GHG, a jump from previous estimates of eight per cent

- The WWF has launched the “Good for you, Good for the planet” campaign to guide people towards eating a planet friendly diet.
- A new study by WWF and Tesco revealed that food waste amounts to 10 per cent of GHG. Adopting a plant-based diet brings down food-based greenhouse gas (GHG) emissions by at least 30 per cent, wildlife loss by up to 46 per cent, agriculture land use by at least 41 per cent and premature deaths by at least 20 per cent.
- This amounts to twice the yearly carbon emissions from automobiles in the United States and Europe.
- Overall, 2.5 billion tonnes of food goes uneaten globally.

Topic 9. WHY THE GOVERNMENT PLANS TO SCRAP THE DECADES-OLD COFFEE ACT

Important for subject: Environment

The Ministry of Commerce and Industry is planning to replace the 80-year-old Coffee Act with the new Coffee (Promotion and Development Bill), 2022, which has been listed for the Monsoon Session of Parliament. The origin of the Coffee Act, 1942

- In the 1930s, the Indian coffee industry was facing significant problems, such as

large-scale damage by pests and diseases, and the global economic downturn caused by the Great Depression With coffee planters making significant losses, the government passed the Coffee Cess Act (XIV of 1935) and established the first Indian Cess Committee in November 1935, in order to promote the sale of coffee and increase consumption of Indian coffee at home and abroad

- These problems from the 1930s were compounded with the outbreak of World War II, as low demands and a loss of foreign markets led to a sharp decline in coffee prices Since the Cess Committee was not able to deal with the crisis faced by the industry, the government formed the Coffee Board, through the introduction of the Coffee Act, 1942, under the control of the Ministry of Commerce and Industry.
- **The coffee Act, 1942:** The purpose of the Act was to provide for the development of the coffee industry.
- The Coffee Board was tasked with supporting the industry in marketing, promotion of consumption, finance and research and development.
- Before India liberalised its economy in 1991, the Coffee Board controlled the marketing of the commodity in its entirety, both in India and abroad
- It was previously in charge of collecting, storage, processing and sale for the growers as well.
- The Coffee Act introduced a pooling system, where each planter was required to distribute their entire crop to a surplus pool managed by the Board, apart from the small quantities that were allowed for domestic use and seed production
- The grower was required to take the harvested and dried coffee to a curing factory, where they would receive an advance.
- Registered private contractors would clean, sort and grade the quality of coffee on a point system, for which they would receive a fee from the Coffee Board which would be later deducted from its payment to the grower.
- The Board then marketed 70% of the total pool for export and 30% for domestic markets, and sold them in separate auctions
- The money that was generated from these auctions was pooled and the Board paid the grower in instalments through the year, based on the number of points their coffee was given at the curing factory.
- The changes since liberalization While the Board continues to be the chief

governmental body to supervise the industry, it no longer maintains its monopolistic control over the marketing of Indian coffee.

- Through a series of amendments, the Board's authority was reduced, and in 1996, the pooling system was abolished and growers were allowed to directly sell to processing firms.
- The coffee market was entirely deregulated and the growers exposed to the free market.
- Since liberalisation, the Coffee Board plays more of an advisory role, and aims at increasing production, promoting further export and supporting the development of the domestic market.

Why does the government want to scrap the law?

- Many of the provisions in the coffee act have become redundant and are impediments to the coffee trade.
- In order to facilitate growth and ease of doing business, the government would remove the “restrictive and redundant” provisions and introduce a simplified version of the Act to suit the present needs of the industry, To ensure that the benefits of all agricultural schemes are extended to coffee growers the government planned to shift the coffee board from the Ministry of Commerce to the Ministry of Agriculture.
- The draft Coffee (Promotion and Development) Bill, 2022 primarily concerned with promoting the sale and consumption of Indian coffee, including through e-commerce platforms, with fewer government restrictions.
- It also aims at encouraging further economic, scientific and technical research in order to align the Indian coffee industry with “global best practices.”
- While the Coffee Board continues to have limited control over marketing, exporters will still require a certificate from the statutory body.
- **Coffee Board of India:** It is an Organisation managed by the Ministry of Commerce and Industry of the government of India to promote coffee production in India.
- The head office of the Coffee Board is situated in Bangalore.
- The Coffee Board of India was established by an act of Parliament in 1942.
- Until 1995 the Coffee Board marketed the coffee of many growers from a pooled supply, but after that time coffee marketing became a private-sector activity due to the economic liberalisation in India.

- The Coffee Boards tradition duties included the promotion of the sale and consumption of coffee in India and abroad, conducting coffee research, financial assistance to establish small coffee growers, safeguarding working conditions for laborers, and managing the surplus pool of unsold coffee

Topic 10. LION VS TIGER

Important for subject: Environment

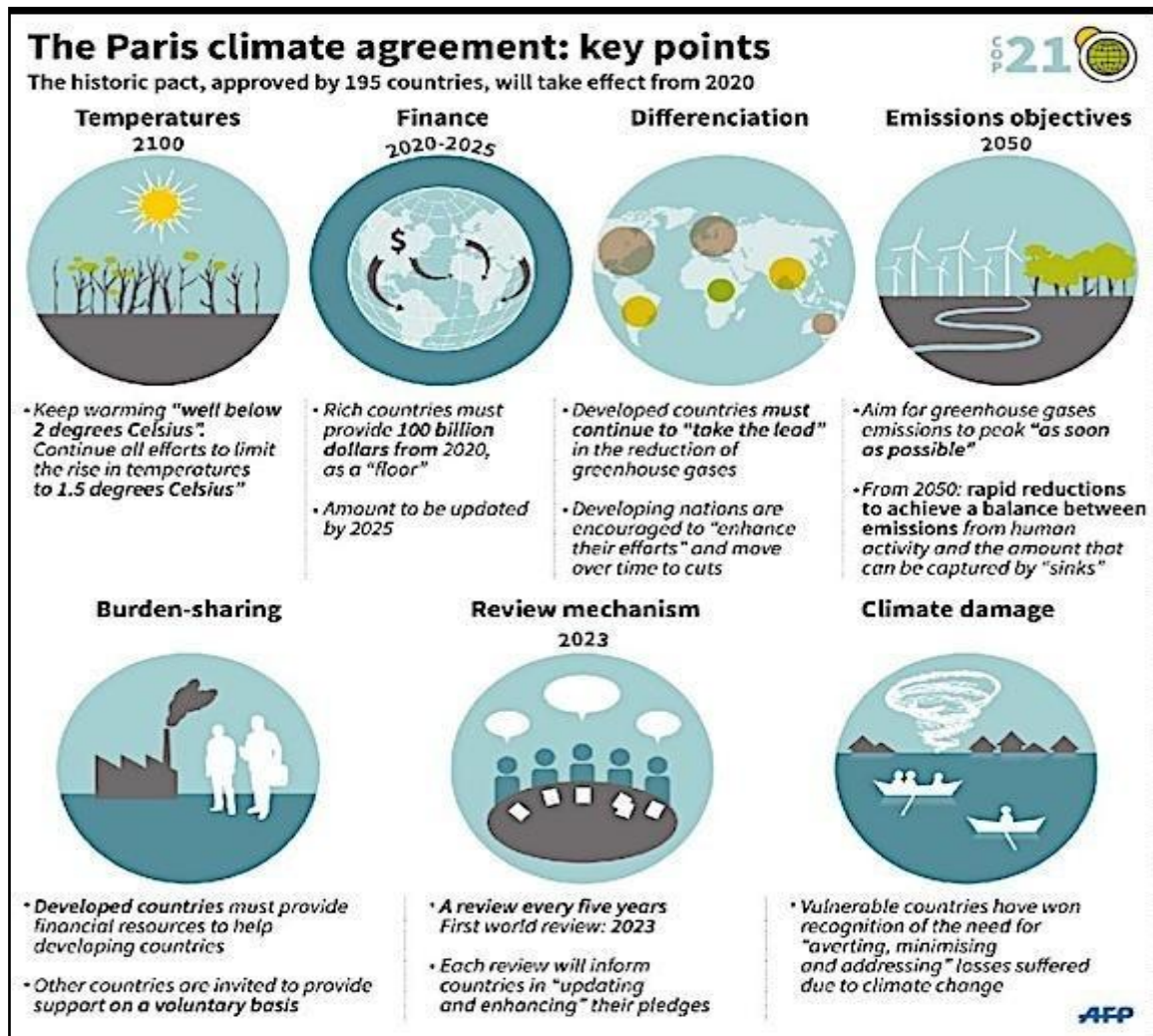
Starting in August, Cheetahs will be imported from Namibia and South Africa to Kuno National Park in MP to establish Cheetah into its “historical range”.

- Kuno is getting Cheetahs ostensibly to serve a host of grassland ecosystem services, all of which could be served by Lions, an apex species.
- **Lion and Tiger:** These are from the four big cats (Lion, Tiger, Leopard, and Jaguar).
- Both are the most ferocious both belong to the Felidae (cat) family.
- They reside on the top of the food chain and are apex predators, don't have any predators of their own.
- India is the habitat of five big cats, namely, the Royal Bengal Tiger (*Panthera tigris*), the Asiatic Lion (*Panthera leo*), the Indian Leopard (*Panthera pardus*), the Snow Leopard (*Panthera uncia*), and the Indo-Chinese Clouded Leopard (*Neofelis nebulosa*).
- All the big cat species are listed in Schedule I of Wildlife Protection Act 1972 ensuring the maximum protection and indicating that their habitats are in danger.
- **Lion vs Tiger** **Lion Tiger Binomial Name:** *Panthera Leo* a social animal
Appearance– don't have any stripes; Adult male lions have a large mane around their faces and its Tan colouring match dry grasses In terms of bone strength, lions are stronger.
- typically inhabit savanna and grassland i.e., East Africa to sands of Kalahari Desert, South Sahara to South Africa, excluding the Congo rain forest and India's Gir forest.
- **IUCN Status:** African Lion Vulnerable; Asiatic Lion – Endangered
Hunting behaviour: Mostly Diurnal but females hunt in groups in the night to make it harder on the prey to see them
Hunting Strategies: The ambush, the blitz, and the siege. Life span: Average 12-15 years.
- The “Asiatic Lion Conservation Project” has been launched by the Union Ministry of Environment, Forests and Climate Change and has been approved for three financial years from 2018 to 2021.

- **Binomial Name:** Panthera Tigris a solitary animal Appearance– bold, black stripes across their bodies to resemble shadows of the forest, don't have mane like lions In terms of muscular strength, tigers are stronger.
- Found in grassland and swamp margins i.e., India to Siberia and South East Asia.
- largest feline species in the world & Bengal tiger is the most common sub species, constituting approximately 80% of the entire tiger population.
- IUCN Status: Endangered Hunting behaviour: Nocturnal and hunt alone Hunting Strategies: Ambushes prey Life span-: Average 15-20 years “Project Tiger” is a Centrally Sponsored Scheme of the Ministry of Environment, Forests and Climate Change launched in 1973 to provide central assistance to the tiger States for tiger conservation in designated tiger reserves in India.
- The project is administered by the National Tiger Conservation Authority (NTCA).
- Project lion Project Lion will involve conservation of the Asiatic Lion and its landscape in a holistic manner.
- The Project Lion will entail habitat development, engage modern technologies in Lion management and address the issues of disease in Lion and its associated species through advanced world-class research and veterinary care.
- The project will also address Human-wildlife conflict and will be inclusive involving local communities living in the vicinity of Lion landscape and will also provide livelihood opportunities.
- Asiatic lions were once distributed upto the state of West Bengal in east and Rewa in Madhya Pradesh, in central India.
- At present Gir National Park and Wildlife Sanctuary is the only abode of the Asiatic lion.
- The last surviving population of the Asiatic lions is a compact tract of dry deciduous forest and open grassy scrublands in southwestern part of Saurashtra region of Gujarat.
- Listed in Schedule I of Wildlife (Protection) Act 1972, in Appendix I of CITES and as Endangered on IUCN Red List.

Topic 11. PARIS CLIMATE ACCORD

Important for subject: Environment



Legal status: It is a legally binding international treaty on climate change.

- **Adoption:** It was adopted by 196 countries at Conference of the Parties COP 21 in Paris in December 2015.
- **Goal:** To limit global warming to well below 2° Celsius, and preferably limit it to 1.5° Celsius, compared to pre-industrial levels.
- **Objective:**
 - (a) To achieve the long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate-neutral world by mid-century.
 - (b) Most of the Nations have been slow to update their national contributions for reducing emissions for 2025-2030, however several have announced net zero emission targets in the recent past.

(c) Net zero emission means that all man-made greenhouse gas emissions must be removed from the atmosphere through reduction measures, thus reducing the Earth's net climate balance.

- **UNFCCC:**

1. The United Nations Framework Convention on Climate Change (UNFCCC), signed in 1992 at the United Nations Conference on Environment and Development also known as the Earth Summit, the Rio Summit or the Rio Conference.
2. India is among the select few countries to have hosted the COP of all three Rio conventions on climate change (UNFCCC), biodiversity (Convention on Biological Diversity) and land (United Nations Convention to Combat Desertification).
3. The UNFCCC entered into force on 21st March 1994, and has been ratified by 197 countries.
4. It is the parent treaty of the 2015 Paris Agreement.
5. It is also the parent treaty of the 1997 Kyoto Protocol.
6. The 27th session of the Conference of the Parties (COP 27) to the UNFCCC will take place in Sharm El-Sheikh, Egypt.

- **Paris Agreement:**

1. The Paris Agreement, adopted through Decision, addresses crucial areas necessary to combat climate change.
2. Some of the key aspects of the Agreement are set out below: Long-term temperature goal (Art. 2) – The Paris Agreement, in seeking to strengthen the global response to climate change, reaffirms the goal of limiting global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees.
3. Global peaking and 'climate neutrality' (Art. 4) –To achieve this temperature goal, Parties aim to reach global peaking of greenhouse gas emissions (GHGs) as soon as possible, recognizing peaking will take longer for developing country Parties, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of GHGs in the second half of the century.
4. Mitigation (Art. 4) – The Paris Agreement establishes binding commitments by all Parties to prepare, communicate and maintain a nationally determined

- contribution (NDC) and to pursue domestic measures to achieve them.
5. It also prescribes that Parties shall communicate their NDCs every 5 years and provide information necessary for clarity and transparency.
 6. To set a firm foundation for higher ambition, each successive NDC will represent a progression beyond the previous one and reflect the highest possible ambition.
 7. Developed countries should continue to take the lead by undertaking absolute economy-wide reduction targets, while developing countries should continue enhancing their mitigation efforts, and are encouraged to move toward economy-wide targets over time in the light of different national circumstances.
 8. Sinks and reservoirs (Art.5) –The Paris Agreement also encourages Parties to conserve and enhance, as appropriate, sinks and reservoirs of GHGs as referred to in Article 4, paragraph 1(d) of the Convention, including forests.
 9. Voluntary cooperation / Market- and non-market-based approaches (Art. 6) – The Paris Agreement recognizes the possibility of voluntary cooperation among Parties to allow for higher ambition and sets out principles – including environmental integrity, transparency and robust accounting – for any cooperation that involves internationally transferal of mitigation outcomes.
 10. It establishes a mechanism to contribute to the mitigation of GHG emissions and support sustainable development, and defines a framework for non-market approaches to sustainable development.
 11. Adaptation (Art. 7) – The Paris Agreement establishes a global goal on adaptation – of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change in the context of the temperature goal of the Agreement.
 12. It aims to significantly strengthen national adaptation efforts, including through support and international cooperation.
 13. It recognizes that adaptation is a global challenge faced by all.
 14. All Parties should engage in adaptation, including by formulating and implementing National Adaptation Plans, and should submit and periodically update an adaptation communication describing their priorities, needs, plans and actions.
 15. The adaptation efforts of developing countries should be recognized Loss and

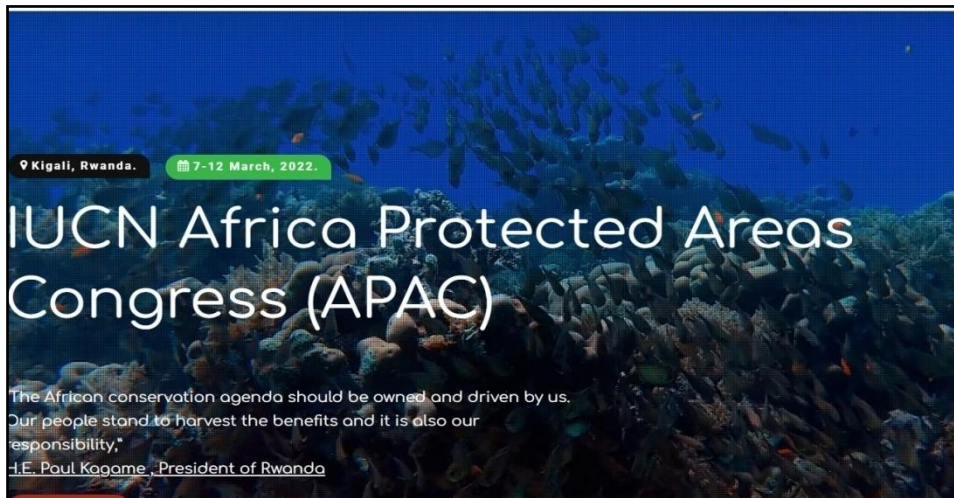
- damage (Art. 8) – The Paris Agreement recognizes the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage.
16. Parties are to enhance understanding, action and support, including through the Warsaw International Mechanism, on a cooperative and facilitative basis with respect to loss and damage associated with the adverse effects of climate change.
 17. Finance, technology and capacity-building support (Art. 9, 10 and 11) – The Paris Agreement reaffirms the obligations of developed countries to support the efforts of developing country Parties to build clean, climate-resilient futures, while for the first time encouraging voluntary contributions by other Parties.
 18. Provision of resources should also aim to achieve a balance between adaptation and mitigation.
 19. In addition to reporting on finance already provided, developed country Parties commit to submit indicative information on future support every two years, including projected levels of public finance.
 20. The agreement also provides that the Financial Mechanism of the Convention, including the Green Climate Fund (GCF), shall serve the Agreement.
 21. International cooperation on climate-safe technology development and transfer and building capacity in the developing world are also strengthened: a technology framework is established under the Agreement and capacity-building activities will be strengthened through, inter alia, enhanced support for capacity building actions in developing country Parties and appropriate institutional arrangements.
 22. Climate change education, training as well as public awareness, participation and access to information (Art 12) is also to be enhanced under the Agreement.
 23. Climate change education, training, public awareness, public participation and public access to information (Art 12) is also to be enhanced under the Agreement.
 24. Transparency (Art. 13), implementation and compliance (Art. 15) – The Paris Agreement relies on a robust transparency and accounting system to provide clarity on action and support by Parties, with flexibility for their differing capabilities of Parties.

25. Global Stocktake (Art. 14) – A “global stocktake”, to take place in 2023 and every 5 years thereafter, will assess collective progress toward achieving the purpose of the Agreement in a comprehensive and facilitative manner.

26. Its outcome will inform Parties in updating and enhancing their actions and support and enhancing international cooperation on climate action.

Topic 12. AFRICA PROTECTED AREAS CONGRESS

Important for subject: Environment



The first-ever Africa Protected Areas Congress has convened in Kigali, Rwanda to discuss the role of protected areas in conserving nature.

- A \$200 billion trust fund has been initiated to conserve around 8,600 protected areas covering 26 million square kilometres in Africa.
- The trust was one of the many outcomes of the Africa Protected Areas Congress.
- Rwanda became the first country to commit to the trust.
- The concept for a Pan-African Conservation Trust was co-created by Anthropology of Social Change and Development (APAD)– international association working for social development, African Wildlife Foundation– conservation organization focussing on Africa’s wildlife and wildlands and IUCN.
- Conservationists have called for global contributions to it.
- The AWF head said global contributions to the fund were required as Africa was bearing the brunt of other countries’ actions.
- Africa Protected Areas Congress (APAC) The congress was the first continent-wide gathering of African leaders, citizens and interest groups.

- It was organised by International Union for Conservation of Nature (IUCN) from 18 to 23 July 2022.
- The overarching objective was to position Africa's protected and conserved areas within the broader goals of economic development and community well-being and to increase the understanding of the vital role parks play in conserving biodiversity and delivering the ecosystem services that underpin human welfare and livelihoods.
- It explored on 3 thematic areas– Protected areas, People and It discussed upon the role of protected areas in conserving nature, safeguarding Africa's iconic wildlife, delivering vital life-supporting ecosystem services, promoting sustainable development while conserving Africa's cultural heritage and traditions.
- The congress culminated with the adoption of the Kigali Call to Action by the participants.
- IUCN World Commission on Protected Areas (WCPA) IUCN's WCPA is the world's premier network of protected area expertise, administered by IUCN's Global Programme on Protected Areas.
- WCPA works by helping governments and others plan protected areas and integrate them into all sectors; by providing strategic advice to policy makers; by strengthening capacity and investment in protected areas; and by convening the diverse constituency of protected area stakeholders to address challenging issues.

Topic 13. HASDEO ARANYA FORESTS

Important for subject: Environment



Chhattisgarh Legislative Assembly has unanimously passed a resolution July 27, 2022 urging the Centre to cancel allocation of coal blocks in Hasdeo Aranya forests.

- Tribal communities and activists have been opposing coal mining in the forests for a long time, fearing damage to its biodiversity.
- There are five coal blocks in the region, which includes areas like Parsa, Parsa East Kete Basan (PEKB), PEBK Extension, GidhmuriPaturia, Madanpur South and Chotia.
- The Hasdeo forest The Hasdeo forest covering Chhattisgarh's Korba, Sarguja and Surajpur districts, spans an area of 170,000 hectares.
- It is a noted migratory corridor and has a significant presence of elephants.
- It is also the catchment area of the Hasdeo river, the largest tributary of the Mahanadi.
- The area was declared as a 'No-Go Zone' for mining by the Centre in 2009.
- Despite this, mining in the region continued as the policy for the 'No-Go Zone' was not finalised.

Topic 14. WILL RUSSIA-UKRAINE DEAL EASE GLOBAL FOOD CRISIS?

Important for subject: Economy

In their first major deal since the February 24 war began, Russia and Ukraine on Friday agreed to resume grain exports from Black Sea ports as part of a deal negotiated by the United Nations and Turkey.

- **Why is the agreement important?**
- Russia and Ukraine together account for more than a quarter of the world's wheat supplies.
- Russia's share in the global exports of wheat, the world's most widely grown crop, is some 20% according to 2020 figures, while Ukraine accounts for 8%. About 50 countries depend on Russia and Ukraine for more than 30% of their wheat imports.
- Besides wheat, Ukraine is the world's eighth largest producer and fourth largest exporter of corn, accounting for 16% of global exports.
- Further, Ukraine, which produces up to 46% of sunflower-seed and sunflower oil is the world's largest exporter of sunflower oil.
- **What are the terms of the deal?**
- According to the deal, a joint coordination centre will be set up in Istanbul comprising officials and military personnel from Russia, Ukraine and Turkey, along with UN representatives.

- These officials will check the vessels going to Ukraine's ports to make sure that they don't carry any weapons.
- The agreement doesn't call on Ukraine to de-mine its southern waters. But specific routes from Odesa and other Ukrainian ports would be earmarked for the ships with grain to sail to Turkey's Bosphorus.
- The plan is to allow Ukraine to export five million tonnes of grain a month, close to its pre-war level.
- As part of the UN framework, Russia is also expected to ramp up its grain and fertilizer exports
 Top Wheat producing countries – China, India, Russia, US
 Top Wheat Exporting countries – Russia, Canada, US, France, Ukraine ; India not in top 20
 Top Corn producing countries – US, China, Brazil, Argentina, Ukraine, India
 Top Corn Exporting countries – US, Brazil, Argentina, Ukraine
 Top Sunflower Oil producing countries – Ukraine, Russia, Argentina
 Top Sunflower Oil Exporting countries – Ukraine, Russia, Turkey .
- India- top importer
 Top Wheat producing states in India – UP, Punjab, Haryana, Madhya Pradesh, Rajasthan
 Top Corn producing states in India – Andhra Pradesh, Karnataka, Rajasthan
 Top Sunflower oil producing states in India – Karnataka, Andhra Pradesh, Maharashtra
 What is UN Food Price Index? It was introduced in 1996 as a public good to help in monitoring developments in the global agricultural commodity markets.
- The UN Food Price Index (FFPI) is a measure of the monthly change in international prices of a basket of food commodities.
- It measures changes for a basket of cereals, oilseeds, dairy products, meat and sugar.
 Base Period: 2014-16.

Topic 15. FOREX ACCUMULATION AND VALUATION EFFECT

Important for subject: Economy

From a peak of \$642.45 billion on September 3, India's foreign exchange reserves have dipped to \$572.71 billion as of July 15 i.e. a fall of \$70 billion in 10 months.

How is forex accumulated?

- Through current account surplus-when a country's earnings from export of goods and services exceed payments against imports which in turn is bought by the Central Bank to avoid a volatile exchange rate appreciation.

- The forex reserves are accumulated as a buffer against currency volatility, external shocks and sudden stops in capital flows.
- A higher supply of foreign currency with respect to the domestic currency leads to appreciation of domestic currency.
- Further, the current account surpluses (excess of incomes over expenditures or retained profits) of a country may be invested in other countries and it becomes a net exporter of ‘capital’, in addition to goods and services.
- The top 12 countries holding the highest foreign exchange reserves at the end of 2021 have large and persistent current account surpluses except for India, USA and Brazil.
- Causes of Reserve Accumulation in India: The combined merchandise trade deficit during the eight years from 2014-15 to 2021-22 was close to \$1.2 trillion.
- This has been offset by: Surplus in “invisibles” - The deficit was partly offset by a net surplus of \$968 billion on the “invisibles” account of the balance of payments.
- Invisibles mainly comprise receipts from export of software services, remittances by overseas Indians, and tourism.
- In India’s case, these receipts have always exceeded payments on account of interest on loans, dividends, royalties, licence fees, foreign travel and assorted business and financial services.
- Capital inflowsCapital inflows – averaging \$68.4 billion respectively in the last 10 years – have led to India’s forex reserves going up in all but five out of the 32 years from 1990-91 to 2021-22.
- Valuation effectForeign exchange reserves are held in the form of dollars as well as nondollar currencies and gold, whose values are influenced by movements in exchange rates and gold prices.
- A depreciation of the US dollar or higher gold prices, then, causes valuation gains in the existing stock of reserves.
- An appreciation of dollar or fall in gold prices, likewise, brings down the value of the non-dollar portion of the reserves.
- For instance– if a portion of the reserves are in euros and the euro depreciates against the dollar, this would cause a drop in the value of forex reserves.
- Invisible trade It refers to trade in services. Service exports and imports involve trade in intangibles because of which trade in services is also known as invisible trade.

- Trade in services includes trade in tourism and travel, boarding and lodging, entertainment and recreation, transportation, professional services, communication, construction and engineering, marketing, educational and financial services.
- Capital Inflows It refers to the transactions in the capital account of balance of payments.
- It includes -Foreign investment, such as FDI and FPI, immovable properties, intangible assets, trade credits, borrowings from other nations, banking capital, NRI deposits, SDRs, and funds held in foreign nations, among other things.

Topic 16. COUNTERFEIT NOTES AND UTKARSH

Important for subject: Economy

Counterfeit notes are on the rise along with the increasing trend of currency notes in circulation, according to the data available from the Finance Ministry, Reserve Bank of India, and National Crime Record Bureau.

- Though there is a rise in digital payments, still the currency note in circulation is going up.
- The demand for currency notes depends on factors such as the expansion of the economy, interest rates and inflation.
- Though the use of digital means in transactions has surged, cash transaction is at a significant level, which necessitates demand for currency notes.
- Cash transactions at a high level also provide some opportunity for fake notes, and this could be one reason for cases of such notes rising.
- Currency in Circulation (CiC) refers to currency notes and coins issued by the central bank within a country that is physically used to conduct transactions between consumers and businesses.
- Thus, Currency in circulation comprises of: currency notes and coins with the public cash in hand with banks.
- Monetary aggregates In the money supply statistics, central bank money is M0 while the commercial bank money is divided up into the M1 and M3 components.
- M2 and M4 components also include Post-Office deposits as well.
- Reserve Money (M0):-Reserve money is also called central bank money, monetary base, base money, or high-powered money.

- In the most simple language, Reserve Money is Currency in Circulation plus Deposits of Commercial Banks with RBI. $Mo = \text{Currency in circulation} + \text{Bankers' deposits with the RBI} + \text{'Other' deposits with the RBI}$ $M1 \text{ (Narrow Money)} = \text{Currency with the public} + \text{Deposit money of the public (Demand deposits with the banking system} + \text{'Other' deposits with the RBI)}$.
- $M2 = M1 + \text{Savings deposits with Post office savings banks.}$
- $M3 \text{ (Broad Money)} = M1 + \text{Time deposits with the banking system}$ Concept: Security Features of Indian Banknotes: Watermark The Mahatma Gandhi Series of banknotes contain the Mahatma Gandhi watermark with a light and shade effect and multi-directional lines in the watermark window.
- Security Thread The security thread appears to the left of the Mahatma's portrait. Notes issued prior to the introduction of the Mahatma Gandhi Series have a plain, non-readable fully embedded security thread.
- Latent Image On the obverse side of Rs.1000, Rs.500, Rs.100, Rs.50 and Rs.20 notes, a vertical band on the right side of Mahatma Gandhi's portrait contains a latent image showing the respective denominational value in numeral.
- The latent image is visible only when the note is held horizontally at eye level. Micro lettering This feature appears between the vertical band and Mahatma Gandhi portrait.
- It contains the word 'RBI' in Rs.5 and Rs.10.
- The notes of Rs.20 and above also contain the denominational value of the notes in micro letters.
- This feature can be seen better under a magnifying glass.
- Intaglio Printing The portrait of Mahatma Gandhi, the Reserve Bank seal, guarantee and promise clause, Ashoka Pillar Emblem on the left, RBI Governor's signature are printed in intaglio i.e. in raised prints, which can be felt by touch, in Rs.20, Rs.50, Rs.100, Rs.500 and Rs.1000 notes.
- Identification Mark A special feature in intaglio has been introduced on the left of the watermark window on all notes except Rs.10/- note.
- This feature is in different shapes for various denominations (Rs. 20- Vertical Rectangle, Rs.50-Square, Rs.100-Triangle, Rs.500-Circle, Rs. 1000- Diamond) and helps the visually impaired to identify the denomination.
- Fluorescence– Number panels of the notes are printed in fluorescent ink.

- It can be seen when the notes are exposed to ultraviolet lamps.
- **Optically Variable Ink** This is a new security feature incorporated in the Rs.1000 and Rs.500 notes with revised colour scheme introduced in November 2000.
- The numeral 1000 and 500 on the obverse of Rs.1000 and Rs.500 notes respectively is printed in optically variable ink viz., a colour-shifting ink.
- The colour of the numeral 1000/500 appears green when the note is held flat but would change to blue when the note is held at an angle.
- **See through Register**– The small floral design printed both on the front (hollow) and back (filled up) of the note in the middle of the vertical band next to the Watermark has an accurate back to back registration.
- The design will appear as one floral design when seen against the light.
- **Legal provisions against counterfeiting**– Printing and circulation of forged notes are offences under Sections 489A to 489E of the Indian Penal Code and are punishable in the courts of law by fine or imprisonment or both.
- **Utkarsh 2022** RBI formulated “Utkarsh 2022” in 2019 to achieve excellence in the performance of RBI’s mandates and strengthening the trust of citizens and other institutions.
- It is a medium term strategy in line with the global central banks’ plan to strengthen the regulatory and supervisory mechanism.
- To monitor the implementation of Utkarsh 2022, RBI created medium-term vision statements.
- The **Medium-term Vision Statements** set out the following: Excellence in performance of statutory and other functions; Strengthened trust of citizens and other Institutions in the RBI; Enhanced relevance and significance in national and global roles; Transparent, accountable and ethics-driven internal governance; Best-in-class and environment friendly digital as well as physical infrastructure; and Innovative, dynamic and skilled human resources These statements are meant to guide the RBI during the medium-term period i.e. between 2019-2022.
- The progress of Utkarsh 2022 RBI is maintained by a sub-committee of the Central Board.
- **Objectives of Utkarsh 2022:**
 1. To support India’s macro-economic stability and to strengthen the internal and

- external value of the Indian Rupee.
2. To promote consumer protection and ensure the stability of the financial system. To support markets and institutions that fall within its scope.
 3. To make the financial and payment systems more efficient and competent.
 4. To manage currency and banking services to the Government and its banks.
 5. To ensure a balanced and sustainable economic development of the country.
 6. To avoid any IL&FS debt defaults.

Topic 17. TREND ON FOREIGN DIRECT INVESTMENT (FDI) IN INDIA

Important for subject: Economy

Singapore (27.01%) and USA (17.94%) have emerged as top 2 sourcing nations in FDI equity flows into India in FY2021-22.

- As per the UNCTAD World Investment Report (WIR) 2022, on the global trends in FDI inflows, India has improved one position to 7th rank among the top 20 host economies for 2021.
- India is rapidly emerging as a preferred country for foreign investments in the manufacturing sector.
- FDI Equity inflow in Manufacturing Sectors have increased by 76% in FY 2021-22.
- India received the highest annual FDI inflows of USD 84,835 million in FY 21-22 overtaking last year's FDI by USD 2.87 billion.
- Trends The top sourcing nations in FDI equity flows into India in FY2021-22 are Singapore (27.01%) > USA (17.94%) > Mauritius > Netherland > Switzerland.
- Sector wise trend of FDI Equity Inflow during FY 2021-22 are Computer Software & Hardware (24.60%)> Services Sector > Automobile Industry > Trading > Construction (Infrastructure) Activities.
- State wise FDI Equity Inflow during FY 2021-22 are Karnataka (37.55%) > Maharashtra (26.26%) > Delhi > Tamil Nadu > Haryana.
- Significant reforms by the government The Government has implemented several transformative reforms under the FDI policy regime across sectors such as insurance, defence, telecom, financial services, pharmaceuticals, retail trading, e-commerce, construction & development, civil aviation, manufacturing In India FDI up to 100% is allowed in non-critical sectors through the automatic route, not requiring security clearance from the Ministry of Home Affairs (MHA).

- Prior government approval or security clearance from MHA is required for investments in sensitive sectors such as defence, media, telecommunication, satellites, private security agencies, civil aviation and mining, besides any investment from Pakistan and Bangladesh.
- Foreign Direct Investment FDI is an investment from a party in one country into a business or corporation in another country with the intention of establishing a lasting interest.
- Lasting interest differentiates FDI from foreign portfolio investments, where investors passively hold securities from a foreign country.
- Foreign direct investment can be made by expanding one's business into a foreign country or by becoming the owner of a company in another country.
- FDI is not just the inflow of money, but also the inflow of technology, knowledge, skills and expertise/know-how FDI in India is allowed under two modes – either through the automatic route, for which companies don't need government approval, or through the government route, for which companies need a go-ahead from the centre.
- New FDI Policy: An entity of a country, which shares a land border with India or where the beneficial owner of an investment into India is situated in or is a citizen of any such country, can invest only under the Government route.
- A transfer of ownership in an FDI deal that benefits any country that shares a border with India will also need government approval.
- Investors from countries not covered by the new policy only have to inform the RBI after a transaction rather than asking for prior permission from the relevant government department.

Topic 18. CENTRE TO AMEND WAREHOUSING ACT

Important for subject: Economy

The Union Food and Public Distribution Ministry has suggested major amendments to the Warehousing (Development and Regulation) Act of 2007.

- The amendment was to make registration of godowns compulsory and to raise the penalty for various offences and to do away with the jail term as a punishment for the offences.
- Captive warehouses such as those of the Food Corporation of India are excluded from

the ambit of the Act.

- The Act wants to establish a system of negotiable and non-negotiable warehouse receipt (NWR) which is now in electronic form.
- If amended, the Act will help in doing away with accreditation agencies.
- The application for registration of warehouses will be submitted directly to the WDRA and a new system of online application, which will be contactless and faceless will be implemented and the average registration time will be reduced.
- That apart, the government has proposed doing away with up to three years imprisonment for various offences but suggested significant increase in penalty from the current Rs 1 lakh for various offences Negotiable Warehouse Receipt System It was launched in 2011 but the Ministry of Consumer Affairs, Food & Public Distribution.
- Farmers can seek loans from banks against the warehouse receipts issued to them against their storage.
- These receipts issued by the warehouses registered with the WDRA would become a fully negotiable instrument backed by a Central legislation.
- The Electronic Negotiable Warehouse Receipt (e-NWR) System was launched in 2017.
- Warehousing Development and Regulatory Authority It is a Statutory Authority under the Department of Food and Public Distribution, Government of India.
- It was constituted in 2010 under the Warehousing (Development and Regulation) Act, 2007.
- It regulates and ensures implementation of this 2007 Act for the development and regulation of warehouses.
- It implements and regulates the Negotiable Warehouse Receipt (NWR) /electronic-NWR (e-NWR) System in the country.
- It also promotes orderly growth of the warehousing business.
- It consists of a Chairperson and two Members appointed by the Central Government.
- It has also setup two Repositories, namely, M/s National Electronic Repository Limited (NERL) and CDSL Commodity Repository Limited (CCRL) for creation and management of electronic Negotiable Warehouse Receipts (e-NWRs).
- All registered warehouses are mandated to issue only e-NWRs w.e.f 1 August 2019.

- The Recognized Stock Exchanges like National Commodity and Derivatives Exchange (NCDEX), Multi Commodity Exchange (MCX), Bombay Stock Exchange (BSE), National Multi Commodity Exchange (NMCE/ICEX) are using eNWRs for settlement of derivative contracts.
- The e-NWR has been integrated with electronic National Agriculture Market (eNAM) platform by providing interface between e-NAM and repositories.

Topic 19. LEGAL METEOROLOGY AND GST

Important for subject: Economy

From July 18, a 5% Goods and Services Tax (GST) has been levied on several food items and grains that are sold in a pre-packed, labelled form even if they are not branded.

- Earlier GST levy was limited to branded food items packed in unit containers.
- The 47th meeting of the GST Council recommended a revision of the scope of this exemption.

Changes:

- 5% Goods and Services Tax (GST) levied on several food items and grains that are sold in a pre-packed, labelled form even if they are not branded.
- It would also apply to a package that contains multiple retail package say 10 packages of 10 Kg each, are sold in a larger pack Single packages of unbranded pre-packed and labelled food items like cereals, pulses and flour weighing in excess of 25 kg will be exempt from 5 per cent GST levy.
- It is imposed only to curb rampant evasion of tax — branded items being sold prepackaged and escaping the tax.
- Loose, unbranded and unlabelled goods will continue to remain exempted from GST.

Concept:

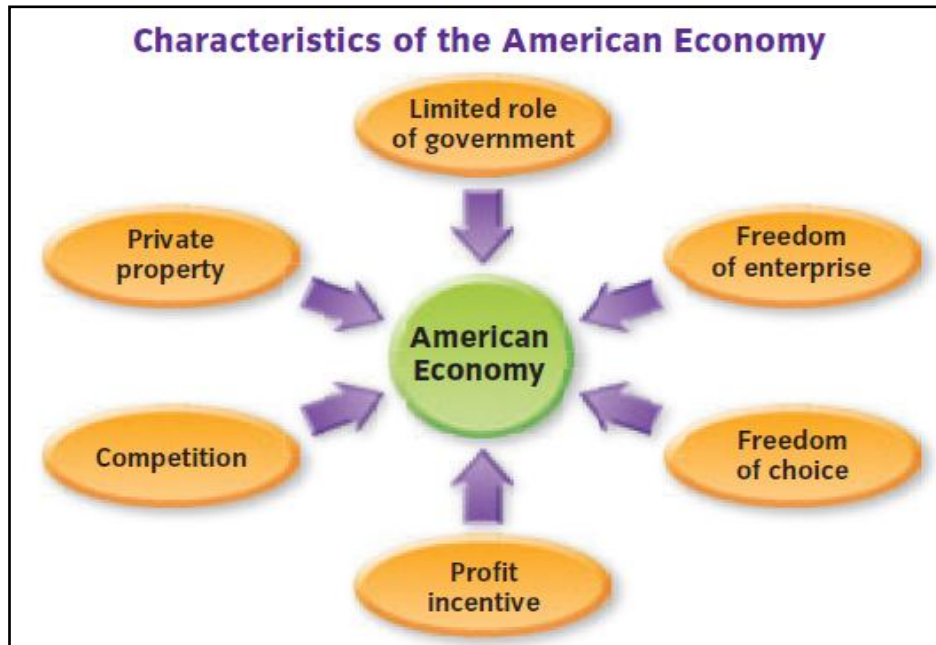
- Scope of ‘pre- packaged and labelled’ for the purpose of GST levy: Pre-packaged and labelled food items (such as pulses, cereal like rice, wheat, flour etc), would fall within the purview of the definition of ‘pre-packaged commodity’ under the Legal Metrology Act, 2009, if such packages contain a quantity up to 25 kilogram (or 25 litres).
- ‘Pre-packaged and labelled food items’ means a pre-packaged commodity, where the package in which the commodity is pre-packed, or a labelled is required to bear the

- declarations under the provisions of the Legal Metrology Act and the rules under it.
- However, if such specified commodities are supplied in a package that does not require declaration(s)/compliance(s) under the Legal Metrology Act, 2009, the same would not be treated as pre-packaged and labelled for the purposes of GST levy.
 - GST would apply whenever a supply of such goods is made by any person, i.e. manufacturer supplying to distributor, or distributor/dealer supplying to retailer, or retailer supplying to individual consumer.
 - However, if for any reason, the retailer supplies the item in loose quantity from such a package, such supply by the retailer is not a supply of packaged commodities for the purpose of GST levy.
 - Further, the manufacturer/wholesaler/retailer would be entitled to input tax credit on GST charged by his supplier in accordance with the Input Tax Credit provisions in GST.
 - A supplier availing threshold exemption or composition scheme would be entitled to exemption or composition rate in the usual manner.
 - Supply of packaged commodities for consumption by industrial consumers or institutional consumers is excluded from the purview of the Legal Metrology Act thus, excluded from the purview of GST.
 - Legal Metrology Act, 2009: Department of Consumer Affairs, administers the Legal Metrology Act 2009.
 - The act provides for application of legal requirements to measurements and measuring instruments.
 - The objective of Legal Metrology is to ensure public guarantee from the point of view of security and accuracy of the weighments and measurements.
 - It aims to establish and enforce standards of weights and measures, regulate trade and commerce in weights, measures and other goods which are sold or distributed by weight, measure or number and any other matter that is connected to the same.
 - According to the Act, the Central Govt. may appoint a Director of Legal Metrology to perform duties related to inter-state trade and commerce.
 - The State Govt. may appoint a Controller of Legal Metrology to perform duties related to intra-state trade and commerce.
 - The Legal Metrology (Packaged Commodities), Rules 2011 are primarily intended to

ensure that the consumers are able to make informed choices by being informed of essential declarations on the pre-packed commodities.

Topic 20. THE ECONOMICS OF THE US ECONOMY

Important for subject: Economy



Since March, the Fed has steadily pushed up the targeted Federal Funds Rate (FFR) from zero to almost 2.5% now.

- Curb Inflation by raising the cost of borrowing (the interest rate), the Fed hopes to reduce overall demand in the economy and related demand pull inflation.
- Recession or hard landing of the economy Aggressive monetary tightening — involves large increases in the interest rates in a relatively short period of time, and it runs the risk of creating a recession.
- This is called a hard-landing of the economy as against a soft landing (which essentially refers to monetary tightening not leading to a recession).
- US economy- mixed signals– One the one hand, it faces an inflation rate that is at a four-decade high and, on the other, its unemployment rate is at five-decade low.
- Higher Inflation-The US inflation rate is at over 9% and the Fed's target inflation rate is 2% Decline in the GDP (likely Recession)- For the first three months of the year, GDP contracted by 1.6% and estimated to be below 1% in the April-June quarter but it stays in the non-negative zone.

- Rise in wages and employment Despite contraction in GDP, the US economy created around 2.7 million new jobs in the first half of 2022.
- In the first quarter, GDI grew 1.8% — much better than the 1.6% decline in GDP.

Federal Funds Rate (FFR):

- The FFR is the interest rate at which commercial banks in the US borrow from each other overnight.
- The US Fed can't directly specify the FFR but it tries to influence the rate by controlling the money supply When the Fed wants to raise the prevailing interest rates in the US economy, it reduces the money supply, thus forcing every lender in the economy to charge higher interest rates.
- This process starts with commercial banks charging higher to lend to each other for overnight loans.

Recession:

- The most common definition of recession requires the GDP of a country to contract in two successive quarters.
- Contracting GDP typically results in job losses, reduced incomes, and reduced consumption.
- In the US, it is the National Bureau of Economic Research's (NBER) Business Cycle Dating Committee — that typically declares a recession.
- It defines recession—as a significant decline in economic activity that is spread across the economy and that lasts more than a few months.
- It lays down 3 criteria —depth, diffusion, and duration—that needs to be met individually to some degree, where equal weight is given to GDP and GNI.
- The NBER also studies many other data points in determining recessions, including measures of income, employment, inflation-adjusted spending, retail sales and factory output.

Indicators of onset of Recession:

- Inversion of the bond yield curve Changes in the interest payments, or yields, on different bonds for a recession signal known as an “inverted yield curve.”
- This occurs when the yield on the 10-year Treasury falls below the yield on a short-term Treasury, such as the 3-month T-bill.
- Normally, longer-term bonds pay investors a richer yield in exchange for tying up

their money for a longer period.

- Inverted yield curves generally mean that investors foresee a recession that will compel the Fed to slash rates. Inverted curves often predate recessions.
- Surge in unemployment– layoffs indicate slowing of manufacturing activities and lowering wages.

Gross Domestic Product (GDP) vs Gross Domestic Income (GDI):

- The GDI refers to gross domestic income; this is also a measure of national income albeit from the income side of the economy as against the GDP, which looks at the expenditure side of the economy.
- Thus. GDP calculates the value of the nation’s output of goods and services by adding up spending by consumers, businesses and governments.
- GDI seeks to measure the same thing by assessing incomes of consumers, businesses and governments.
- Over time, the two measures should track each other but they often diverge in the short run due to statistical errors.
- According to NBER, the difference between GDP and GDI—called the ‘statistical discrepancy’

Topic 21. INTERNATIONAL FINANCIAL SERVICES CENTRE -RELATED TOPICS

Important for subject: Economy

Recently, PM Narendra Modi is visiting to the Gujarat International Finance Tec-City (GIFT City)

- He will launch the country’s first international bullion exchange –India International Bullion Exchange (IIBX) at the GIFT City He will lay the foundation stone of the unified regulator– International Financial Services Centres Authority’s– headquarters building.
- The prime minister will launch NSE IFSC-SGX Connect.
- India International Bullion Exchange (IIBX) India International Bullion Holding IFSC Limited (IIBH) is responsible for setting up the Bullion Exchange through its subsidiary, India International Bullion Exchange IFSC Limited (IIBX).
- The exchange will have three vaults.

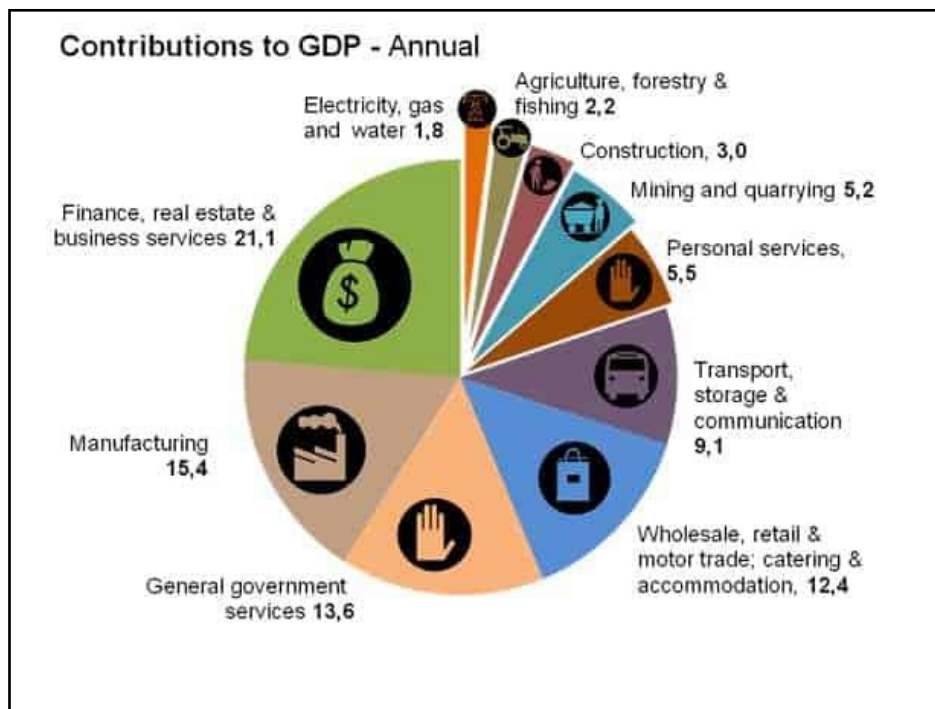
- Once gold is imported, it will be stored at the IFSC Authority-approved vault. Following this, a bullion depository receipt will be made and the gold will be ready for trading.
- The RBI guidelines enable qualified jewellers to import gold through IIBX or other exchanges approved by IFSCA and the directorate general of foreign trade (DGFT).
- It will facilitate efficient price discovery assurance of responsible sourcing and quality give impetus to the financialisation of gold in India International Financial Services Centres Authority (IFSCA): It was established on April 27, 2020 under the International Financial Services Centres Authority Act, 2019.
- It is headquartered at GIFT City, Gandhinagar in Gujarat.
- Role of IFSCA the IFSCA is a unified authority for the development and regulation of financial products, financial services and financial institutions in the International Financial Services Centre (IFSC) in India.
- IFSCA has been established as a unified regulator with a holistic vision in order to promote ease of doing business in IFSC and provide a world class regulatory environment.
- The main objective of the IFSCA is to develop a strong global connect and focus on the needs of the Indian economy as well as to serve as an international financial platform for the entire region and the global economy as a whole.
- The IFSCA will not only regulate the nature of business which will be transacted in the IFSC but will also be regulating the functioning of the entities involved with transacting business in IFSC.
- The IFSCA consists of nine members appointed by GOI.
- The members are: Chairperson 1 member from RBI 1 member from SEBI 1 member from PFRDA 1 member from IRDAI 2 members from the Finance Ministry 2 members appointed on recommendation of a Selection Committee The term of each member is three years important for subject to reappointment.
- NSE IFSC-SGX Connect: It is a framework between NSE's subsidiary GIFT International Financial Services Centre (IFSC) and Singapore Exchange (SGX).
- The foundation for the Connect was laid in August 2019 when National Stock Exchange of India and SGX Group entered into a collaboration agreement to create a unified liquidity pool for NIFTY products in GIFT City via an innovative Connect

model.

- It will enable clients, investors and trading members of SGX who used to trade in NSE listed Indian securities through SGX to now trade in these securities through NSE IFSC.
- This will help in transitioning the liquidity pool away from SGX to India's foreign jurisdiction.

Topic 22. GROSS DOMESTIC PRODUCT (GDP)

Important for subject: Economy



GDP not effective measures of progress Gross domestic product (GDP) is the single standard indicator used across the globe to indicate the health of a nation's economy: one single number that represents the monetary value of all the finished goods and services produced within a country's borders in a specific period.

- India's GDP is calculated with two different methods, one based on economic activity (at factor cost), and the second on expenditure (at market prices).
- The factor cost method assesses the performance of eight different industries.
- The expenditure-based method indicates how different areas of the economy are performing, such as trade, investments, and personal consumption.
- Further calculations are made to arrive at nominal GDP (using the current market

price) and real GDP (inflation-adjusted).

- Among the four released numbers, the GDP at factor cost is the most commonly followed figure and reported in the media.
- The Central Statistics Office under the Ministry of Statistics and Program Implementation is responsible for macroeconomic data gathering and statistical record keeping.
- Its processes involve conducting an annual survey of industries and compilation of various indexes such as the Industrial Production Index (IPI) and the Consumer Price Index (CPI).
- The Central Statistics Office coordinates with various federal and state government agencies and departments to collect and compile the data required to calculate the GDP and other statistics.
- Similarly, production-related data used for calculating IPI is sourced from the Industrial Statistics Unit of the Department of Industrial Policy and Promotion under the Ministry of Commerce and Industry.
- All the required data points are collected and aggregated at the Central Statistics Office and used to arrive at GDP numbers.

Topic 23. DEPARTMENT OF AGRICULTURE & FARMERS WELFARE HAS TAKEN A NUMBER OF STEPS TO DEAL WITH THE EXTREME WEATHER SITUATION

Important for subject: Government Schemes

Agriculture The DA&FW issues advisory to the States through Crop Development Directorates, (CDDs), in consultation with State Agricultural Universities/Krishi Vigyan Kendras (KVKs). These advisories are intended to create awareness and implement contingency plans according to local needs.

- Additional Steps - Gramin Krishi Mabasam Sewa (GKMS Scheme)
- It is jointly implemented by the India Meteorological Department, ICAR, and SAUs.
- It issues operational agrometeorological advisories based on weather. 'Meghdoot.
- 'The Ministry of Earth Sciences has launched a mobile app that will allow

farmers to access weather information and alerts specific to their respective districts.

- ICAR launched NICRA (National Innovations in Climate Resilient Agriculture) in 2011.
- The project aims at developing and promoting climate resilient technologies that can help districts and regions that are prone to extreme weather such as droughts, floods and heat waves to deal with these extremes.
- National Mission for Sustainable Agriculture (NMSA).
- It is part of the National Action Plan on Climate Change.
- This mission will develop and implement strategies that make Indian agriculture more resilient to changing climates.

Topic 24. RESEARCH AND DEVELOPMENT FOR TRADITIONAL SYSTEM OF MEDICINES.

Important for subject: Government Schemes

Health Central Sector Scheme to Promote International Co-operation In Ayush (IC Scheme), Ministry of Ayush. It provides support for Ayush drug producers, entrepreneurs, Ayush institutions, Hospitals, and other Ayush organizations. International promotion of Ayush through participation in international exhibitions and trade fairs to showcase their products and services.

- International market development and AYUSH promotion related activities. Translation and publication in foreign languages of AYUSH literature/books.
- Establishment of AYUSH Information cells and strengthening of Health Centre/ Institutions in foreign countries with AYUSH devices, etc. For foreign nationals who wish to study AYUSH in India's premier institutions, there is an international fellowship/scholarship program.
- Ayush Oushadhi Gunvattaevam Utpadan Samvardhan Yojana (AOGUSY) of Ministry of Ayush It has been initiated for augmenting quality of Ayush drugs during the 15th Finance Cycle (2021-22 to 2025-26) by merging the existing Central Sector Schemes of Pharmacovigilance initiative, Central Drug Controller of Ayush and Quality Control of ASU&H drugs

Component of National Ayush Mission (NAM) and inclusion of certain new elements to facilitate standardization, effective enforcement of rules/regulations, technology up-gradation for manufacturing and analytical testing, certification/accreditation, training and capacity building activities intended towards quality assurance of Ayush drugs.

- Ayush Mark Certification Scheme The Quality Council of India's (QCI), operates the Ayush Mark Certification Scheme since 2009.
- The scheme's most important features are: A voluntary certification scheme for ASU&H products with two levels: Ayush Standard Mark or Ayush Premium Mark.
- The Ayush Standard Mark was created on the basis of Good Manufacturing Practices (GMP), for Siddha, Ayurvedic and Unani medicines (ScheduleT), as per Drugs and Cosmetic Rules 1945.
- The WHO's GMP Guidelines for herbal medicines are the basis of AYUSH Premium Mark. Compliance with the domestic regulations is a prerequisite for AYUSH mark certification.
- After receiving regulatory approval from the concerned state government, the products can be certified.
- Traditional medical tourism is a priority for the Government of India (GOI). This includes strengthening India's traditional medicine industry, and encouraging Heal by India and Heal By India initiatives.
- Heal in India: To promote India's infrastructure and medical facilities for foreigners.
- Heal by India: India's medical professionals can helps the country and world but also the world.

Topic 25. 'A DISASTER FOR THE BASIC SCIENCES': KVPY FELLOWS REACT TO THE SCHEME'S END

Important for subject: Government Schemes

On July 19, the Department of Science and Technology announced that it would subsume the Kishor Vaigyanik Protsahan Yojana' (KVPY) scheme under its INSPIRE fellowship

- What is Kishor Vaigyanik Protsahan Yojana' (KVPY)? It was started in 1999 by the Department of Science and Technology (DST) to encourage students who are

studying Basic Sciences to take up research career in Science.

- The aim of the program is to identify and encourage talented and motivated students to pursue career in research. It aims to assist the students to realize their potential and to ensure that the best scientific talent is groomed for research and development in the country. Generous fellowship and contingency grant are provided to the selected KVPY Fellows up to the pre Ph.D. level or 5 years whichever is earlier.
- In addition, summer camps for the KVPY Fellows are organized in prestigious research and educational institutions in the country.
- The Department of Science and Technology, the nodal agency of the Government has entrusted the overall responsibility for organizing and running the KVPY Program to the Indian Institute of Science, Bangalore and set up a Management Committee and a National Advisory Committee (NAC) for overseeing its implementation. Innovation in Science Pursuit for Inspired Research (INSPIRE) Scheme
- To attract talent to the excitement and study of science at an early age. To help the country build the required critical resource pool for strengthening and expanding the S&T system and R&D base with a long term foresight
- It was launched on 13th December 2008. INSPIRE has three components: Scheme for Early Attraction of Talent (SEATS): It aims to attract talented youth to study science by providing INSPIRE Award of Rs 5000 to one million young learners of the age group 10-15 years, ranging from Class VI to Class X standards. It arranges summer camps for about 50,000 science students of Class XI with global leaders in science to experience the joy of innovations on an annual basis through INSPIRE Internship
- Scholarship for Higher Education (SHE): It aims to enhance rates of attachment of talented youth to undertake higher education in science intensive programmes, by providing scholarships and mentorship.
- The scheme offers 10,000 Scholarships every year at Rs 0.80 lakh per year for the talented youth in the age group 17-22 years, for undertaking Bachelor and Masters level education in natural sciences.
- The main feature of the scheme is the mentorship support provided to every scholar.
- Assured Opportunity for Research Careers (AORC): It aims to attract, attach, retain and nourish talented young scientific Human Resource for strengthening the R&D foundation and base.

- It has two subcomponents. In the first component i.e. INSPIRE Fellowship (age group of 22-27 years), it offers 1000 fellowships every year, for carrying out doctoral degree in both basic and applied sciences including engineering and medicine. In the second component i.e. INSPIRE Faculty Scheme, it offers assured opportunity every year for 1000 post-doctoral researchers in the age group of 27-32 years, through contractual and tenure track positions for 5 years in both basic and applied sciences area.
- Issue with the INSPIRE Scheme: INSPIRE, the programme the DST has subsumed KVPY under, arranges camps every year for high-school students and provides scholarships to those who pursue higher-studies in pure sciences after high school.
- It doesn't have any provisions for students in classes XI and XII as of now. The programme also doesn't conduct any tests of its own and uses pre-existing evaluation mechanisms – board examinations, JEE, NEET — to select INSPIRE scholars. Its mandate also does not include a summer project like KVPY did.

Topic 26. ONE STOP CENTRE (OSC)

Important for subject: Government Schemes



Women The Government of India has launched “Mission Shakti”- integrated women empowerment programme, as umbrella scheme for safety, security and empowerment of women for implementation during the 15 Finance Commission period 2021-22 to 2025-26.

- The One Stop Centre (OSC) is a component of ‘Sambal’ sub-scheme under umbrella scheme of “Mission Shakti.
- The One Stop Centre has been designated as the mainstay of the Sambal sub-scheme at District level.
- The objective is to provide integrated support and assistance to women affected by violence and in distress, both in private and public spaces under one roof and provide an integrated range of services including medical aid, legal aid and advice, temporary shelter, police assistance, psycho-social counselling to needy women.

Topic 27. WHEAT BASED NUTRITION PROGRAMME

Important for subject: Government Schemes

Food security Wheat based Nutrition Programme of Saksham Anganwadi and Poshan 2.0 (erstwhile Integrated Child Development scheme), from the third quarter onwards of FY 2021-22, 100 percent fortified Rice is being distributed to all the States/UTs across the country which includes aspirational and heavy burdened districts.

- Government of India has approved scheme on Fortification of Rice & its Distribution under Public Distribution System for a period of three years beginning 2019-20.
- M/o Consumer Affairs and Food and Public Distribution is the Nodal Ministry in the matter. DoSE&L issued instructions to all the States/UTs to use fortified rice wherever supplied by Food Corporation of India (FCI).
- The fortified rice is distributed/consumed in all districts across the country important for subject to availability of fortified rice.
- Under the Wheat Based Nutrition Programme (WBNP), foodgrains, viz., wheat, rice and other coarse grains are allocated at subsidized rates under NFSA to the States/UTs through the Department of Food & Public Distribution (Ministry of Consumer Affairs, Food & Public Distribution), for preparation of supplementary food under Anganwadi Services.
- Demand under the scheme projected by States based on the number of beneficiaries, number of feeding days and the recipe for nutrition is taken up by this Ministry for processing and approval of proposals from States/UTs for allocation of food grains in coordination with the D/o F&PD.

Topic 28. NYAYA MITRA (NM)

Important for subject: Government Schemes

Judiciary Nyaya Mitra (NM) aims to facilitate expeditious disposal of 10-15 years old pending cases in High court and assisting the district judiciary in reduction of decade old pending court case.

- Districts selected based on highest pendency of court cases over 10 years of period sourced from National Judiciary Data Grid (NJDG) database.
- A Nyaya mitra (NM) is a retired judicial officer/executive officer, having legal degree/background who is located at High Courts/District Courts.
- Role of Nyaya Mitra Nyaya Mitra provides assistance to the judiciary in reduction of decade old pending court case, liaising with the different departments to fast disposal of cases, referring cases to Lok Adalat. etc. Nyaya Mitra's responsibilities would include among others Assistance to litigants who are suffering due to delay in investigations or trial, by actively identifying such cases through the National Judicial Data Grid, Providing legal advice and connecting litigants to DLSA, CSC Tele Law, other government agencies and civil society organisations.
- Nyaya Mitra also Refers the marginalized applicants to Lok Adalats for dispute resolution and Render assistance towards prison reforms within the district, in coordination with the district judiciary and other stakeholders.
- The Nyaya Mitras engaged so far have assisted the Court concerned in disposal of old cases which includes matrimonial cases, accident claim and also criminal cases.

Topic 29. TRIBAL SUB-PLAN

Important for subject: Government Schemes

Government is implementing Tribal Sub-Plan (TSP)/Schedule Tribe Component (STC)/Development Action Plan for STs (DAPST) for overall development of tribal people across the country.

- Tribal Sub-Plan came into existence in 1974-75 as a strategy for the development of areas having tribal concentration.
- After merger of Plan and Non-Plan, the TSP was renamed as Scheduled Tribe Component (STC) by Ministry of Finance.
- 41 Central Ministries / Departments have been identified for earmarking of STC.

- Besides, State Governments are supposed to earmark TSP funds in proportion to ST population (Census 2011) in the State with respect to total State Plan.
- The monitoring of TSP plan was being done by erstwhile Planning Commission till 2017-18, it was only in FY 2018-19, the monitoring of STC plan was given to Ministry of Tribal Affairs.
- The Government allocates funds for different schemes / programmes across Ministries/ Departments for targeted financial and physical benefits to the Scheduled Tribes.
- Ministry of Tribal Affairs launched an online portal – Scheduled Tribe Component Management Information System (STCMIS) in 2018.
- The portal monitors the funds allocated/released for welfare of Scheduled Tribes in Union Budget.
- The basic objective of Schedule Tribe Component is to channelize/monitor the flow of outlays and benefits from the general sectors in the Central Ministries/Departments for the development of Schedules Tribes at least in proportion to their population.

Basic Statistics regarding Scheduled Tribes:

- As per National Family Health Surveys (NFHS), Infant Mortality Rate has declined from 62.1 (2005-06) to 41.6 (2019-21) Under Five Mortality Rate has declined from 95.7 (2005-06) to 50.3 (2019-21) Institutional Delivery has increased from 17.7% (2005-06) to 82.3 % (2019-21) Literacy rate for STs has improved from 47.1% in 2001 to 59% in 2011.
- Erstwhile Planning Commission estimated that percentage of ST people living below the poverty line in rural areas has declined from 3% in 2004-05 to 45.3% in 2011-12.
- Percentage of ST people living below the poverty line in urban areas has declined from 35.5% in 2004-05 to 24.1% in 2011-12.

Topic 30. RASHTRIYA VAYOSHRI YOJANA (RVY)

Important for subject: Government schemes.

Scheme for providing Physical Aids and Assisted-Living Devices for Senior Citizens the Scheme of RashtriyaVayoshri Yojana (RVY) has been formulated by Ministry of Social Justice and Empowerment.

- Objective of scheme to provide aids and assisted living devices viz. walking sticks,

elbow crutches, walkers/crutches, tripods/quadpods, hearing aids, wheelchairs, artificial dentures and spectacles, free of cost to senior citizens belonging to BPL category who suffer from age related disabilities/infirmities such as low vision, hearing impairment, loss of teeth and loco-motor disabilities.

- The Scheme has been revised w.e.f. F.Y. 2020-21.
- Under the revised Scheme, the criteria of selection of beneficiaries have been extended to include not only those senior citizens belonging to BPL category but also senior citizens with monthly income not more than Rs. 15000/- and who suffer from age related disabilities/infirmities as mentioned above.
- Under the revised Scheme of RVY, the number of devices hitherto provided has been increased.
- At present, following are the items that have been included for distribution:

(A) Generic Items:

1. Walking sticks
2. Elbow crutches
3. Walkers/Crutches,
4. Tripods/Quadpods
5. Hearing Aids
6. Artificial Dentures, and
7. Spectacles.

(B) Special Items:

1. Wheelchairs,
2. Wheel Chairs with Commode,
3. Chair/Stool with Commode,
4. Silicon Foam Cushion,
5. Knee Brace,
6. Spinal Support,
7. Cervical Collar,
8. Lumbosacral Belt (LS),
9. Walker/Roalator with Brakes,
10. Walking Stick with Seat,
11. Foot Care Kit:- (i) Flexi Gel Socks, (ii) Socks Cusion Sandal, (iii) Silicon Insole (Complete Foot/Ankle) and (iv) Insole with Pressure Point Relief.

- Schemes, Programmes, Concession and Benefits provided by other Ministries/Department in Care of Senior Citizens: Schemes under Ministry of Rural Development: National Social Assistance Programme (NSAP): Under National Social Assistance Program (NSAP) scheme, the elderly, widows, and disabled persons belonging to Below Poverty Line (BPL) and fulfilling eligibility criteria prescribed in the NSAP guidelines, are provided financial assistance ranging from Rs.200/- to Rs.500/- p.m. and in the case of death of the breadwinner, a lumpsum assistance of Rs.20,000/- is given to the bereaved family.
- The schemes under NSAP for elderly and divyangs are detailed below:
 - (A) Indira Gandhi National Old Age Pension Scheme (IGNOAPS):
 1. A monthly pension of Rs.200/- is given to elderly aged 60-79 years belonging to BPL category.
 2. The pension increases to Rs.500/-per month upon attaining the age of 80 years.
 3. The total beneficiaries under the scheme are 221 lakh.
 - (B) Indira Gandhi National Disability Pension Scheme (IGNDPS):
 1. A monthly pension of Rs.300/- is given to BPL persons aged 18-79 years with severe and multiple disabilities (80% disability level).
 2. The pension increases to Rs.500/- per month upon attaining the age of 80 years. The total beneficiaries under the scheme are 10.58 lakh.
 - (C) Schemes under Ministry of Health and Family Welfare:
 1. “National Programme for the Health Care of Elderly” (NPHCE) launched during 2010- 11 is State oriented program with the basic thrust to provide comprehensive and dedicated health care facilities to the elderly persons above 60 year of age at various level of primary, secondary and tertiary health care.
 1. Primary & Secondary Geriatric Care Services:
 - The program commenced with 100 districts in the 11 plan period.
 - In the 12 plan period 421 districts and in 2019- 2020, 114 districts were additionally sanctioned to provide dedicated geriatric OPD, IPD, Physiotherapy and lab services. Presently all 713 Health districts have been sanctioned for geriatric primary & secondary care services of OPD, 10 bedded Geriatric Ward, Physiotherapy and laboratory services.
 2. Tertiary level activities of NPHCE:

- Renamed as ‘Rashtriya Varisth Jan Swasthya Yojana’ in 2016-17.
- As on date, 19 Regional Geriatric Centres (RGCs) in selected Medical Colleges of 18 States, are sanctioned for tertiary care service delivery under NPHCE in the form of specialized OPD’s, 30 bedded wards in RGC including earmarking beds in various specialties like urology, orthopedics, ophthalmology etc, manpower development & research activities.
- Presently OPD services are being provided through 18 RGCs, inpatient services in 16 RGC’s, Physiotherapy in 14 centers & laboratory services in 13 centers.
- Two National Centre for Ageing (NCA) has also been developed as centre of Excellence for Geriatric Care services.
- 200 bedded NCA at Madras Medical College, Chennai has been developed and operational for Covid ward and another NCA at AIIMS, New Delhi is in advance state of Construction.
- OPD services are expected to initiate by October 2021. A 250 Bedded Geriatric Care and Rehabilitation Centre is sanctioned at PGI Chandigarh.

Topic 31. PREZODE

Important for subject: Science and Technology



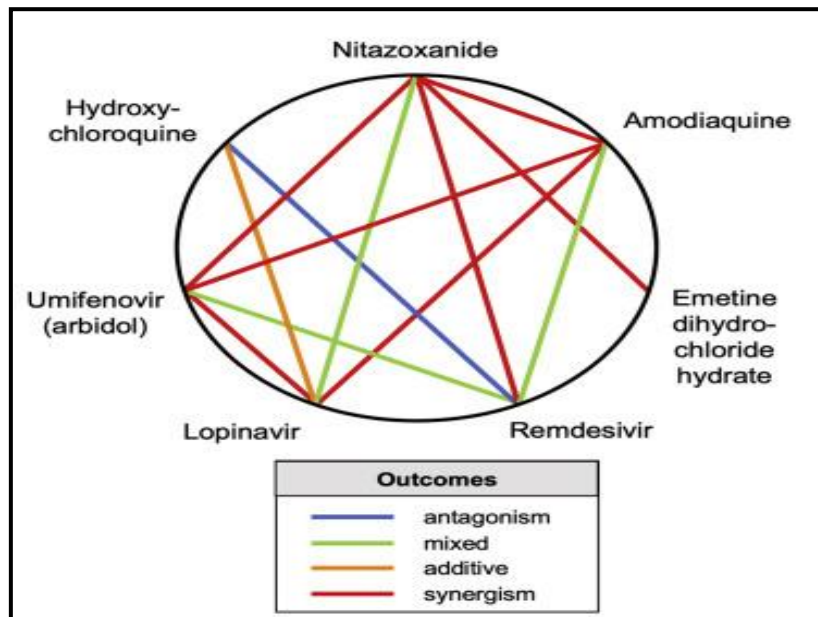
The PREZODE (Preventing Zonotic Disease Emergence) is an internationally-based One

Health initiative supporting emergence risk reduction strategies to combat zoonotic infections
It was officially launched in the month of January 2021 at the One Planet Summit on
Biodiversity hosted by the French government.

- More than 160 partners from around the world including 11 nations, who have that have signed. PREZODE has received assistance from the FAO and Presidency of the European Commission.
- Partner Countries: Belgium, France, Mexico, Vietnam, Zimbabwe, Cambodia, Costa-Rica, Haiti, Senegal, Uruguay, and Commonwealth of Dominica. A few of the partners are Indian Universities research centers, and National institutions : All India Institute of Medical Sciences and ICAR-Indian Veterinary Research Institute, ICAR-National Institute for Veterinary Epidemiology and the Punjab Agricultural University etc.,
- It strives to better understand the dangers of the emergence of zoonotic diseases, to design and implement novel methods for improving the prevention, early detection and resilience, in order to provide rapid responses to the risk from emerging diseases that are of animal origin while also increasing biodiversity and fighting the effects of hunger and poverty.
- PREZODE will be based on its recommendations from the coming high-level Expert Panel of the One Health that is part of the Tripartite.
- **Prezode will develop:** A framework for the coordination across international borders of research and innovation initiatives and programs for the development and of One Health monitoring networks, and participatory projects that involve the stakeholders involved and stakeholders; A platform to share the knowledge gained from past and present projects and leveraging the results of experiments across the globe.
- These initiatives will be carried out in close cooperation together with One-Health high-level Expert Panel which was announced on the 12th of November 2020, during the Paris Peace Forum.
- A resource online for decision makers to facilitate public policies that support the emergence of risk reduction strategies to combat Zoonotic infectious diseases.

Topic 32. DRUGS COMBINATIONS

Important for subject: Science and Technology



The PRMT5 enzyme is widely expressed in numerous cancer cells. Thus attacking the PRMT5 enzyme using medications in conjunction with low dose camptothecin could aid in the killing of cancer cells more efficiently.

- The PRMT5 enzyme that is present abundantly within cancerous cells regulates the natural repair mechanisms of cells by fine tuning the chemical process.
- This leads to the repair of DNA breakage caused by camptothecin, and consequently, the inability to resist chemotherapy.
- A major breakthrough in 2018 Researcher had a breakthrough when they made the discovery of protein that repairs DNA TDP1 (Tyrosyl DNA phosphodiesterase) along with PRMT5 binding.
- The discovery was made public in Nucleic Acids Research. However, at the time, they didn't comprehend the mechanism by which they worked.
- The continuous research conducted over the last five years has helped to unravel the mechanism more fully and the potential implications of a combination chemotherapy.
- The inhibitor of PRMT5, GSK3326595, has been accepted as a monotherapy for clinical trials in the phase II phase of cancer.
- Thus, the most recent study gives a new reason for the use of Top1-PRMT5 inhibitors for the process of tumorigenesis.

Topic 33. RISE AND FALL OF CHOLERA-CAUSING BACTERIA LINEAGE

Important for subject: Science and Technology

Researchers identify the decline of antimicrobial resistance in O139 as a key determining factor in its downfall Cholera It is a life-threatening infectious disease and a public health hazard.

- It is caused by a comma-shaped bacterium known as Vibrio cholerae.
- More than two hundred serogroups of this bacterium are known, of which only O1 and O139 are known to cause such infection that leads to epidemics and pandemics.
- Most of the serogroups only cause mild cholera-like diarrhea and food-associated outbreaks.
- Of these two serogroups, O1 was responsible for seven pandemic waves, only to be temporarily displaced by O139.
- This emerged late and came up around 1992. It was first spotted in Chennai (then Madras).
- It was anticipated that this would cause the eighth round of pandemic but it subsided as mysteriously as it had originated.
- A rapid dipstick test is available to determine the presence of V. cholera The World Health Organization (WHO) has three prequalified oral cholera vaccines (OCVs): Dukoral, Sanchol, and Euvichol.

Topic 34. BHASHINI

Important for subject: Science and Technology



IIT Madras launched the 'Nilekani Centre at AI4Bharat' to promote the state of Indian language technology with the intention to create a societal impact.

- It is an initiative to build open-source language AI for Indian languages.
- The idea is to energise the ecosystem to do more for Indian languages, all the researched data will be available for start-ups and other industries working on Indian

language technology.

- This data, which can be accessed from the official website — iitm.ac.in— would include datasets, tools, and pre-trained models being developed at the Centre.
- BHASHINI [BHASHaINterface for India] It is India's AI led language translation platform.
- It is a part of the National Language Translation Mission.
- It aims to build a National Public Digital Platform for languages to develop services and products for citizens by leveraging the power of artificial intelligence and other emerging technologies.
- It shall act as an orchestrator to unify and align a large diverse network across government, industry, academia, research groups and start-ups to bring all their contributions into an open repository.
- It enables all Indians to easily access the Internet and digital services in their own language (voice-based access), increase the content in Indian Languages, improved access in specific areas of vocabulary like engineering, law, health etc, communicating in one's own language with speakers of other Indian language, digital learning by children in their mother tongue.

Tropic 35. Superconductors

Important for subject: Science and Technology

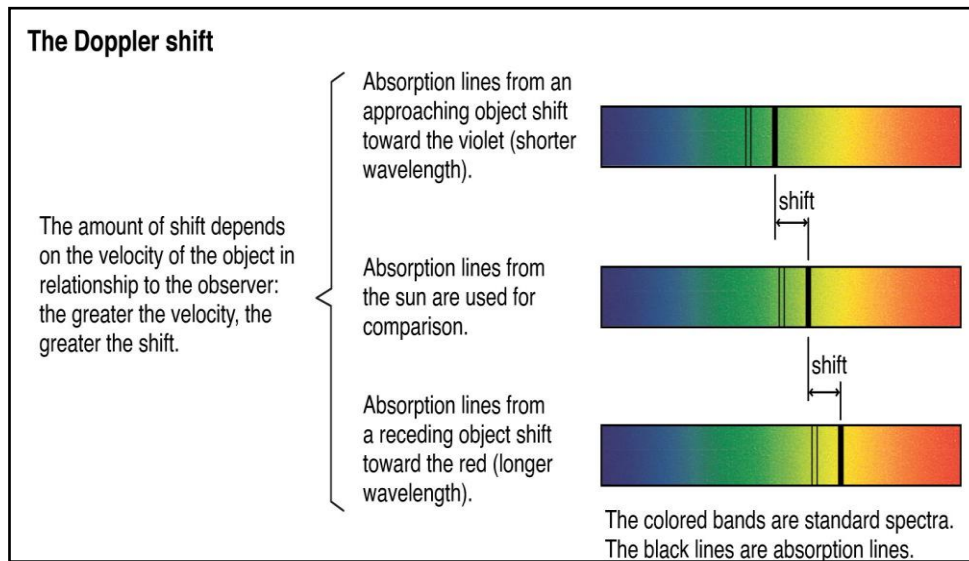
The Indian Institute of Science (IISc) has achieved a breakthrough what they call 'Au-Ag Nanostructures'.

- Superconducting materials work only in ultra-cold conditions.
- So, an engineered material called 'Au-Ag Nanostructures' is being developed. Silver particles, a billionth of a metre in size, are embedded into lattice structures of gold atoms.
- It shows "superconductivity-like signatures" because it offers zero resistance to the flow of electrons.
- But to qualify fully as a 'superconductor' it would need to have a few other properties like 'stability'.
- Presently, the material is "extremely unstable", meaning it does not remain unchanged for long and it is expected that the problem can be tackled in some months.

- **Superconductor** Superconductors are materials that conduct electricity with no resistance.
- Unlike the more familiar conductors such as copper or steel, a superconductor can carry a current indefinitely without losing any energy.
- They also have several other very important properties, such as the fact that no magnetic field can exist within a superconductor.
- Another property of a superconductor is that it will exclude magnetic fields, a phenomenon called the Meissner effect.
- **Advantage of superconductors:** Currently, superconductivity can only be achieved at temperatures far below zero, in processes that are too expensive for wider application.
- The devices have low power dissipation, high operating speed, and extreme sensitivity.
- Devices built with room temperature superconductors tend to be extremely efficient and entail large savings in both energy and costs.
- **Application:** Superconductors already have drastically changed the world of medicine with the advent of MRI machines, which have meant a reduction in exploratory surgery.
- Power utilities, electronics companies, the military, transportation, and theoretical physics have all benefited strongly from the discovery of these materials.
- **Meissner effect** When a material makes the transition from the normal to the superconducting state, it actively excludes magnetic fields from its interior; this is called the Meissner effect.
- **Critical temperature** The critical temperature for superconductors is the temperature at which the electrical resistivity of metal drops to

Topic 36. REDSHIFT AND BLUESHIFT

Important for subject: Science and Technology



NASA's release of five images from the early work of the James Webb Space Telescope grist for further research and Astrophysicist Dipankar Bhattacharya glimpse the origins of life through the 'eyes' of the James Webb.

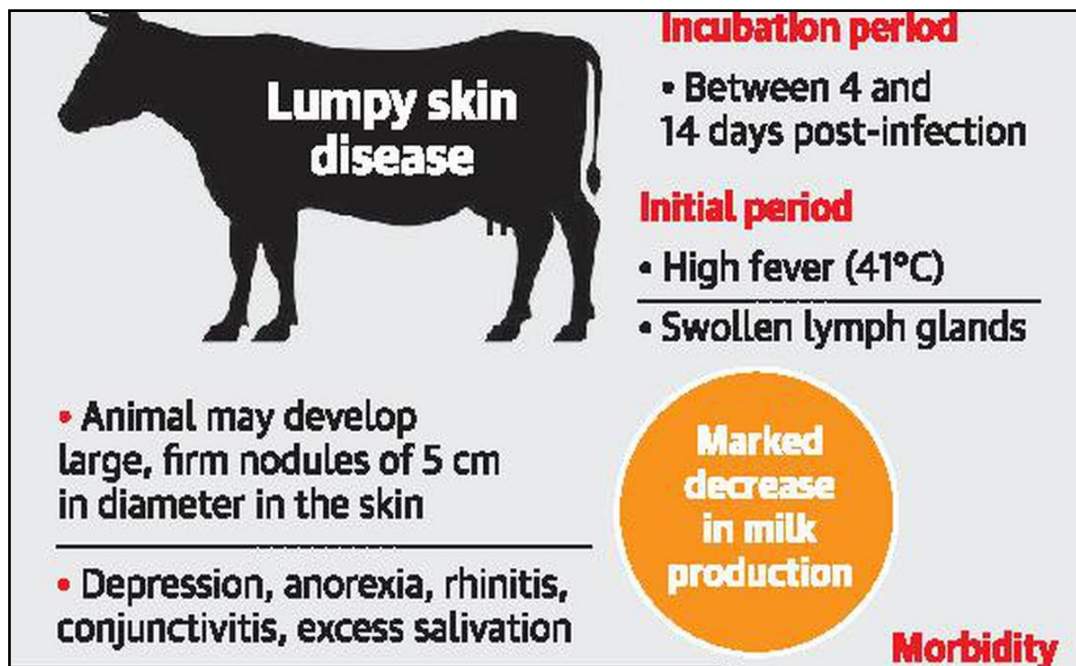
- Significance of James Webb Webb is designed to sense IR, which means it can receive radiation from galaxies that have moved very far.
- Till now it has taken IR of 5 microns (wavelength) so far, but it is designed to go up to 28 microns.
- Unlike other telescopes, the Webb has the capability to penetrate dust clouds and look at newly forming stars.
- That is how the planetary nebula (catalogued NGC 3132), which is about 2,500 light years away was seen.
- About Redshift and Blueshift: They describe the change in the frequency of a light wave depending on whether an object is moving towards or away from us.
- When an object is moving away from us, the light from the object is known as redshift, and when an object is moving towards us, the light from the object is known as blueshift.
- Astronomers use redshift and blueshift to deduce how far an object is away from Earth, the concept is key to charting the universe's expansion.
- Red shift of 1,100 means that the universe was 1,101 times smaller than now. smaller than now.
- Similarly, red shift of 20 means, 21 times smaller than now.

- Thus, the universe began emitting light from the time the red shift was around 20 and before that it was dark (i.e., the universe was just neutral gas, no luminous object).
- The terms redshift and blueshift apply to any part of the electromagnetic spectrum, including radio waves, infrared, ultraviolet, X-rays and gamma rays.
- So, if radio waves are shifted into the ultraviolet part of the spectrum, they are said to be blue shifted or shifted toward the higher frequencies.
- Gamma rays shifted to radio waves would mean a shift to a lower frequency or a red shift.
- The concept of red shift and blue shift is closely related to the Doppler effect. American astronomer Edwin Hubble was the first to describe the red shift phenomenon and tie it to an expanding universe.
- The red shift of an object is measured by examining the absorption or emission lines in its spectrum.
- These lines are unique for each element and always have the same spacing.
- At least three types of red shift occur in the universe — from the universe's expansion, from the movement of galaxies relative to each other and from “gravitational red shift”, which happens when light is shifted due to the massive amount of matter inside of a galaxy.
- Other Basic Concepts Waves and Wavelength Electromagnetic waves, which are waves of energy, don't need any medium to propagate — they originate somewhere, keep radiating through space unless halted by an object, like earth.
- Higher the energy, the shorter the wavelength. Wavelength is the distance between two successive crests of a wave.
- The number of peaks per second is called ‘frequency’.
- So, wavelength and frequency are related — the higher the wavelength, the smaller the frequency.
- Waves are classified according to their wavelength. Electromagnetic Spectrum
Electromagnetic waves come in a variety of wavelengths, depending upon their source.
- In the descending order of wavelengths (ascending order of frequencies), they are:
Radio waves
Microwaves
Infra-red or IR (further classified as far, middle and near)
Visible light (red, orange, yellow, blue, violet)
Ultra-violet
X-rays and Gamma rays.

- Doppler Effect this refers to an apparent shift in sound wave frequency for observers depending on whether the source is approaching or moving away from them.
- This principle applies to light as well as sound.

TOPIC 37. LUMPY SKIN DISEASE

Important for subject: Science and Technology



Lumpy skin disease

- **Incubation period**
 - Between 4 and 14 days post-infection
- **Initial period**
 - High fever (41°C)
 - Swollen lymph glands
- **Morbidity**
 - Marked decrease in milk production
- Animal may develop large, firm nodules of 5 cm in diameter in the skin
- Depression, anorexia, rhinitis, conjunctivitis, excess salivation

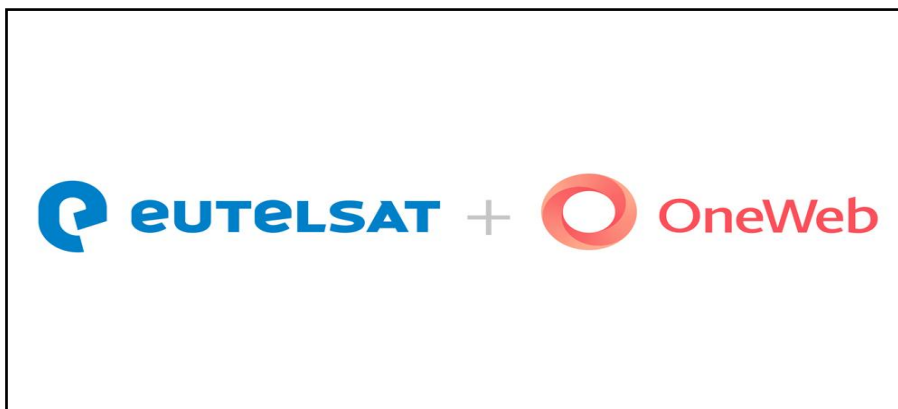
Cattle herders in western Rajasthan have suffered heavy losses due to an outbreak of the contagious Lumpy Skin Disease (LSD).

- Hundreds of cattle have died from infection, according to data from the state animal husbandary department.
- The state's dairy sector has also been badly affected. Lumpy Skin Disease (LSD) has been infecting India's bovines.
- The LSD is caused by infection of cattle or water buffalo with the poxvirus Lumpy skin disease virus (LSDV).
- The virus is one of three closely related species within the genus capripox virus, the other two species being Sheeppox virus and Goatpox virus.
- **Symptoms** –
 1. It appears as nodules of two to five centimetre diameter all over the body, particularly around the head, neck, limbs, udder (mammary gland of female cattle) and genitals.

- Other clinical signs include general malaise, ocular and nasal discharge, fever, and sudden decrease in milk production.
2. According to the Food and Agriculture Organization (FAO) the mortality rate is less than 10%. Vectors – it spreads through mosquitoes, flies and ticks and also through saliva and contaminated water and food.
 3. Control and prevention of lumpy skin disease relies on four tactics – movement control (quarantine), vaccination, slaughter campaigns and management strategies.
 4. There is no treatment for the virus, so prevention by vaccination is the most effective means of control.
 5. Secondary infections in the skin may be treated with Non-Steroidal AntiInflammatories (NSAIDs) and also antibiotics when appropriate.
- **Global Spread:**
 1. LSD is endemic to Africa and parts of West Asia, where it was first discovered in 1929.
 2. In Southeast Asia the first case of LSD was reported in Bangladesh in July 2019.
 3. In India, which has the world’s highest 303 million heads of cattle, the disease has spread to 15 states within just 16 months.
 4. In India it was first reported from Mayurbhanj, Odisha in August 2019.

Topic 38. EUTELSAT- ONE WEB TO MERGE

Important for subject: Science and Technology



Space Eutelsat will combine its strong fleet of 36 Geostationary Orbit (GEO) satellites with OneWeb’s constellation of 648 Low Earth Orbit satellites, of which 428 are currently in orbit.

- With its uniquely superior GEO/LEO offerings, complementing high throughput with low latency, the combined entity will help bolster the satellite communication

capabilities of the nation, catering to the varied range of needs of the private industry as well as the government Initiatives for Satellite Internet: ‘Five to 50’ service (OneWeb): OneWeb, a private company, has successfully launched constellations of 218 satellites in LEO.

- The company only has one more launch to complete before it obtains the capacity to enable its ‘Five to 50’ service of offering internet connectivity to all regions north of 50 degrees latitude.
- The Five to 50 service is expected to be switched on by June 2021 with global services powered by 648 satellites available in 2022.
- Starlink: It is a venture of SpaceX. Starlink currently has 1,385 satellites in orbit and has already started beta testing in North America and initiating pre-orders in countries like India.
- However, Starlink’s satellites fly closer to the earth and therefore, the company requires a larger fleet to provide global connectivity than OneWeb.
- Project Kuiper: It is a project of Amazon announced in 2019.
- Loon Project: Google launched its ‘Loon’ project in 2013, using high-altitude balloons to create an aerial wireless network.
- After testing the service in rural Kenya, Google’s parent company, Alphabet, abandoned the project in 2021.

Topic 39. DIN IN RS OVER PRIVATE MEMBER’S BILL

Important for subject: Polity

Parliament Opposition protests against Bills on Uniform Civil Code and Repeal of the Places of Worship Act.

- The Places of Worship Act 1991 was passed to stop all places of worship from being considered as such on August 15, 1947. However, an exception was made in order to not affect the Babri Masjid - Ramjanma Bhoomi dispute.
- Private Members Bill Any member of Parliament (MP), who is not a Minister, is called a private Member.
- The member responsible for its drafting is the one. One month notice is required for its introduction in the House.

- Government bills require 7 days notice.
- While the government bills/public bills may be discussed at any time, private members' bills must be discussed and introduced on Fridays.
- Multiple Bills can be introduced using a ballot system.
- The Parliamentary Committee on Private Member's Bills and Resolutions reviews all such Bills and assigns priority and importance to them.
- The House's rejection of it does not affect the parliamentary confidence or the government's resignation.
- 14 private member's bills, five of which were introduced by Rajya Sabha, have been made law.

Topic 40. ASSEMBLY SITTINGS

Important for subject: Polity

Kerala tops in holding Assembly sittings in 2021. Kerala, which fell to eighth in holding Assembly sittings in the initial wave of the COVID-19 pandemic, 2020, was back at the top in 2021 with its House sitting for 61 consecutive days, the longest in the country.

- Between 2016 and 2019, Kerala was at the top of the list with an average of 53 days.
- According to the PRS Legislative Research, a New Delhi-based thinktank, Odisha was second with 43 sitting days, Karnataka 40 and Tamil Nadu 34 respectively.
- 17 of the 28 State Assemblies, one Union Territory's legislature met for less than twenty days.
- Five of them -- Andhra Pradesh (Nagaland), Sikkim (Tripura), and Delhi - met less than 10 days.
- The Supreme Court stated that the ordinance route should only be used in exceptional circumstances.
- Last year, 21 of 28 States had promulgated ordinances. The highest number of ordinances in Kerala was 144.
- This is followed by Andhra Pradesh's 20 ordinances and Maharashtra's 15.

- Concept: Article 170- Formation of Legislative Assemblies. Important: Each State's Legislative Assembly shall not exceed five hundred members and not less than sixty members. This is subject to Article 333.
- An exception to this may be granted by an act of parliament in Sikkim and Mizoram.
- **Recommendations:** Former Chief Justice of India M.N. headed the National Commission to Review the Working of the Constitution 2000-02.
- Venkatchaliah had recommended that the Houses or State legislatures (/Union Territory) with less than 70 members, such as Puducherry for example, meet for no less than 50 days per year, and other Houses (Tamil Nadu) for no more than 90 days.
- Ten are in the first group, 20 in the second. The Governor has the power to issue Ordinances.
- Just like the President of India is constitutionally authorized to issue Ordinances according Article 123, so can the Governor of a State under Article 213, if the state legislative assembly or either of the two Houses of bicameral legislatures is not in session.
- In terms of Ordinance-making, the powers of the President as well as the Governor are very similar.
- The Governor cannot issue Ordinances without the President's instructions in three situations: (a) A Bill with the same provisions under this Constitution would require the President's prior sanction; (b) He would have considered it necessary to reserve a Bill with the same provisions for consideration by the President; or (c). An Act of the Legislature of a State containing similar provisions under this Constitution would be invalid unless it has received the President's assent.
- The court was looking at a case in which a state government, under the Governor's authority, continued to promulgate new ordinances instead of laying them before its state legislature.
- Total of 259 Ordinances were repromulgated. Some of them lasted as long as 14 year.
- The Supreme Court argued that Ordinance making could be considered a

common practice and would create an "Ordinance Raj" where courts could invalidate re-promulgated Ordinances.

Topic 41. UNIFORM CIVIL CODE

Important for subject: Polity

The government does not propose to set up a committee to implement a uniform civil code (UCC), Law Minister Kiren Rijiju told the Rajya Sabha on Thursday.

- **What is UCC?**
- The Uniform Civil Code (UCC) calls for the formulation of one law for India, which would be applicable to all religious communities in matters such as marriage, divorce, inheritance, adoption.
- Article 44 of the Constitution lays down that the state shall endeavour to secure a UCC for the citizens throughout the territory of India.
- Article 44 is one of the Directive Principles of State Policy (DPSP).
- DPSP as defined in Article 37, are not justiciable (not enforceable by any court) but the principles laid down therein are fundamental in governance.
- Status of Uniform Codes in India: Indian laws do follow a uniform code in most civil matters such as Indian Contract Act 1872, Civil Procedure Code, Transfer of Property Act 1882, Partnership Act 1932, Evidence Act, 1872 etc.
- Background of Uniform Civil Code The origin of the UCC dates back to colonial India when the British government submitted its report in 1835 stressing the need for uniformity in the codification of Indian law relating to crimes, evidence, and contracts, specifically recommending that personal laws of Hindus and Muslims be kept outside such codification.
- Increase in legislation dealing with personal issues in the far end of the British rule forced the government to form the B N Rau Committee to codify Hindu law in 1941.
- Based on these recommendations, a bill was then adopted in 1956 as the Hindu Succession Act to amend and codify the law relating to intestate or unwilled succession, among Hindus, Buddhists, Jains, and Sikhs.
- However, there were separate personal laws for muslim, christian and Parsis. Goa is the only state in India which has a uniform civil code.
- The Goa Family Law, is the set of civil laws, originally the Portuguese Civil Code,

continued to be implemented after its annexation in In order to bring uniformity, the courts have often said in their judgements that the government should move towards a uniform civil code.

- The judgement in the Shah Bano case is well known, but the courts have made the same point in several other major judgements.
- By arguing that practices such as triple talaq and polygamy impact adversely on the right of women to a life of dignity, the Centre has raised the question whether constitutional protection given to religious practices should extend even to those that are not in compliance with fundamental rights.
- **Recent steps:** Government has requested the Law Commission of India to undertake examination of various issues relating to uniform civil code and to make recommendations.
- The government does not propose to set up a committee to implement a uniform civil code (UCC).
- The personal laws, such as Intestacy and Succession, Wills, Joint Family and Partition and Marriage and Divorce, relate to Entry 5 of List-III-Concurrent List of the Seventh Schedule to the Constitution.
- Hence, the States are also empowered to legislate upon them.
- Uttarakhand has set up a panel to examine the implementation of UCC.

Topic 42. CONSUMER PROTECTION BODY ISSUES NOTICES TO EV-MAKERS ON FIRE INCIDENTS

Important for subject: Polity

Central Consumer Protection Authority (CCPA) has issued notices to several electric vehicle makers taking suo motu cognisance of recent incidents of fires and exploding batteries.

- It is also working on guidelines to check on misleading fake and paid reviews to protect consumer interest.
- As per CACP mandatory for makers of such products to conform to the Bureau of Indian Standards (BIS) norms.
- It has already been running a similar countrywide campaign to check on substandard helmets, pressure cookers and LPG gas cylinders.
- Central Consumer Protection Authority The authority is being constituted under

Section 10(1) of The Consumer Protection Act, 2019.

- Aim: To protect the rights of the consumer by cracking down on unfair trade practices, and false and misleading advertisements that are detrimental to the interests of the public and consumers.
- It will be headquartered in the National Capital Region of Delhi but the central government may set up regional offices in other parts of the country.
- Powers and Functions: Inquire or investigate into matters relating to violations of consumer rights or unfair trade practices suo motu, or on a complaint received, or on a direction from the central government.
- Recall goods or withdrawal of services that are “dangerous, hazardous or unsafe.
- Pass an order for refund the prices of goods or services so recalled to purchasers of such goods or services; discontinuation of practices which are unfair and prejudicial to consumer’s interest”.
- Impose a penalty up to Rs 10 lakh, with imprisonment up to two years, on the manufacturer or endorser of false and misleading advertisements.
- The penalty may go up to Rs 50 lakh, with imprisonment up to five years, for every subsequent offence committed by the same manufacturer or endorser.
- Ban the endorser of a false or misleading advertisement from making endorsement of any products or services in the future, for a period that may extend to one year.
- The ban may extend up to three years in every subsequent violation of the Act.
- File complaints of violation of consumer rights or unfair trade practices before the District Consumer Disputes Redressal Commission, State Consumer Disputes Redressal Commission, and the National Consumer Disputes Redressal Commission.
- Composition: It will have a Chief Commissioner as head, and only two other commissioners as members — one of whom will deal with matters relating to goods while the other will look into cases relating to services.
- The CCPA will have an Investigation Wing that will be headed by a Director General.
- District Collectors too, will have the power to investigate complaints of violations of consumer rights, unfair trade practices, and false or misleading advertisements.
- BIS- the Bureau of Indian Standards the Bureau of Indian standards (BIS) Act 2016 establishes the Bureau of Indian Standards (BIS) as the National Standards Body of India.

- The Act allows the union government to make it compulsory for certain notified goods, processes, articles, etc. to carry the standard mark in the public interest, safety of the environment, national security or to prevent unfair trade practices.
- Additionally, there is a provision in the Act for the recall or repair for products that bear the Standard Mark but do not conform to the required Indian Products/Goods need BIS standardizations are Helmets, pressure cookers and LPG gas cylinders.
- Geysers, immersion water heaters, domestic gas stoves, microwave ovens and sewing machines.
- Alternate fuels E-mobility Medical Devices Smart Cities Digital Technologies (e.g. Industry 4.0, Artificial Intelligence, Block Chain etc.) New and Renewable energy.
- BIS (Hallmarking) Regulations, 2018 under the BIS act calls for Hallmarking of: Gold jewellery and gold artefacts Silver jewellery and silver artefacts.

Topic 43. NO SHORTAGE OF ANTIRETROVIRAL DRUGS IN INDIA: HEALTH MINISTRY

Important for subject: Polity

There is adequate stock for around 95% 'People Living with HIV', Health Ministry clarifies 1st & 2nd line antiretroviral drugs ARV regimens like Tablet TLD (Tenofovir+ Lamivudine+ Dolutegravir) and other ARV regimens.

- India is one of the very few countries that provides free anti-retroviral medicines for life-long treatment of more than 14.5 lakh PLHIV through 680 antiretroviral therapy (ART) centres under its National AIDS Control Programme (NACP), which is fully funded by the Government of India.
- Tablet Dolutegravir (DTG)-50mg is required for around 50,000 PLHIV who are either on Alternate-1st/2nd or 3rd-line regimens, or those with TB co-infection National strategic plan (2017-24) and Mission SAMPARK the Ministry of Health and Family Welfare has launched the plan with aim to eradicating HIV/AIDS by 2030.
- It is expected to pave a roadmap for achieving the target of 90:90:90.
- Target of 90:90:90- By 2020, 90% of all people living with HIV will know their HIV status.
- By 2020, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy.

- By 2020, 90% of all people receiving antiretroviral therapy will have viral suppression.
- Mission ‘SAMPARK’ aimed at tracing those who are HIV positive and are to be brought under antiretroviral therapy (ART) services The Global Fund for AIDS TB and Malaria (GFTAM) Recently, India has announced a contribution of \$22 million to the Global Fund for AIDS, TB and Malaria (GFTAM) for the 6th replenishment cycle (2020-22).
- The Global Fund is a partnership designed to accelerate the end of AIDS, tuberculosis and malaria.
- As an international organization, the Global Fund mobilizes and invests more than \$4 billion a year to support programs run by local experts in more than 100 countries.

Topic 44. INDIA ADDS FIVE MORE RAMSAR SITES, UPS TALLY TO 54

Important for subject: Polity

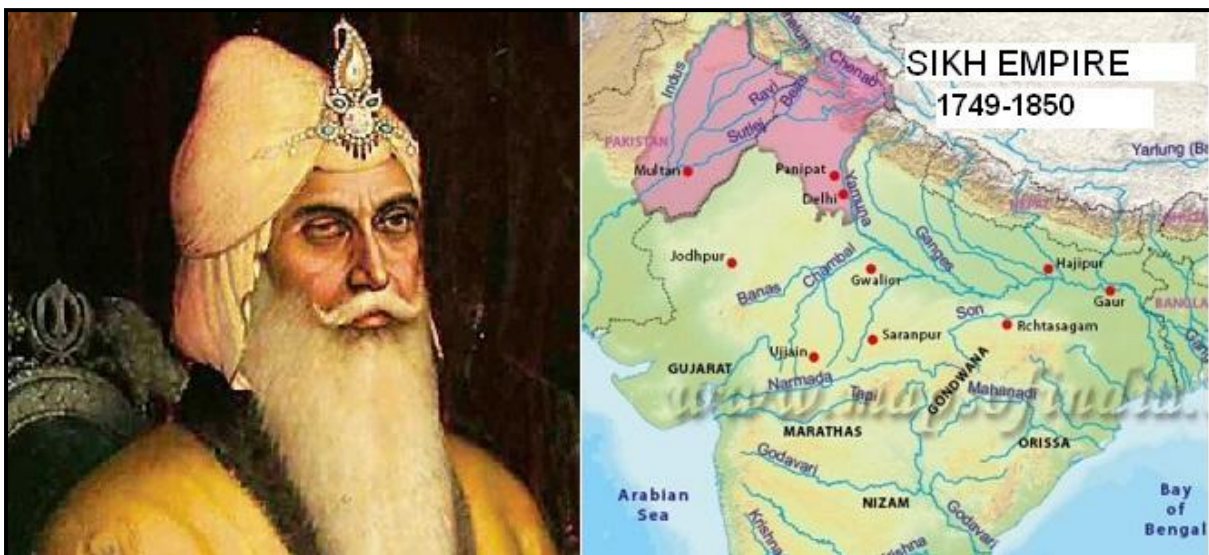
These are the Karikili Bird Sanctuary, Pallikaranai Marsh Reserve Forest and Pichavaram Mangrove in Tamil Nadu, the Sakhya Sagar in Madhya Pradesh and Pala Wetland in Mizoram.

- India’s Ramsar wetlands are spread over 11,000 sq km — around 10% of the total wetland area in the country — across 18 States.
- No other South Asian country has as many sites though this has much to do with India’s geographical breadth and tropical diversity.
- India has 19 types of wetlands whereas Gujarat has the maximum area followed by Andhra Pradesh, Uttar Pradesh and West Bengal.
- The United Kingdom (175) and Mexico (142) — smaller countries than India — have the maximum Ramsar sites whereas Bolivia spans the largest area with 148,000 sq km under the Convention protection.
- Criteria to be designated as RAMSAR sites To be Ramsar site, however, it must meet at least one of nine criteria as defined by the Ramsar Convention of 1961, such as supporting vulnerable, endangered, or critically endangered species or threatened ecological communities or, if it regularly supports 20,000 or more waterbirds or, is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks are dependent upon.

- Significance of being RAMSAR site Being designated a Ramsar site does not necessarily invite extra international funds but that States — and the Centre — must ensure that these tracts of land are conserved and spared from man-made encroachment.
- Acquiring this label also helps with a locale’s tourism potential and its international visibility.
- Significance of Wetland on Ecosystem Wetlands are also known to have among the highest soil-carbon densities and therefore play a major role in buffering carbon dioxide emissions.
- Wetlands in Uttar Pradesh and Gujarat serve as important spaces for migratory birds.
- Definition of Wetlands, according to the Environment Ministry They are an area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres, but does not include river channels, paddy fields, human-made water bodies/ tanks specifically constructed for drinking water purposes and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes.”

Topic 45. MAHARAJA RANJIT SINGH

Important for subject: History



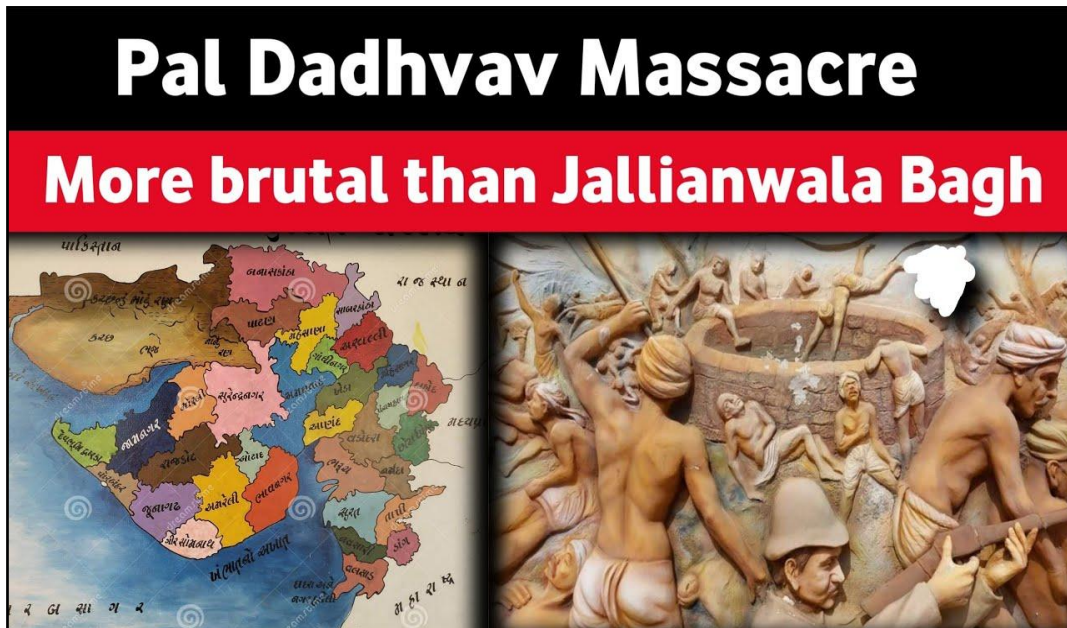
The statue of the Sikh emperor was vandalized in Pakistan. He was born in

Gujranwala on November 13, 1780. The Punjabi rulers at that time were powerful chieftains, who had divided the territory into Misl. This refers to the sovereign states that the Sikh Confederacy (which rose in the 18th century in Punjab, the northernmost part of India, after the fall of the Mughal Empire).

- Ranjit Singh defeated the warring Misl to establish a united Sikh empire.
- For his heroic efforts in rescuing Lahore, his capital, from the Afghan invaders, he was awarded the title of Lion of Punjab (Sheri-e-Punjab).
- Modernization of the Army He combined the strengths of the Khalsa traditional army with western advances to warfare to create Asia's most powerful indigenous arm.
- To train his troops, he also used a lot of European officers, particularly French. To modernize his army, he appointed Jean Franquis Allard from France.
- Wide Empire Ranjit Singh's transregional empire (spread across several states) included former Mughal provinces Lahore, Multan, and a part of Kabul as well as the entirety of Peshawar.
- His state's boundaries extended to Ladakh in the northeast, Khyber pass in the northwest and Panjnad to the south, where the five rivers from Punjab were absorbed into the Indus.
- The Maharaja was well-known for his secular and just rule. His darbar gave both Hindus and Muslims powerful positions.
- By covering Harimandir Sahib in Amritsar with gold, he made it the Golden Temple. He is also credited for funding Hazoor Sahib Gurudwara in Nanded (Maharashtra), at Guru Gobind Singh's final resting place.
- The Victoria and Albert Museum in London displays his throne prominently.

Topic 46. WHAT WAS THE PAL-DADHVAV MASSACRE, WHOSE CENTENARY THE GUJARAT GOVT IS OBSERVING?

Important for subject: History



The Gujarat government marked 100 years of the Pal-Dadhvav killings, calling it a massacre “bigger than the Jallianwala Bagh”.

- Before this, the incident had been featured on the state’s Republic Day tableau.
- The day was Amalki Ekadashi, which falls just before Holi, a major festival for tribals.
- Villagers from Pal, Dadhvav, and Chitariya had gathered on the banks of river Heir as part of the ‘Eki movement’, led by one Motilal Tejawat.
- The movement was to protest against the land revenue tax (lagaan) imposed on the peasants by the British and feudal lords.
- The Mewad Bhil Corps (MBC), a paramilitary force raised by the British that was on the lookout for Tejawat, heard of this gathering and reached the spot.
- On a command from Tejawat, nearly 2000 Bhils raised their bows and arrows and shouted in unison- ‘We will not pay the tax’.
- The MBC commanding officer, HG Sutton, ordered his men to fire upon them. Bullets rained on them but where could they go? There was a stampede.

Topic 47. RAVI VARMA'S KIN SEEK BHARAT RATNA FOR HIM

Important for subject: History

Proposal by Kilimanoor Palace highlights the impact of his works on generations it is believed that he had made around 7,000 paintings before his death at the age of 58.

- His paintings continue to inspire generations and exert influence on art, architecture, culture, religion, textiles, ceramics, and fashion accessories even now.
- In addition, Hinduism and the country are obliged to him as he changed the images of gods and goddess from the supernatural to the human form Varma worked on both portrait and landscape paintings, and is considered among the first Indian artists to use oil paints.
- He continues to be regarded as the most important representative of the Europeanised school of painting in India.
- Varma's women-centric paintings portray a vast variety of their expressions and costumes.
- Some of his popular works are 'Lady in the Moonlight', 'Nair Lady Adorning Her Hair', 'Malabar Lady with Violin', 'Lady with Swarbat', 'Maharashtrian Lady with Fruits', 'Lady with a Mirror', 'Lady Giving Alms', 'Lady in Contemplation', 'Woman with Veena' and 'Lady Holding a Fruit'.

Topic 48. NETWORK FOR GREENING THE FINANCIAL SYSTEM (NGFS)

Important for subject: International Relations



The Network for Greening the Financial System is a network made up of 114 central bank and financial supervisors.

- It aims to increase green finance, and make recommendations for central

banks regarding their role in climate change.

- The Banque de France hosts the NGFS secretariat.
- It was launched at the Paris "One Planet Summit", December 2017.
- The network was founded by eight founding central banks under the leadership of Francois Villeroy de Galhau (Banque de France), the Dutch Central Bank's Frank Elderson, and Mark Carney, former Governor of the Bank of England. Hong Kong Monetary Authority was one of the original members.
- It was founded by 8 founding central banks, including the Bank of France's governor Francois Villeroy de Galhau, the Dutch Central Bank's Frank Elderson, and the Bank of England's former governor Mark Carney.
- In 2021, the NGFS identified 9 policy options that could be chosen by central banks to align their monetary policy with climate objectives. The NGFS work is currently organised around 5 work streams: Micro prudential/Supervision, Macro financial, Scaling up green finance, Bridging the data gaps, Research.

Topic 49. THE ICJ'S LATEST JUDGMENT IN THE CASE OF GENOCIDE AGAINST MYANMAR

Important for subject: International Relation

Judges at the United Nations' highest court have dismissed preliminary objections by Myanmar to a case alleging the Southeast Asian nation is responsible for genocide against the Rohingya ethnic minority.

What is the issue?

- Myanmar's military launched what it called a clearance campaign in Rakhine state in 2017 in the aftermath of an attack by a Rohingya insurgent group.
- More than 700,000 Rohingya fled into neighbouring Bangladesh and Myanmar security forces have been accused of mass rapes, killings and torching thousands of Rohingya homes.
- Amid international outrage at the treatment of the Rohingya, Gambia filed the case with the world court in November 2019, alleging that Myanmar is breaching the genocide convention
- The nation argued that both Gambia and Myanmar are parties to the convention and

that all signatories have a duty to ensure it is enforced.

Background:

- The Genocide Convention: The Convention on the Prevention and Punishment of the Crime of Genocide (Genocide Convention) is an instrument of international law that codified for the first time the crime of genocide.
- The Genocide Convention was the first human rights treaty adopted by the General Assembly of the United Nations on 9 December 1948 According to the Genocide Convention, genocide is a crime that can take place both in time of war as well as in time of peace.
- The Convention establishes on State Parties the obligation to take measures to prevent and to punish the crime of genocide, including by enacting relevant legislation and punishing perpetrators That obligation, in addition to the prohibition not to commit genocide, has been considered as norms of international customary law and therefore, binding on all States, whether or not they have ratified the Genocide Convention.
- The International Court of Justice (ICJ) It is the principal judicial organ of the United Nations (UN).
- It was established in June 1945 by the Charter of the United Nations and began work in April 1946.
- The seat of the Court is at the Peace Palace in The Hague (Netherlands).
- Of the six principal organs of the United Nations, it is the only one not located in New York (United States of America).
- The Court's role is to settle, in accordance with international law, legal disputes submitted to it by States and to give advisory opinions on legal questions referred to it by authorized United Nations organs and specialized agencies.
- The Court is composed of 15 judges, who are elected for terms of office of nine years by the United Nations General Assembly and the Security Council.
- Its official languages are English and French.

Topic 50. THE REPECHAGE FORMAT INTRODUCED BY WORLD ATHLETICS FOR THE 2024 PARIS OLYMPICS

Important for subject: International Relations

International World Athletics on Monday announced that they were set to introduce a repechage round in individual track events from 200m to 1500m races for the 2024 Paris Olympic Games.

- According to World Athletics, the events at the Olympics would now consist of a round one, repechage round, semi-finals and finals.
- Repechage for the 100m race was not included because the event already has preliminary heats in place.

What is repechage?

- Repechage essentially means a second chance.
- If a sport has repechage, it means that the athlete will get one more chance to compete and move into further rounds and possibly the final, even if they have lost once in the initial rounds.

What is the need for repechage in athletics?

- As it happens, sometimes the best athletes – for plenty of reasons – are not able to reach the final.
- In some cases, the sheer quality differential in certain heats would mean that an athlete could have qualified for further rounds, had they been among other athletes in their category, in a different heat.
- In some cases, rankings or conditions can all take their toll and derail the qualification process of an athlete.
- The repechage gives a second chance to those athletes. It allows the best quality on display at the final event.

Which event is it a part of currently?

- Repechage is currently part of wrestling and taekwondo at the Olympics in a similar fashion. For both events, if a participant loses in the first round and their opponent reaches the final, then that participant would need to wrestle against the finalists' second-round opponent and move up to the bronze medal position.
- The bronze medal is the upper limit of the repechage in wrestling with finalists from both brackets facing each other for a gold medal match.

- International Olympic Committee The IOC is the supreme authority of the Olympic Movement and is responsible for organising the modern Summer and Winter Olympic Games.
- The IOC is the governing body of the National Olympic Committees (NOCs), which are the national constituents of the worldwide Olympic Movement.
- As of 2016, there are 206 NOCs officially recognised by the IOC.

Topic 51. INDIA'S ORGANIC CERTIFICATION PROCEDURES UNDER CLOUD AS APEDA PENALISES 3 MORE AGENCIES

Important for subject: Agriculture

All is not well with the certification process of Indian organic products with the Agricultural and Processed Food Products Export Development Authority (APEDA) penalising three certifying agencies, including termination, for irregularities they committed in violation of the process.

- The ban was imposed after organic products certified by them for exports were found violating ethylene oxide norms of the European Commission.
- APEDA the Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act passed by the Parliament in December, 1985.
- It functions under the Ministry of Commerce and Industry.
- The Authority has its headquarters in New Delhi.
- The Authority replaced the Processed Food Export Promotion Council (PFEPIC).
- Functions APEDA is mandated with the responsibility of export promotion and development of the scheduled products viz. fruits, vegetables and their products, meat and meat products, poultry and poultry products, dairy products, confectionery, biscuits and bakery products, honey, jaggery and sugar products, cocoa and its products, chocolates of all kinds, alcoholic and non-alcoholic beverages, cereal and cereal products, groundnuts, peanuts and walnuts, pickles, papads and chutneys, guar gum, floriculture and floriculture products, herbal and medicinal plants. APEDA has been entrusted with the responsibility to monitor import of sugar.
- It looks after the development of industries relating to the scheduled products for

export by way of providing financial assistance or otherwise for undertaking surveys and feasibility studies, participating through subsidy schemes. Registration of persons as exporters of the scheduled products and fixing of

- standards and specifications for the scheduled products for the purpose of exports.
- Carrying out inspection of meat and meat products in slaughterhouses, processing plants, storage premises and improving packaging of the scheduled products.
- APEDA also functions as the Secretariat to the National Accreditation Board (NAB) for implementation of accreditation of the Certification Bodies under National Programme for Organic Production (NPOP) for organic exports.
- “Organic Products” for export are to be certified only if Produced, Processed and Packed as per the standards laid down in the document – “National Programme for Organic Production (NPOP).”
- The APEDA Chairman appointed by the Central Government National Programme for Organic Production (NPOP) NPOP grants organic farming certification through a process of third party certification.
- It involves the accreditation programme for Certification Bodies, standards for organic production, promotion of organic farming etc.
- It is implemented by Agricultural and Processed Food Products Export Development Authority (APEDA), Ministry of Commerce and Industry.
- The NPOP standards for production and accreditation system have been recognized by the European Commission, Switzerland and USA as equivalent to their respective accreditation systems.
- Participatory Guarantee System for India (PGS) PGS is another process of certifying organic products.
- The certification is in the form of a documented logo or a statement.
- It is implemented by the Ministry of Agriculture and Farmers’ Welfare.
- The organic farmers have full control over the certification process.
- PGS certification is only for farmers or communities that can organise and perform as a group.
- Individual farmers or groups of farmers smaller than five members are not covered under PGS.
- PGS is applicable on on-farm activities comprising of crop production, processing and

livestock rearing, etc.

- Off-farm processing activities such as storage, transport and value addition activities by persons/agencies other than PGS farmers away from the group are not covered under PGS.
- Organic foods are also required to comply with the requirements of labelling of FSSAI in addition to that of NPOP or PGS-India.

Topic 52. THE ELEVENTH AGRICULTURAL CENSUS (2021-22)

Important for subject: Agriculture



The nationwide Eleventh Agricultural Census (2021-22) was launched on Thursday by Union Agriculture Minister Narendra Singh Tomar.

- The agricultural census is the main source of information on a variety of parameters, such as the number and area, operational holdings, their size, class wise distribution, land use, tenancy and cropping pattern.
- The Department of Agriculture and Farmers Welfare, Ministry of Agriculture & Farmers Welfare, conducts Agriculture Censuses in India in collaboration with States/UTs as part of programme of World Census of Agriculture.
- In the two Agricultural Censuses, namely, 1950 and 1960, data required for the World Agricultural Census were collected through sample Surveys carried out by the erstwhile Directorate of National Sample Survey (Now called 'National Sample Survey Office) which gave estimates for the country as a whole and also for States.

- **Brief history of Agricultural census:** The launch of first Agriculture Census was in 1970-71. The National Commission on Agriculture, in their report submitted in 1976, recommended that Agricultural census be conducted on quinquennial basis.
- Accordingly, the second Agricultural census was conducted with 1976-77 as the reference year.
- So far, ten Agriculture Censuses with reference years 1970-71, 1976-77, 1980-81, 1985-86, 1990-91, 1995-96, 2000-01, 2005-06, 2010-11 and 2015-16 have been conducted.
- The reference period in Agriculture Census is the agriculture year starting from July to June. From Input Survey 1991-92, the sample size has been raised to 7% villages in each stratum.
- The present census with reference year 2020-21 will be 11th in the series. Entire Census operation is conducted in three phases and operational holding is taken as statistical unit at micro level for data collection.
- Based on the agriculture census data collected in three phases, the Department brings out three detailed reports analysing trends on various parameters at All India, States/UTs level, District/Tehsil level reports are prepared by the respective States/UTs.
- A major challenge for the Census will be to estimate the number of farmers in the country correctly as all the policies and financial allocation depend on it.
- Differences in data between previous census and PM Kisan: As per the last Census, the number of farmers was estimated at 14.65 crore based on operational land holdings.
- The previous Census has put the operational holdings at 10.93 lakh whereas PM Kisan data show there was 23.76 lakh, which excluded ineligible farmers.
- **New steps in the latest census procedure:** The government has maintained that the basis of data collection will continue to be on operational holdings and not on ownership holding.
- The government has decided to use it in Census operation, using drone and validation with the digitised land records will help reduce manual discrepancies in data as well as fool proof the statistical methodology.
- The use of digitised land records and the use of mobile apps for data collection will

enable the creation of a database of operational holdings in the country Minister of agriculture said the agriculture census should be thought of in a broader perspective as it can also contribute to the mapping of crops and released the “Handbook on Operational Guidelines for Census” for the use of States and Union Territories while launching the ‘Data Collection Portal/App’.

Topic 53. SEA WEED FARMING

Important for subject: Geography



The ICAR-Central Marine Fisheries Research Institute (CMFRI) has done georeferencing of 342 farming sites in the country over 24,167 hectares of seaweed cultivation.

- “Seaweed” is the common name for countless species of marine plants and algae that grow in the ocean as well as in rivers, lakes, and other water bodies.
- Some seaweeds are microscopic, such as the phytoplankton that live suspended in the water column and provide the base for most marine food chains.
- Some are enormous, like the giant kelp that grow in abundant “forests” and tower like underwater redwoods from their roots at the bottom of the sea.
- Most are medium-sized, come in colors of red, green, brown, and black, and randomly wash up on beaches and shorelines just about everywhere.
- They are the primitive, marine non-flowering marine algae without root, stem and leaves, play a major role in marine ecosystems.
- Seaweeds found mostly in the intertidal region, in shallow and deep waters of the sea

and also in estuaries and backwaters.

- The southern Gulf of Mannar's rocky intertidal and lower intertidal regions have rich populations of several seaweed species.
- Seaweeds exhibit highest photosynthesis efficiency due to moist conditions.
- They contribute to about 50% of all photosynthesis in the world. The global production of seaweed (comprises various marine plant species and algae) in 2022 was 35 million tonnes worth around USD 16.5 billion.
- Benefits of Seaweed: Seaweed is full of vitamins, minerals, & fibre.
- They contain anti-inflammatory & anti-microbial agents. They are known to process significant medicinal effects.
- They possess powerful cancer-fighting agents. They are effective binding agents (emulsifiers) & are used commercial goods as toothpaste & fruit jelly, & popular softeners (emollients) in organic cosmetics & skincare products.
- Applications of seaweed: Health risks: Rotting seaweed is a potent source of hydrogen sulfide, a highly toxic gas, and has been implicated in some incidents of apparent hydrogen-sulphide poisoning.
- It can cause vomiting and diarrhea. The so-called "stinging seaweed" *Microcoleus lyngbyaceus* is a filamentous cyanobacteria which contains toxins including lyngbyatoxin-a and debromoaplysiatoxin.
- Direct skin contact can cause seaweed dermatitis characterized by painful, burning lesions that last for days.
- Seaweed in India: About CMFRI research and contributions in sea weed cultivation : Central Marine Fisheries Research Institute was established by Government of India on February 3 1947 under the Ministry of Agriculture and Farmers Welfare and later it joined the ICAR in 1967.
- CMFRI has developed a unique method for estimation of fishery catch and effort data from the over 8000 km coastline called the "Stratified Multistage Random Sampling Method".
- With this methodology the Institute is maintaining the National Marine Fisheries Data Centre (NMFDC).
The ICAR-Central Marine Fisheries Research Institute (CMFRI) has done georeferencing of 342 farming sites in the country over 24,167 hectares of seaweed

cultivation.

- These sites have the potential to produce 7 million tonnes (wet weight) of seaweed per year., as against the paltry 34,000 tonnes it produced last year, according to the Central Marine Fisheries Research Institute (CMFRI) CMFRI's recent success includes commercial production of seeds of green and brown mussels and cultchless spat production of edible oysters with a high survival rate at Vizhinjam.
- The government has earmarked Rs 640 crore exclusively under the Pradhan Mantri MatsyaSampada Yojana (PMMSY) to promote seaweed culture with a targeted production of more than 11.2 lakh tonnes by 2025.
- Bivalve Farming: Marine bivalves include mussels, oysters and scallops. Bivalve farming is a nonconventional aquaculture practice.
- India's bivalve production in 2021 was 98,000 tonnes More than 6,000 women self-help groups are engaging with bivalve farming under the guidance of the CMFRI The CMFRI has successfully standardised the practice of Integrated Multi-trophic Aquaculture (IMTA) which enables cage farming or bivalve farming along with seaweed farming in coastal waters.
- Onshore bivalve farming Offshore bivalve farming Traditionally, bivalve aquaculture had largely been established in inshore areas either on the seabed or on structures fixed or floating in shallow sheltered waters In this environment there have been notable negative environmental impacts.
- For example, farming bivalves in sheltered, poorly flushed inshore waters can result in the accumulation of waste products that pollute the seabed and reduce local biodiversity Relatively new offshore aquaculture industry such as cultivating rope-grown mussels, is perceived as a more spaceefficient, has a potential especially in areas where planktonic food is plentiful, water conditions including depth are suitable and likelihood for conflicts over space use is low.
- Offshore bivalve farming is one of the lowest environmental impact animal protein production methods available because the species feed naturally in the ocean and can be harvested with relatively low fuel requirements

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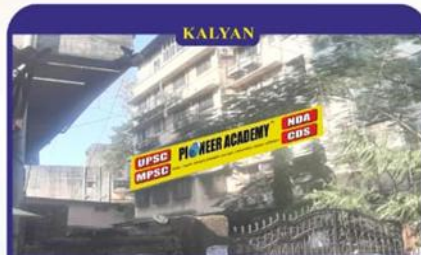
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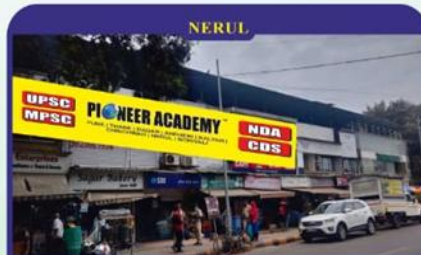
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