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Topic 1. THE FIRST INTERNATIONAL DAY OF ZERO WASTE

Important for subject: Environment

The world marked the first-ever International Day of Zero Waste on March 30, 2023, encouraging everyone to prevent and minimize waste and promoting a societal shift towards a circular economy.

Background:

- On 14 December 2022, the **United Nations General Assembly** adopted a resolution at its seventy-seventh session to **proclaim 30 March as International Day of Zero Waste**, to be observed annually.
- Turkey, with 105 other countries, put forward the resolution. It follows other resolutions focused on waste, including “**End plastic pollution: towards an internationally legally binding instrument**”, adopted at the United Nations Environment Assembly on 2 March 2022.
- During International Day of Zero Waste, Member States, organizations of the United Nations system, civil society, the private sector, academia, youth and other stakeholders are **invited to engage in activities aimed at raising awareness of national, subnational, regional and local zero-waste initiatives** and their contribution to achieving sustainable development.
- The **United Nations Environment Programme (UNEP)** and the **United Nations Human Settlements Programme (UN-Habitat)** jointly facilitate the observance of International Day of Zero Waste.
- Promoting zero-waste initiatives through this international day can **help advance all the goals and targets in the 2030 Agenda for Sustainable Development**, including Sustainable Development Goal 11 and Sustainable Development Goal 12.
- These goals address all forms of waste, including food loss and waste, natural resource extraction and electronic waste.
- **International Day of Zero Waste** International Day of Zero Waste aims to **promote sustainable consumption and production patterns**, support the **societal shift towards circularity** and raise awareness about how zero-waste initiatives contribute to the advancement of the 2030 Agenda for Sustainable Development.
- The waste sector contributes significantly to the **triple planetary crisis of climate**

change, biodiversity and nature loss, and pollution.

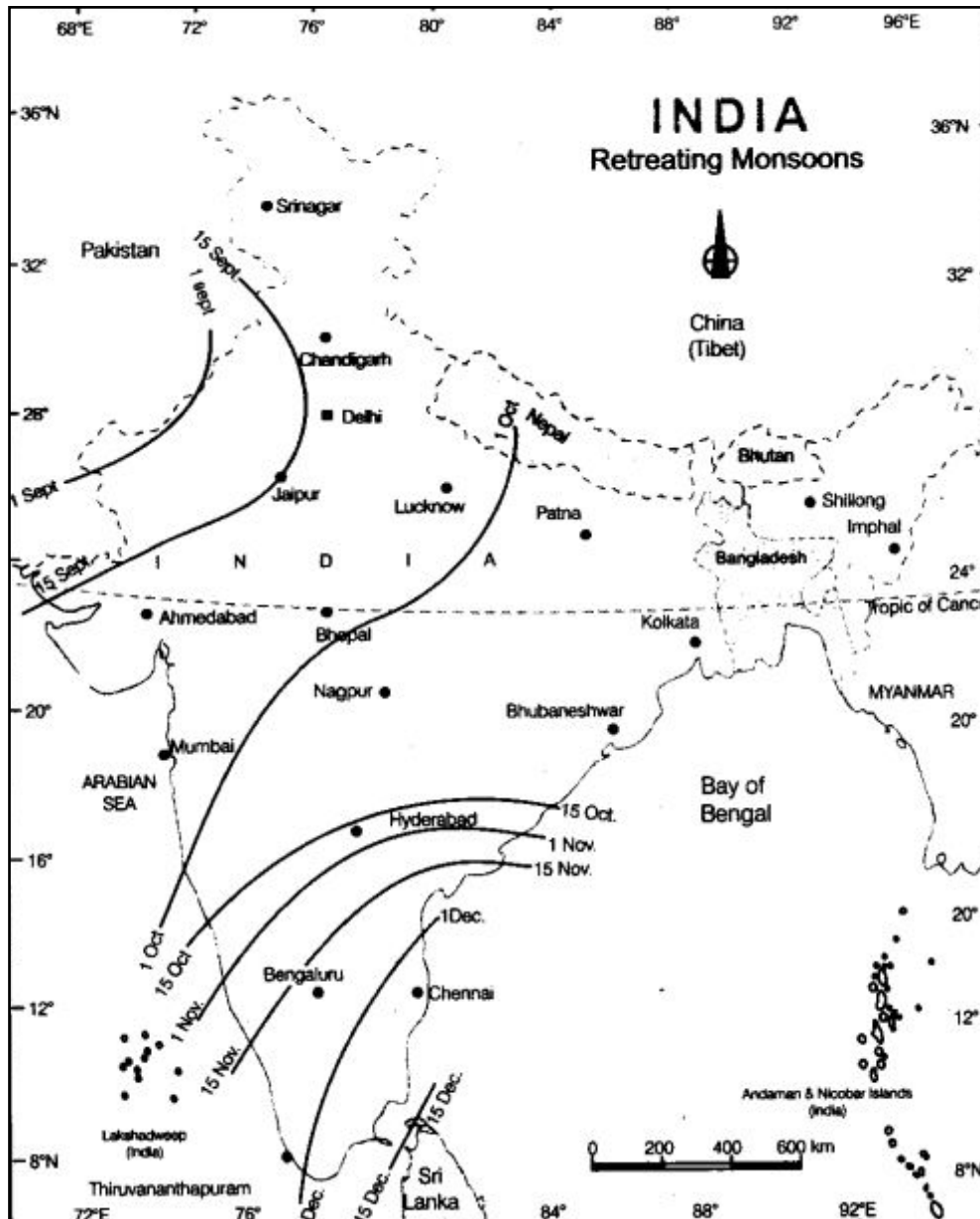
- Humanity generates an estimated **24 billion tons of municipal solid waste annually**, of which **only 55 per cent is managed in controlled facilities**. Every year, around 931 million tons of food is lost or wasted and up to 14 million tons of plastic waste enters aquatic ecosystems.
- Zero-waste initiatives can foster sound waste management and minimize and prevent waste, **helping to address the triple planetary crisis, protect the environment, enhance food security and improve human health** and well-being.

Adopting zero waste

- A zero-waste approach entails **responsible production, consumption and disposal of products in a closed, circular system**. This means that **resources are reused or recovered** as much as possible and that we minimize the pollution to air, land or water.
- Achieving zero waste requires action at all levels.
- Products should **be designed to be durable and require fewer and low-impact materials**. By opting for **less resource-intensive production** and transport methods, manufacturers can further limit pollution and waste. Advertising and closely managing demand can further enable zero waste throughout products' life cycles.
- **Consumers can also play a pivotal role** in enabling zero waste by **changing habits and reusing and repairing products** as much as possible before properly disposing of them.
- With governments, communities, industries and other stakeholders increasingly recognizing the potential of zero-waste initiatives, bolstering waste management and improving recovery systems through finance and policymaking. **The Global Strategy for Sustainable Consumption and Production can guide this transition.**

Topic 2. PAST WARM AND COLD SPELLS IN THE ARCTIC INFLUENCED INDIA'S MONSOON

Important for subject: Environment



Warm and cold climatic spells in the Arctic, over the past 1000 years, imprinted on India's monsoon fluctuations during that period, a climate reconstruction study finds.

More on the News:

- Scientists have reconstructed the past 1000 years of climate history from the Arctic, a region that's warming faster than any other place on the planet.

- They've detected warm and cold climatic spells in the Arctic over the past 1000 years. Warm Arctic conditions were **linked to intense rainfall over the Indian subcontinent** while **cold conditions in the Arctic were associated with weak spells of rain** over the Indian subcontinent over the past 1000 years, say scientists at India's National Centre for Polar and Ocean Research (NCPOR).
- Arctic's influence on the short-term changes in the Indian monsoon may become more pronounced as the region experiences further human-driven warming.
- It is anticipated that the **monsoon will intensify alongside further Arctic warming**, and the difference in precipitation between intense and weak monsoon years will also likely change.
- **Warm/cold Arctic spells** most likely **modified the temperature profile of the Tibetan Plateau**. The **Plateau is an elevated heat source** to the atmosphere because of its height and can **influence monsoons by influencing the prevailing North-South temperature difference** that exists in many forms during the monsoon- such as the land-sea temperature contrast.
- When the Arctic experiences a period of warming, it can **cause a shift in the jet stream**, which is a **fast-moving, high-altitude wind that circles the Northern**
- **Hemisphere**. This shift can then **affect weather patterns** in regions far away from the Arctic, such as the Indian subcontinent.

National Centre for Polar and Ocean Research

- National Centre for Polar and Ocean Research (NCPOR) is an **autonomous research** institution of the **Ministry of Earth Sciences**, Government of India.
- It was **established in 1998** and is located in Vasco da Gama, Goa.
- The primary objective of NCPOR is to **conduct research in the polar and oceanic regions**, with a focus on understanding the role of these regions in the global climate system. The institution carries out research in areas such as atmospheric science, oceanography, glaciology, geology, and marine biology.

Some of the specific research activities carried out by NCPOR include:

- Studying **the impact of climate change on the polar regions** and the oceans, and how this impacts global climate systems.

- Investigating **the role of oceanic currents and circulation patterns** in global climate systems.
- **Studying the dynamics of glaciers and ice sheets**, and how they are responding to climate change.
- Conducting **research on marine biodiversity**, and how it is being impacted by climate change and other anthropogenic activities.
- In addition to research activities, NCPOR also **undertakes various outreach and educational activities to promote awareness** about polar and oceanic science among the general public and stakeholders.
- NCPOR is also responsible for **coordinating India's polar research activities**, and has established research stations in Antarctica and the Arctic. The **institution collaborates with several national and international organizations in conducting research** and promoting scientific cooperation in the polar and oceanic regions.

Topic 3. GLOBAL SOUTH NEEDS TO COME TOGETHER FOR A BETTER JUST TRANSITION DEAL

Important for subject: Environment

South Africa was the first country that signed a Just Energy Transition Partnership (JETP) with G7 countries in 2021 for \$8.5 billion.

More on the News:

- Though the **Government of India denies the need for a uniform policy** on a just transition away from coal, the **push for such a policy, from experts, is getting stronger**.
- Recently, a Delhi-based think tank, **iForest**, released two reports – **one proposed a just transition framework**, including policies, plans and institutional mechanisms, **while the other estimated that India needs \$900 billion over the next 30 years for a just energy transition**. Both the reports **emphasised the need for international cooperation** for a just transition in the Global South. The reports state that countries such as India **need grants and concessional financing to support the economic diversification** of fossil fuel regions, green energy, and industrial development and to build the resilience of the impacted communities.

- Meanwhile, there is also an **increasing recognition among the global community of the importance of just transition finance**, which is reflected in collaborations between developed countries (G7) and developing countries.
- From the Global South countries, only South Africa has developed a comprehensive just transition framework so far.

Topic 4. BANDIPORE TIGER RESERVE

Important for subject: Environment



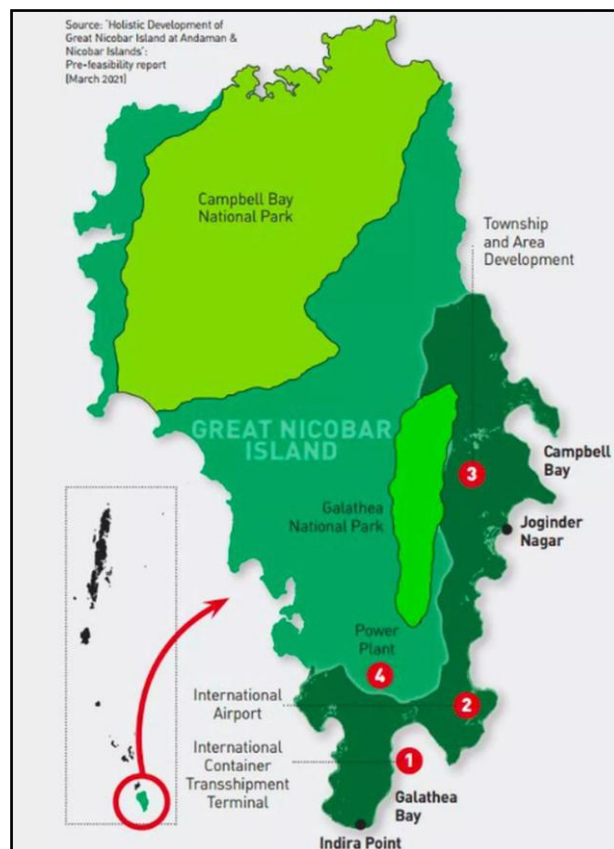
50 years of Bandipore

- It was established in 1973 **under Project Tiger**. In 1985, by including adjacent areas from **Venugopala Wildlife Park**, it was enlarged and named as Bandipur National Park.
- It is situated in two contiguous districts (Mysore and Chamarajanagar) of Karnataka and is located at the **tri-junction area of the States Karnataka, Tamil Nadu and Kerala**.
- It forms a **part of Nilgiri Biosphere Reserve**.
- It lies in one of the richest biodiversity areas of the country. It is surrounded by **Mudumalai Tiger Reserve** (Tamil Nadu) in the South, **Wayanad Wildlife Sanctuary** (Kerala) in the South-west & **The Kabini Reservoir** separates the Bandipur and Nagarhole Tiger Reserve on the North-west.

- It is endowed with rich floral and faunal diversity and is recognized as one of the **Mega Biodiversity Areas in the country**.
- The **Bandipur** along with **Nagarahole, Mudumalai, Sathyamangalam & Wayanad** constitutes the single **largest Wild population of Tigers in the world**.
- This Landscape is also home to the **single largest Asian Elephant population** in the world and is part of the **Mysore Elephant Reserve (MER)**.
- The park is located between the **Kabiniriver** in the north and the **Moyar river** in the south. The **Nugu river** runs through the park. The highest point in the park is on a hill called **Himavad Gopalswamy Betta**

Topic 5. GREAT NICOBAR PROJECT

Important for subject: Environment



Great Nicobar Development Plan, spread over 166 sqkm of the 910 sqkm island, is an under-construction mega infrastructure project for the southern tip of Great Nicobar Island in Andaman Sea of India.

- Budget for the project is estimated to be around 72,000 crores. The Project has geostrategic importance for defence, logistics, commerce and industries, eco-tourism,

coastal tourism, Coastal Regulation Zone, etc. It has four components:

- **Galathea Bay International Container Transshipment Terminal** (Galathea Bay ICTT), with 14.2 million TEUs (unit of cargo) capacity eventually.
- **Great Nicobar International Airport (GNIA)**: greenfield airport with peak hour capacity of 4,000 passengers.
- **Great Nicobar Gas and Solar Power Plant** (Great Nicobar GSPP): with 450-MVA capacity, spread over 16,610 hectares.
- **Coastal cities: two new greenfield coastal cities.**

Concerns: Environmental impact & mitigation

- **Flora:**
- Due to this project, **island will loss 12 to 20 hectares of mangrove cover**, which will be compensated by afforestation in Haryana's Aravallis as per rules which allow for such remote compensatory afforestation.
- **Corals:**
- To mitigate the risk of loss of corals, the corals will be translocated in the reefs around the island.
- **Fauna:**
- **The project area within a 10 km radius of Galathea Bay is ecologically sensitive zone and home of rare fauna such as Leatherback Sea Turtles, salt water crocodile, Nicobar macaque.**
- To mitigate the risk, the Indian MoEFCC's Expert Appraisal Committee has proposed three conservation sites for fauna – Little Nicobar, Menchal Island and Meroe Island.
- **People:**
- This project will increase the population to over 3.5 lakh (350,000), which may cause a threat to the indigenous communities.
- Around 1761 inhabitants, **including indigenous Shompen people and Nicobarese communities of this island**, are likely to be affected by this project.
- 853 square kilometers of this **island is designated as tribal reserve under the Andaman and Nicobar Protection of Aboriginal Tribes Regulation, 1956.**
- This means that the **land is meant for exclusive use of the community and others cannot access the area without their express permission.**

- Around 10% of tribal reserve of the island will be affected by this project. According to **Forest Rights Act, 2006**, Shompen people are legal sole authority to preserve the forest reserve.

Topic 6. 170 TRILLION PLASTIC PARTICLES AFLOAT IN THE WORLD'S OCEANS

Important for subject: Environment

170 trillion plastic particles are currently afloat in the oceans across the world, according to a new study, which added that if **no urgent action is taken then this number could nearly triple by 2040.**

Details of the study

- ‘A growing plastic smog, now estimated to be over 170 trillion plastic particles afloat in the world’s oceans — Urgent solutions required’, done by researchers from 5 Gyres Institute, Win Cowger of Moore Institute for Plastic Pollution Research and Stockholm Resilience Centre.
- In 2014, it was estimated that there were 5 trillion plastic particles in the ocean.
- From 1990 to 2005, the number of plastic particles more or less fluctuated.
- One of the reasons for this could be due to the effective implementation of important policy measures at the time.
- In the 1980s and 90s, there were some international policies, like MARPOL Annex 5 that enforced laws against dumping trash at sea. They were powerful laws that were enforceable and were preventative.
- Since 2005 humanity has produced more than 5,000,000 tons of new plastic into the world, and with more plastic there is more pollution.

About microplastics

- Plastic debris is found in the environment in a very wide range of sizes.
- Researchers first reported finding tiny beads and fragments of plastic, especially polystyrene, in the ocean in the early 1970s.
- The term ‘microplastics’ was introduced in the mid-2000s.
- Today, it is used extensively to describe plastic particles **with an upper size limit of**

5 mm.

Why are microplastics in the ocean receiving increasing attention?

- Marine litter – especially plastic debris in the ocean – is a major global environmental issue.
- **Physical effects**
- Microparticles can be ingested by filter-feeding marine organisms such as oysters and mussels.
- They have been observed to close the gut wall and induce a reaction within the tissue.
- Microplastics in the seawater present an additional stressor if they affect the filter-feeder system inside the whale's mouth.
- **Chemical effects**
- The **ecotoxicological profiles of compounds** added to plastics to achieve certain properties are generally well known. These additives can be transferred from a plastic particle into an organism.
- Seawater is contaminated with a wide variety of organic and inorganic pollutants. Many plastics absorb organic contaminants, such as the **pesticide DDT and polychlorinated biphenols (PCBs), to a high degree.**
- These compounds can cause chronic human health effects, including disruption of the hormonal system (endocrine disruption), inducing genetic changes (mutagenicity) and cancer (carcinogenicity).
- Once ingested by fish, birds or sea mammals, the compounds – which penetrate the structure of the plastic – may start to leach out.
- Organisms become continuously contaminated by contact with their environment and by ingestion of contaminated food.

Sources of plastic debris

- **Sea-based sources include:**
- Merchant shipping – rope, galley waste
- Fishing – nets, boxes, rope, wrapping bands, galley waste
- Aquaculture – nets, floats, rope
- Offshore oil and gas platforms – galley waste, sewage-related

- Cruise ships – galley waste, sewage-related (may be equivalent to a medium-sized town)
- Recreational boating – galley waste, sewage-related
- **Land-based sources include:**
- Coastal tourism – packaging, cigarette filters
- Population centres – sewer-related, storm drains, street litter
- Horticulture/agriculture – plastic sheeting, tubing
- Poorly controlled waste sites and illegal dumping – all waste types
- Industrial sites – plastic production and conversion, packaging
- Ship-breaking

Global Partnership on Marine Litter :

- GPML is a **voluntary, open-ended partnership for governments, international agencies, businesses, academia, local authorities, NGOs and individuals**, launched during the United Nations Conference on Sustainable Development (Rio+20) in June 2012.
- **Honolulu Strategy**
- The Honolulu Strategy is a framework for a comprehensive and global effort to reduce the ecological, human health and economic impacts of marine debris. The framework consists of three goals and associated strategies:

Topic 7. TIME TO PUT A PRICE ON CARBON EMISSIONS

Important for subject: Environment



Seeing the increase in carbon emission, it is time, starting with the biggest economies of the G20, to agree on valuing nature, including by pricing carbon events.

India can take the lead, as president of the G20 this year, in carbon pricing, which will open unexpected avenues of decarbonisation.

Carbon Pricing Mechanisms:

Three major carbon pricing mechanisms are as follows:

- A **carbon tax** can be established domestically, like in Singapore and Korea.
- The European Union (EU) and China use **emissions trading system (ETS)**.
- The EU has also proposed the **application of an import tariff on carbon content**.
- Around 46 countries price carbon. However, it covers only 30% of global greenhouse gas (GHG) emissions at an average price of only \$6 per ton of carbon.
- The International Monetary Fund has proposed price floors of \$75, \$50, and \$25 a ton of carbon for the United States, China, and India, respectively. It can help in achieving a 23% reduction in global emissions by 2030.
- It should be noted that carbon pricing encourages investment in renewable energy like solar and wind energy.

Carbon Pricing

- Carbon pricing is the **value ascribed to the external costs – usually social costs – of pollution emitted by an industry**.
- Carbon pricing is **done either through a carbon tax or an emission trading system**.

Ways of pricing

- **Defining rate:** A carbon tax directly sets a price on carbon by defining an explicit tax rate on GHG emissions or—more commonly—on the carbon content of fossil fuels.
- **Market price for GHG emissions:** An emissions trading system (ETS) is a system where emitters can trade emission units to meet their emission targets.
- To comply with their emission targets at least cost, regulated entities can either implement internal abatement measures or acquire emission units in the carbon market, depending on the relative costs of these options. By creating supply and demand for emissions units, an ETS establishes a market price for GHG emissions
- **Carbon credits:** Crediting Mechanisms issue carbon credits, these credits can be used to meet compliance under an international agreement, domestic policies or corporate citizenship objectives related to GHG mitigation.

Understanding carbon pricing

- **Captures the external costs of GHG:** Carbon pricing captures the external costs of greenhouse gas (GHG) emissions—the costs of emissions that the public pays for (crop damage, health care costs from heat waves and droughts, and property loss from flooding and sea level rise) and ties them to their sources through a price, usually in the form of a price on the carbon dioxide (CO₂) emitted.
- **Shifting the burden of damage:** It helps shift the burden for the damage from GHG emissions back to those who are responsible for it and who can avoid it.
- **Economic signal-** Instead of dictating who should reduce emissions where and how, a carbon price provides an economic signal to emitters, and allows them to decide to either transform their activities and lower their emissions, or continue emitting and paying for their emissions.

Impact on India:

- Benefits of a carbon tax in India:
- It is more appealing as it discourages fossil fuels.
- It will raise revenue which can be further invested in cleaner sources of energy.
- It would replace the inefficient scheme of petroleum taxes which are not directly aimed at emissions.
- Many countries including India have established the basic structure needed to implement a carbon tax in their fiscal policy.
- However, policymakers should choose the tax rate which can range from \$2.65 a ton of CO₂ (in Japan) to \$165 a ton (set by Denmark for 2030).
- India can start with the IMF-prescribed figure of \$25 a ton.

Associated Concerns:

- It should be noted that carbon pricing faces stiff political opposition. For instance:
- Australia repealed the 2012 tax just two years after it was introduced.
- Rising energy prices in the EU led to the selling of millions of emission permits. It caused a 10% fall in carbon prices.
- One of the major issues in this regard is that industrial firms might lose their competitive advantage to exporters from countries with lower carbon prices.

Topic 8. EUROPE'S DROUGHTS ARE AFFECTING TOURISM

Important for subject: Environment



Much of Europe is experiencing persistent drought. From Italy to Spain, holiday makers face restrictions as a result.

- Sever tourist attractions like **Lake Garda in Italy, North of the Alps in Switzerland and Germany, Rhine River, Font Magica fountain spectacle in Barcelona, island of Mallorca in Spain** are facing severe crisis.

Lake Garda

- It is the **largest lake in Italy.**
- It is known for its **crystal-clear water.**
- The lake and its shoreline are divided between the provinces of Brescia (to the south-west), Verona (south-east) and Trentino (north).
- Lake Garda has been reduced to its lowest level ever recorded in decades.
- **Reason- River Po, Italy's longest river, have dried up due to scarcity of rainfall in northern Italy.**
- To compensate, authorities allowed more water from Lake Garda to flow out to local rivers. This resulted in drying of the lake.

About Alps:

- The Alps emerged during the Alpine orogeny (mountain-building event), an event that began about 65 million years ago as the Mesozoic Era was drawing to a close.
- Alps are **young fold mountains with rugged relief and high conical peaks**.
- They are the most prominent of western Europe's physiographic regions. Some 750 miles long and more than 125 miles wide at their broadest point between Garmisch Partenkirchen, Germany, and Verona, Italy, the Alps cover more than 80,000 square miles.
- The Alps extend north from the subtropical Mediterranean coast near Nice, France, to Lake Geneva before trending east-northeast to Vienna, Austria.
- There they touch the Danube River and meld with the adjacent plain.
- Because of their arc like shape, the Alps separate the marine west-coast climates of Europe from the Mediterranean areas of France, Italy, and the Balkan region.

Countries Covered:

- The Alps form part of **France, Italy, Switzerland, Germany, Austria, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Serbia, and Albania**.
- **Only Switzerland and Austria can be considered true Alpine countries.**

Important Peaks:

- **Mont Blanc is the highest peak in the Alps** and in Europe, reaching a lofty 4,804 meters above sea level.
- It is located in the Graian Alps and lies within France, Switzerland, and Italy.
- **Monte Rosa is a massif** (a compact group of mountains) consisting of several peaks.
- The highest peak in this range (Dufourspitze) has an elevation of 4,634 meters, claiming the title of Switzerland's highest peak.
- Dom, which is located near Monte Rosa, Dom stands at 4,545 meters and is known as one of the "easier" tall peaks in the Alps to summit because of its straightforward routes.
- Other major peaks are Liskamm, Weisshorn, Matterhorn, Dent Blanche, Grand Combin etc.

Belaric Islands, Spain

- The **Balearic Islands** is an archipelago located in the Mediterranean Sea that forms an autonomous community and province of Spain.
- The archipelago is composed of **four major islands, Mallorca, Menorca, Ibiza, and Formentera, as well as smaller islands and inlets.**
- **Mallorca or Majorca is the largest island in the Balearic Islands, which are part of Spain, and the seventh largest island in the Mediterranean Sea.**

Rhine River

- The Rhine River has a **length of about 1,230 km** and **originates from the southeastern part of the Swiss Alps in the Canton of Grisons, Switzerland.**
- The river then **flows northwards through the large Rhine Valley and forms the international boundary between Switzerland and Liechtenstein** and later the **boundary between Switzerland and Austria.**
- In Austria, the **river flows into Lake Constance.** The river then **flows westwards out of the lake as High Rhine and forms Switzerland's northeastern border with Germany.**
- The river then falls over 22 m and is then known as the Rhine Falls.
- In the city of Basel in Switzerland, the river turns in the northward direction and is referred to as the Upper Rhine.
- This part of the river forms the **boundary between Germany and France.**
- Then, the **Rhine flows into the Netherlands where it is divided into three branches (Rhine-Meuse-Scheldt).**
- The river then finally **empties into the North Sea.**
- Some of the notable **tributaries of the Rhine River include Aare, Tamina, Moselle, Erft, Rein da Tuma, Plessur, Rotach, and Wiese.**
- The principal cities that are located along the Rhine River include **Düsseldorf, Basel, Rotterdam, Cologne, and Strasbourg.**

Topic 9. EUROPEAN CITIES GO CLIMATE NEUTRAL BY 2030

Important for subject: Environment

The EU is pushing for 100 cities **including Paris, Madrid and Amsterdam** to reach net-zero emissions by the end of the decade — far earlier than their national governments plan to get there.

- As governments across the world have promised to stop polluting carbon emissions by 2050, scores of European cities have pledged to get there by 2030 — just seven years from now.
- **Berlin, which is not on the list, held a referendum in March on moving its target forward to 2030.**

Background

- The **Intergovernmental Panel on Climate Change** found that the **world needs to cut carbon emissions to net-zero by the middle of the century.**
- To keep global temperatures from rising by more than 1.5 degrees Celsius (2.7 degrees Fahrenheit) — the target to which world leaders promised to try to limit global warming — humanity must cut pollution fast.
- **Net-zero means** societies have to suck out as much carbon as they pump into the atmosphere. But technologies to remove carbon dioxide are limited and scientists are unsure how much they can absorb.
- Still, that finding has led more than 100 countries to set net-zero targets for around 2050. Pressure is also rising on rich countries who have polluted the most, particularly those in Europe and North America, to move faster.

EU Mission: Climate-Neutral and Smart Cities

- Cities play a pivotal role in achieving climate neutrality by 2050, the goal of the European Green Deal. They take up only 4% of the EU's land area, but they are home to 75% of EU citizens. Furthermore, cities consume over 65% of the world's energy and account for more than 70% of global CO2 emissions.

Aims of the Mission

- The Cities Mission will involve local authorities, citizens, businesses, investors as

well as regional and national authorities to

- **Deliver 100 climate-neutral and smart cities by 2030**
- Ensure that these **cities act as experimentation and innovation hubs to enable all European cities to follow suit by 2050**
- As foreseen in its implementation plan, the **Cities Mission takes a cross-sectoral and demand-led approach**, creating synergies between existing initiatives and basing its activities on the actual needs of cities.

NetZero Cities Project

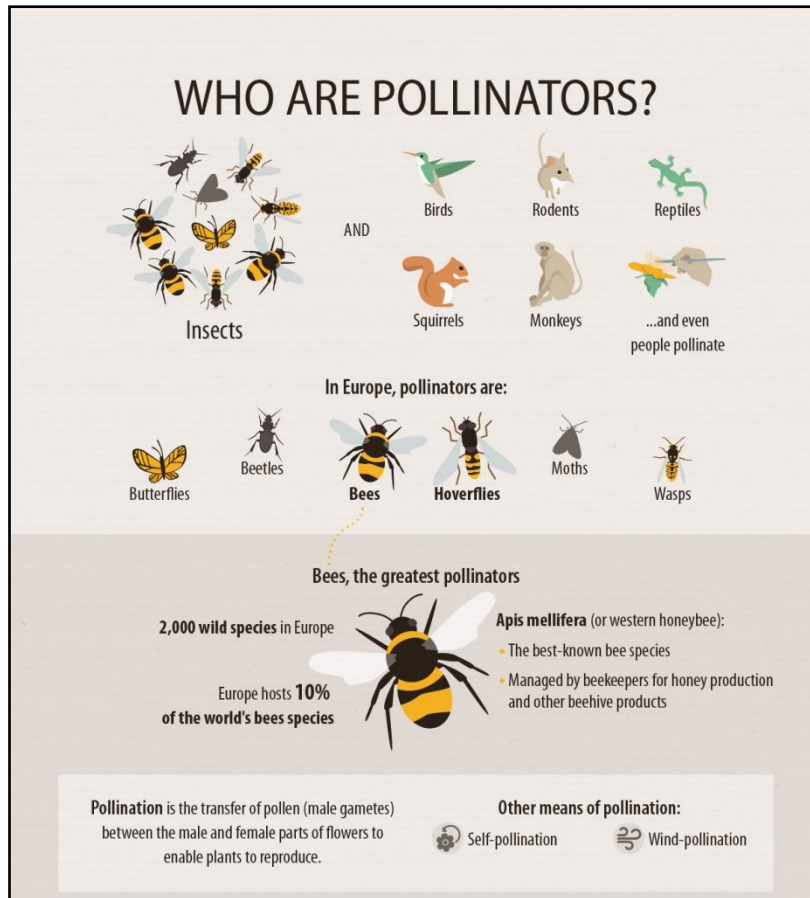
- **NetZero Cities is part of the Horizon 2020 Research and Innovation Programme in support of European Union's Green Deal.**
- NetZero Cities has been designed to help cities overcome the current structural, institutional and cultural barriers they face in order to achieve climate neutrality by 2030.

Climate Neutrality

- Climate neutrality refers to the idea of **achieving net zero greenhouse gas emissions by balancing those emissions so they are equal** (or less than) the emissions that get removed through the planet's natural absorption; in basic terms it means we reduce our emissions through climate action.
- Note : UN Climate Change launched **Climate Neutral Now back in 2015 in order to encourage stakeholders around the world to work towards net zero emissions and a climate neutral world.**
- **Climate Neutral Now Initiative**
- The Climate Neutral Now Initiative is one of several **initiatives launched by the UNFCCC secretariat to increase climate action by engaging non-Party stakeholders** (sub-national governments, companies, organizations, individuals).
- It was launched in 2015 based on a mandate to promote the voluntary use of carbon market mechanisms recognized under the Convention.

Topic 10. DECLINE IN POLLINATORS

Important for subject: Environment



Decline in pollinators linked to half a million premature human deaths every year, shows study.

More on the News:

- Half a million people are currently dying prematurely every year due to global insect **pollinator decline that has impacted the availability and price of healthy foods** such as nuts, legumes, fruits and vegetables, finds a new modeling study.
- **Middle-income countries**, including India, Russia and China are **among the hardest hit**. Wealthy nations were more immune from pollinator decline.
- The world's pollinators are vanishing for a host of reasons, but the largest is loss of habitat. Other escalating impacts include the use of pesticides and climate change.
- **Pollination**
- When a **pollen grain moves from the anther (male part) of a flower to the stigma (female part)**, pollination happens and it is the first step in a process that produces

seeds, fruits, and the next generation of plants.

- This can happen **through self-pollination, wind and water pollination** or through pollinators.
- **Pollinators**
- Vectors that **move pollen within the flower and from flower to flower** are called pollinators.
- They visit flowers to drink nectar or feed off of pollen and transport pollen grains as they move from spot to spot.

There are **two categories of pollinators**:

- **Invertebrate pollinators:** Include bees, moths, flies, wasps, beetles and butterflies.
- **Vertebrate pollinators:** Include monkeys, rodents, lemurs, tree squirrels and birds.

Significance of Pollination:

- **Ecosystem:** Pollinators play a crucial role in maintaining the ecosystem. Pollinators are **responsible for pollinating a large variety of flowering plants**, which in turn provides food, shelter, and habitat for many other animals. They also help in the formation of **fruits, berries, and nuts** that are a source of food for birds and mammals.
- **Agriculture:** Pollination is essential for agriculture as it is directly responsible for the production of fruits, vegetables, and grains. About **75% of global food crops rely on pollinators** for their reproduction. Without pollinators, many of our favorite foods, such as **apples, strawberries, and almonds**, would be difficult to grow.
- **Biodiversity:** Pollination is essential for maintaining biodiversity as it ensures the continuation of various plant species. **Without pollinators, many plant species would not survive**, which would have a ripple effect on the entire ecosystem.
- **Economic benefits:** Pollination has significant economic benefits. The value of crops that depend on pollinators exceeds \$200 billion annually worldwide.

Reason for declining Pollination

- **Loss of Habitat:** Destruction of habitat is one of the main reasons for the decline in pollination. Many plant species that depend on pollinators for reproduction have lost their habitats **due to deforestation, urbanization, and other land-use changes**.

- **Pesticide Use:** Pesticides are widely used in agriculture to **control pests and diseases**. However, these chemicals can also **harm pollinators, including bees, butterflies, and other insects**. Pesticide residues on flowers and plants can kill or weaken pollinators, making them less effective at pollination.
- **Climate Change:** Climate change has also affected pollinators and their habitats.
- Changes in temperature and rainfall patterns have **altered the timing of flowering and the emergence of pollinators**, making it difficult for them to synchronize their life cycles.
- **Invasive Species:** Invasive species can also **compete with native plants for pollinators, disrupting the natural balance of ecosystems**. Some invasive plants, such as the Japanese knotweed, can also outcompete native plants for pollinators.
- **Monoculture Farming:** Monoculture farming practices have also contributed to the decline in pollination. These practices involve growing **large areas of a single crop, which reduces the diversity of flowering plants** available for pollinators.
- **Bee Diseases:** Diseases such as **Varroa mites, Nosema fungus, and American foulbrood have also affected bee populations**, reducing their effectiveness as pollinators. These diseases can weaken and kill bees, reducing their numbers and pollination services.

Way forward:

- **Plant a diverse range of native plants:** A diverse range of plants will also ensure a longer flowering season, providing pollinators with a consistent source of food.
- **Provide nesting sites:** Many pollinators, such as bees and butterflies, require nesting sites to **lay their eggs and rear their young**. Providing nesting sites such as hollow stems, logs, or bare ground can help support pollinator populations.
- **Reduce pesticide use:** Limiting the use of pesticides or choosing **less harmful alternatives can help protect pollinators**.
- **Create habitat corridors:** By creating habitat corridors, pollinators can more easily move between habitats, increasing their chances of survival.

Topic 11. PANEL RECOMMENDS NEW CENTRAL BODY TO MITIGATE WATER WOES

Important for subject: Environment

State- and central-level bodies that currently bear responsibility for issues related to water, lack coordination between them, a Parliamentary Standing Committee report has noted.

More on the News:

- The report, tabled in the Lok Sabha two weeks ago, also **recommended the Union Ministry of Jal Shakti (water resources) constitute a central body** with representation from the bodies.
- The bodies, alluded to by the committee, include:
- **The Union Ministry of Rural Development, and Agriculture and Farmers' Welfare State departments, state and central pollution control boards** Dedicated authorities such as the **Central Ground Water Board (CGWB) and the Central Ground Water Authority (CGWA)**
- The Committee observed that **dependence on groundwater for irrigation** was excessive. This was so because water-intensive crops like paddy and sugarcane command higher minimum support price (MSP), it noted.
- **Laws on groundwater management were passed in 19 states** based on a model Bill circulated in 1970 and last revised in 2005. The **Committee observed difficulties in implementing these laws due to the lack of guidelines.**
- The Committee, meanwhile, recommended the **department of water resources, river development, and ganga rejuvenation takes urgent action** in this regard.
- **A lack of sharing of data and coordination** between bodies responsible for addressing groundwater pollution such as state government departments, pollution control boards, and agencies such as the CGWA.
- **It further recommended** amendment of the Water (Prevention and Control of Pollution) Act, 1974, “to enable **pollution control boards to impose monetary penalties**, as a less severe penalty than the outright closure of industrial units”.

Central Ground Water Board

- Central Ground Water Board (CGWB) is a governmental organization **under the**

Ministry of Jal Shakti that is responsible for developing and managing groundwater resources in India.

- The CGWB was established in 1970 as part of the Ground Water Wing of the Central Water Commission.
- The primary objective of the CGWB is to carry out surveys and assessment of the groundwater resources in India and develop plans and policies for their conservation and management.

Some key functions of the CGWB include:

- **Conducting hydrogeological studies** and monitoring of groundwater levels and quality across the country.
- **Developing groundwater management plans** for areas facing water scarcity or overexploitation.
- **Regulating groundwater extraction** through the issuance of no-objection certificates (NOCs) and other permits.
- **Promoting rainwater harvesting** and artificial recharge of groundwater.
- **Providing technical assistance** and training to stakeholders, including state governments, local bodies, and NGOs.

Central Ground Water Authority

- Central Ground Water Authority (CGWA) is a regulatory body under the **Ministry of Jal Shakti, Government of India.**
- It was established in 1970 **under the provisions of the Environment (Protection) Act, 1986.**
- The primary mandate of CGWA is to **regulate and control the development and management of groundwater resources** in the country.
- Some of the key functions of CGWA are as follows:

Grant of No Objection Certificates (NOCs) for groundwater withdrawal:

- CGWA is responsible for granting NOCs to industries, infrastructure projects, and other water-intensive activities for groundwater withdrawal in overexploited, critical, and semi-critical areas.

- **Monitoring of groundwater levels:** CGWA monitors the groundwater levels in different parts of the country and prepares an annual groundwater assessment report. It also monitors the implementation of groundwater management plans.
- **Regulation of groundwater use:** CGWA regulates the use of groundwater by imposing restrictions on its withdrawal, **fixing the maximum permissible limit** for groundwater extraction, and enforcing penalties for non-compliance.

Topic 12. GOVT. INTRODUCES AQUACULTURE BILL AMID DIN IN LOK SABHA

Important for subject: Environment

- The government introduced the **Coastal Aquaculture Authority (Amendment) Bill, 2023 amidst the disruption of the Lok Sabha** by the opposition over demands for a Joint Parliamentary Committee probe into the Adani issue.
- The Coastal Aquaculture Authority (Amendment) Bill was introduced by the Minister of Fisheries, Animal Husbandry and Dairying.
- The Bill aims to **decriminalize certain offences listed under the 2005 Act in order to promote ease of doing business.**
- The Bill also seeks to **fine-tune existing operational procedures of the Coastal Aquaculture Authority** and **promote newer forms of environment-friendly coastal aquaculture** as these new forms have the potential to create additional job opportunities.
- Further, the Bill also has **provisions that restrict the use of antibiotics and pharmacologically active substances** which are harmful to human health in coastal aquaculture.

Coastal Aquaculture Authority:

- The **Coastal Aquaculture Authority (CAA)** was established under **the provisions of the Coastal Aquaculture Authority Act, 2005** for regulating the activities connected with coastal aquaculture in coastal areas.
- It takes **measures for regulation of coastal aquaculture** by prescribing guidelines to ensure that coastal aquaculture does not cause any detriment to the coastal environment and the concept of responsible coastal aquaculture contained in the

guidelines shall be followed in regulating coastal aquaculture activities to protect the livelihood of various sections of people living in the coastal areas.

Aquaculture

- Aquaculture essentially means, **breeding, raising, and harvesting fish, shellfish, and aquatic plants.**
- In a nutshell, it's **farming in water.**
- Saline water along the coast has been found to be suitable for practising aquaculture which produces shrimp, majorly.
- If aquaculture is not practised on this land, it will be left idle and uncultivated as it is not suitable for the cultivation of crops.
- Aquaculture can be practised on about 12 lakh hectares in the country along the coast, of which only 14% has been utilized so far.

It can be classified into following categories

- **Freshwater aquaculture**
- **Coastal aquaculture**
- **Sea farming Brackish water aquaculture**

Topic 13. IDU -MISHMI TRIBES AND DIBANG WILDLIFE SANCTUARY

Important for subject: Environment

National Tiger Conservation Authority (NTCA) has said that the Dibang Wildlife Sanctuary in Arunachal Pradesh would soon be notified as a tiger reserve.

- The announcement has caused disquiet among the **area's Idu Mishmi people, who feel that a tiger reserve would "hinder their access" to the forest. Idu Mishmi – Tiger brothers**
- **The Idu Mishmi is a sub-tribe of the larger Mishmi group** (the other two Mishmi groups are Digaru and Miju) in **Arunachal Pradesh** and neighbouring Tibet.
- Known for their weaving and craftsmanship skills, the **Idu Mishmis primarily live in Mishmi Hills, bordering Tibet.**
- Their ancestral homelands are **spread over the districts of Dibang Valley and Lower Dibang Valley as well as parts of Upper Siang and Lohit.**

- The tribe is estimated to comprise around 12,000 people (as per census 2011), and their **language (also called Idu Mishmi) is considered endangered by UNESCO.**
- Traditionally animists, the tribe has strong ties with the region's rich flora and fauna.
- Animals such as the hoolock gibbons and tigers have deep cultural relations with the Idu Mishmi.
- **Tigers are especially important to the Idu Mishmis** — according to Idu mythology, they were born to the same mother, and thus, **tigers are their “elder brothers”.**
- While hunting has traditionally been a way of life, the Idu Mishmis also follow a strict **belief system of myths and taboos** — ‘iyu-ena’ — that restrict them from hunting many animals, including a complete prohibition on killing tigers.

Reasons for resistance

- In its **current form as a wildlife sanctuary**, the community's **access to the Dibang forests has not been impacted.**
- But many say a **tiger reserve would increasingly restrict access.**
- An upgrade to a tiger reserve would feature stricter security measures like a ‘Special Tiger Protection Force’, which would be guarding the area at all times. This, the community believes, would cut off access to their forest lands.
- Moreover, members of the community claim that Dibang Wildlife Sanctuary was created **without people's consent or knowledge.**

About Dibang Wildlife Sanctuary:

- It is located nearby Anini district, Arunachal Pradesh.
- It has been **named after the Dibang River, a tributary of Brahmaputra River.** It **occupies part of the Eastern Himalayas**, and is a massive spread of lofty mountains, snow covered peaks, deep gorges, lush forests and glistening rivers.
- Its altitude **ranges between 1800m and 5000m.**

Flora:

- The two main categories of vegetation are **temperate broad leaved forest** and **temperate conifer forest** (Rhododendra, Bamboo, Gregaria, Tsuga etc).
- **Alpine vegetation occurs at higher altitude with herbs, stunted trees and dwarf**

bushes.

Fauna:

- **Mishmi takin, asiatic black bear, tigers, gongshan muntjac, red panda, red goral and musk deer.**

Topic 14. BAN ON PESTICIDES

Important for subject: Environment

Plea in Supreme Court alleges restriction on reduced number of chemicals to protect companies

More on the News:

- A recent notification by the central government going back on its **decision to ban 27 pesticides identified as health hazards** by an expert committee has been flagged in the Supreme Court of India. A **petition has sought a ban on all 27 pesticides, not just three**, as proposed by a February 16, 2023 notification.
- The central government in **May 2020 had proposed banning 27 harmful pesticides identified as health hazards by an expert committee.**
- However, a draft notification by the Union Ministry of Agriculture and Farmers Welfare published on **February 16 went back on the proposal, claiming just three of the 27 were “fit to be banned”.**
- The **list of 27 was carved out of a more extensive set of 66 suggested to be banned** to protect the farmers and consumers of the country.
- On January 23, the Supreme Court directed the Centre to file an updated status report on the actions taken to regulate the ban on hazardous pesticides.

Topic 15. INDIA’S SEMICONDUCTOR MISSION MIGHT NEED A COMPASS

Important for subject: Science and technology

The United States Department of Commerce and its Indian counterpart have recently concluded a memorandum of understanding to **ensure that subsidies by each country do not come in the way of India’s semiconductor dreams**, as espoused by the much publicized semiconductor policy.

India's Semiconductor Mission

- India Semiconductor Mission (ISM) has been setup as an **Independent Business Division within Digital India Corporation** having **administrative and financial autonomy to formulate and drive India's long-term strategies** for developing semiconductors and display manufacturing facilities and semiconductor design ecosystem.
- **ISM is serving as the nodal agency** for efficient, coherent and smooth implementation of the programme for development of semiconductor and manufacturing ecosystem in India.
- **Significance of the Mission**
- **Create a prosperous semiconductor ecosystem**– India's Semiconductor Mission is the **latest division of the Digital India Corporation**. The goal is to create a prospering semiconductor and exhibit ecosystem that would allow India to become a global center for electronics manufacturing and innovation.
- **Self -Sufficient**– The mission will be self-sufficient in terms of deciding the best technology combination, applications, node production, and capacity, as well as suggesting the fiscal aid framework and amount for approved applicants.
- **Act as focal point** – Led by global experts of the Semiconductor and display ecosystem the mission aims to serve as a focal point for the comprehensive, coherent, efficient, and smooth deployment of the Program.

Objectives of the Mission:

- **Long-term strategy for developing semiconductors**– Formulation of a comprehensive long-term strategy for developing semiconductors & display manufacturing facilities and semiconductor design ecosystem in the country in consultation with Government ministries / departments / agencies, industry, and academia.
- **Adoption of trusted electronics**-Facilitation in the adoption of trusted electronics through secure semiconductors and display supply chain, including raw materials, specialty chemicals, gases, and manufacturing equipment.
- **Promoting indigenous Intellectual Property** -Promoting indigenous Intellectual
- Property (IP) generation and encourage, enable and incentivize Transfer of

Technologies (ToT).

Way Ahead:

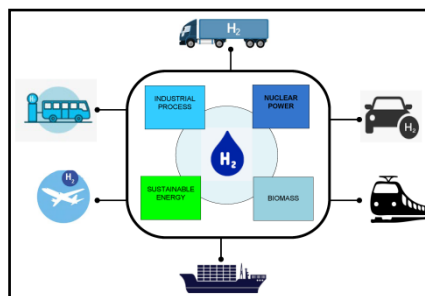
- **Subsidies to enterprises-** The recent efforts is to open up subsidies to global small and medium sized enterprises in the upstream supply chain are welcome because an existing facility like the Semi-Conductor Laboratory (SCL) will benefit from this.
- **Full time director**– To execute this vision in the next five years, there is a need to have a career scientist from the Department of Space, as is the case now. This is because there is a multifaceted market that needs to be served.
- **Leverage assets at Semiconductor Laboratory (SCL)-** We need to leverage human and capital assets at the SCL to build on what exists in a targeted manner, to jumpstart the semiconductor mission by taking advantage of recent technological breakthroughs.

Digital India Corporation

- Digital India Corporation is a **not-for-profit Company set up by Ministry of Electronics and Information Technology (MeitY)**, of India, under **Section 8 of Companies Act 2013**.
- Digital India Corporation (DIC) leads and guides in realizing the vision, objectives and goals of the Digital India program.
- It provides the strategic support to Ministries/Departments of Centre/States for carrying forward the mission of Digital India by way of Capacity Building for eGovernance projects, promoting best practises, encouraging Public-Private Partnerships (PPP), nurturing innovation and technology in various domains.

Topic 16. NOVEL CATALYST OFFERS TO MAKE HYDROGEN MORE VIABLE AS A FUEL

Important for subject: Science and technology



Researchers at IIT Mandi have **developed a novel carbon-based catalyst to make water electrolysis more efficient.**

Water electrolysis is the process of choice to produce ‘green hydrogen’ thus making it more significant.

Water electrolysis:

- **In water electrolysis, water molecules are split into hydrogen and oxygen using electricity inside a device called an electrolyser. However, this process consumes a lot of electrical energy.**

Findings

- A new study has reported a **porous carbon material containing nitrogen that functions both as a catalyst and as the anode in electrolyser units** – and could **substitute the metal-based catalysts.**
- The researchers produced this material, **called ‘laser carbon’**, by exposing a sheet of a polymer called polyimide to a laser beam, which carbonised the exposed bits, leaving the remainder rich in nitrogen.

Advantages of the new catalyst:

- Laser carbon is **“highly power efficient”**, **cheaper to produce**, has a **simpler synthesis** technique, and **“can be batch-manufactured with a laser”**.

Hydrogen as Fuel

- Hydrogen is a **colourless, odourless, tasteless, flammable** gaseous substance.
- It is a promising energy carrier, which has the potential to address several energy sector-related challenges.
- It has the potential to substitute conventional fuels and reduce CO₂ related emissions significantly at the point of use.
- Further, if **green hydrogen is used as fuel, then there is the capability to decarbonize the entire value chain**, enabling reduced emissions and climate change threats.

Type of Hydrogen

- **Grey Hydrogen :**
- It constitutes India's bulk production and is extracted from hydrocarbons (fossil fuels, natural gas).
- It gives CO₂ as by product
- **Blue Hydrogen :**
- It is also sourced from fossil fuels. However, emissions/ by-products (CO, CO₂) are captured and stored. Thus, it is better than grey hydrogen
- **Green Hydrogen :**
- It is generated from renewable energy sources such as solar and wind. The electricity splits water into hydrogen and Oxygen. It gives water and water vapour as by-products. Thus, it is the best and cleanest type.

Topic 17. CHENNAI ANDAMAN & NICOBAR ISLANDS (CANI) CABLE

Important for subject: Science and technology



The undersea cable between the Andaman and Nicobar Islands and Chennai, connecting the Union Territory to global Internet, has seen a reasonable level of interest from telecom operators. Telecom operators have to buy bandwidth on the system to be able to serve islanders on mobile and fixed line connections with fast Web access.

CANI Cable network

- The ‘Chennai Andaman Nicobar Island’ (CANI) cable system is a **sub-marine cable system** to provide high speed internet to the Andaman and Nicobar Islands.
- It was launched on 30 December 2018 and has been completed in 2020 before its designated deadline.
- The CANI cable system have a speed of 100 Gigabit per second.
- The sub-marine cable system is laid on the sea bed and the total route length is 2,199.66 km.
- It connects the **Indian mainland from Chennai with the eight islands of the Union Territory** namely: Port Blair, Little Andaman (Hut Ba), Car Nicobar, Kamorta, Great Nicobar (Campbell Bay), Havelock, Long and Rangat.
- The cable lands at the beaches and terminate at the proposed beach manhold (BMH) locations and then taken to the cable landing station (CLS) for distribution.

Significance:

- It has immense strategic significance to India in addition to assisting the Andaman and Nicobar Islands communications security, especially during natural disasters or failures of other systems.
- Telecom connectivity between the mainland and Andaman and Nicobar is through satellites with limited bandwidth capacity.

Submarine Communication Cable

- A submarine communications cable is a **cable laid on the sea bed between landbased stations to carry telecommunication signals** across stretches of ocean and sea.
- These cables use **optical fibre technology** to carry digital data, which includes telephone, Internet and private data traffic.
- They are laid down by using specially-modified ships that carry the submarine cable on board and slowly lay it out on the seabed
- The first submarine communications cables laid beginning in the 1850s carried telegraphy traffic, establishing the first instant telecommunications links between continents, such as the first transatlantic telegraph cable which became operational on

16 August 1858.

Optical Fibre

- It is used to **transmit data using light pulses travelling along with a long fibre** which is usually **made of plastic or glass**.
- The **fibre optical cable** uses the application of **total internal reflection of light**.
- The fibres are designed such that they facilitate the propagation of light along with the optical fibre depending on the requirement of power and distance of transmission.

Topic 18. IACS'S NOVEL COMPOUND TREATS DRUG-RESISTANT KALA-AZAR INFECTION

Important for subject: Science and technology

Researches at **Indian Association for the Cultivation of Science (IACS)** has done a experimental work in mice which has shown **novel quinoline derivative to be effective in sharply reducing the load of leishmaniasis, also called kalaazar (black fever)**.

DNA Architecture in parasites

- The quinoline derivative is a potent inhibitor of an enzyme called topoisomerase 1 (LdTop1), which is essential for maintenance of DNA architecture in the parasites;
- This **enzyme is distinct from the one found in humans**.
- Poisoning of LdTop1 **imparts a significant level of cytotoxicity to both the Leishmania parasites found in gut of sandfly vectors (promastigotes) as well as the form found in the infected humans (amastigotes) of both the wild type and the antimony resistant isolates**.
- It **doesn't induce any lethality to human and mice host cells**. **Kala Azar Disease / Leishmaniasis** Leishmaniasis is a **disease caused by any species of Leishmania parasite**.
- It is **transmitted by the bite of an infected female sandfly**.
- In most cases, a person who is infected by the parasite has neither symptoms nor signs of infection and is not considered to have leishmaniasis.
- Although there are some 20 different parasites that cause the disease, **there are only three different types of leishmaniasis**.

- **Visceral leishmaniasis**, which affects **multiple organs** and is the **most serious form of the disease**.
- **Cutaneous leishmaniasis**, which causes skin sores and is the **most common form**.
- **Mucocutaneous leishmaniasis**, which causes skin and mucosal lesions.
- **Visceral leishmaniasis**, which is commonly known as **Kala-azar in India**, is **fatal in over 95% of the cases, if left untreated**.
- **It is one of the most neglected tropical diseases** and around 95 % of cases are reported from Bangladesh, Brazil, China, Ethiopia, India, Kenya, Nepal, Somalia, South Sudan, and Sudan.

Drug Resistant

- The only drug available against leishmaniasis, **miltefosine**, is **rapidly losing its effectiveness because of emerging resistance** to this drug due to a decrease in its accumulation inside the parasite.
- A protein called ‘**P4ATPase-CDC50**’, is responsible for intake of the drug by the parasite, and another protein, called ‘**P-glycoprotein**’, is responsible for throwing **this** drug out from within the parasite’s body.
- A decrease in the activity of the former protein, and an increase in the activity of the latter results in less accumulation of miltefosine inside the parasite’s body, thus causing it to become resistant to the drug.

Topic 19. INTERGALACTIC STREAM OF COSMIC CARBON FEEDING MASSIVE GALAXY

Important for subject: Science and technology

Radio telescope observations have revealed a cold stream of intergalactic atomic carbon gas feeding star formation in a massive radio galaxy in the young Universe.

The findings provide observational evidence supporting theoretical cosmological models and offer new **insights into the origins of the cosmic materials** that enable galaxy and star formation.

Galaxies evolve by accreting gas, either in **mergers with other galaxies** or from **streams of cold molecular gas**.

Cold dark matter theory:

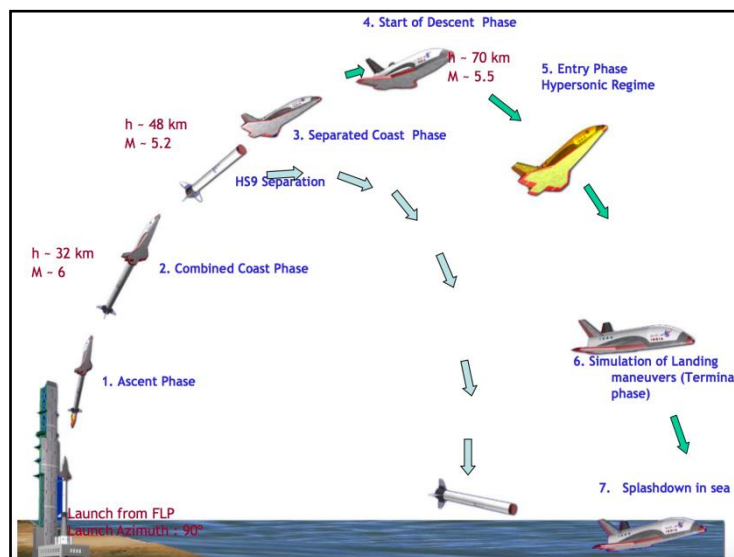
- The theory suggest that hydrogen gas created in the big bang collapses first into sheets and then into filaments strung out across space.
- In places where filaments cross or are clustered together, **galaxies form and the filaments continue to fuel the growth of galaxies by feeding them a steady stream of gas.**

Cosmic Web:

- Galaxies across the universe are connected by a complex structure made up of filaments of dark matter and sheets of hydrogen gas. The **network connecting these intergalactic filaments is known as cosmic web.**
- The existence of the cosmic web is central to current theories of how galaxies first formed following the big bang, however, evidence for it had remained largely theoretical.
- The recent observations of the cosmic web support the cold dark matter theory of galaxy formation.

Topic 20. ISRO TESTED REUSABLE LAUNCH VEHICLE

Important for subject: Science and technology



ISRO successfully carried out the landing experiment of the **Reusable Launch Vehicle Technology Demonstration (RLV-TD)** programme at the **Aeronautical Test**

Range in Chitradurga, Karnataka.

About Reusable Launch Vehicle-Technology Demonstration (RLV-TD):

- The configuration of RLV-TD is similar to that of an aircraft and combines the complexity of **both launch vehicles and aircraft**.
- The winged RLV-TD has been configured to act as a flying test bed to evaluate various technologies, namely, hypersonic flight, autonomous landing and powered cruise flight.
- In future, this vehicle will be scaled up to become the first stage of India's reusable two stage orbital launch vehicle.

Components:

- RLV-TD consists of a fuselage (body), a nose cap, double delta wings and twin vertical tails.
- It also features symmetrically placed active control surfaces called Elevons and Rudder.
- This technology demonstrator was boosted to Mach no: 5 by a conventional solid booster (HS9) designed for low burn rate.

Objectives of RLV-TD:

- Hypersonic aero thermodynamic characterisation of wing body Evaluation of autonomous Navigation, Guidance and Control (NGC) schemes Integrated flight management Thermal Protection System Evaluation

Significance

- In a first in the world, a winged body has been carried to an altitude of 4.5 km by helicopter and released for carrying an autonomous landing on a runway.
- **Aeronautical Test Range (ATR) Facility:**
- Aeronautical Test Range (ATR) is an **outdoor testing and evaluation facility** set up by DRDO exclusively **for unmanned and manned aircraft**.
- The ATR is under the command of the **Aeronautical Development Establishment (ADE)**.
- ATR is located at Varavoo Kaval in Challakere Taluk of Chitradurga district ATR,

Chitradurga has a Range Control Centre (RCC) with air traffic display system. It is equipped with a mission video distribution and display system. It has a Radar Centre which houses primary and secondary surveillance radars.

Topic 21. BHARAT 6G VISION DOCUMENT

Important for subject: Science and technology



Recently, Prime Minister Narendra Modi unveiled the Bharat 6G Vision Document, a starting point for policymakers and the industry to gear up for the next generation of telecommunications.

India's 6G Roadmap

- The Government of India formally launched 5G services in October 2022 and said that India should be ready to launch 6G services in the next 10 years.
- The Bharat 6G project will be implemented in two phases and the government has also appointed an apex council to oversee the project and focus on issues such as – Standardisation,
- Identification of the spectrum for 6G usage, Create an ecosystem for devices and systems, and Figure out finances for research and development, etc.
- In **Phase One (from 2023 to 2025)**, support will be provided to explorative ideas, risky pathways and proof-of-concept tests.

- Ideas and concepts that show promise and potential for acceptance by the global peer community will be adequately supported to develop them to completion, leading to commercialisation as part of **Phase Two (from 2025 to 2030)**.
- To fund research and innovation on 6G, the document recommended the creation of a **corpus of Rs 10,000 crore** to facilitate various funding instruments such as grants, loans, VC fund, etc.
- Some indicative goals are to – Guarantee every citizen a minimum bandwidth of 100Mbps; Ensure every gram panchayat has half a terabit per second of connectivity; and Blanket the country with over 50 million internet hotspots, with thirteen per square km.

Why did the Government put out a 6G Vision Document?

- To accelerate **India's wireless data consumption lead and assume leadership** in setting the standards for 6G in the coming years.
- This may involve everything from encouraging local manufacturing of telecom gear to supporting Indian companies and engineers in international discussions around standardisation.
- Standardisation is key, as telecommunications standards are usually adopted globally.
- **Delay in previous generations of telecommunications technology** rolling out in India.
- For example, 5G was rolled out years after countries like South Korea and the US had already covered their major urban areas with high-speed wireless connectivity.
- India does not want a repeat of that.
- Yet **another reason is pure physics**:
- Frequencies generally increase in newer generations of networks, but the lower the frequency, the longer a cell signal can travel.
- With increasing data usage, lower frequencies in 4G networks may not physically be able to keep up with the demand for traffic.

How are Other Countries Looking at the 6G Rollout?

- **South Korea** has outlined a **6G research and development plan** with Rs 1200 crore worth of investments in the first phase running till 2025.

- In Japan, the **Integrated Optical and Wireless Network (IOWN) Forum** has published its **Vision 2030 for 6G for infrastructure** evolution in four dimensions – cognitive capacity, responsiveness, scalability, and energy efficiency.
- Key developments in **6G** have also been identified and are being pursued in China, in order to support connectivity plus sensing plus **Artificial Intelligence (AI)**.

Topic 22. TWITTER OPEN-SOURCE CODE

Important for subject: Science and technology

Recently, twitter opened a portion of its source code to the public, including the algorithm to recommend tweets in users' timelines.

About Open source code:

- Open source is a term that **originally referred to open source software (OSS)**.
- Open source software is **code that is designed to be publicly accessible— anyone can see, modify, and distribute the code as they see fit**.
- Open-source software is **developed in a decentralized and collaborative way**, relying on peer review and community production.

What is Source code?

- It is **the set of instructions and statements written by a programmer using a computer programming language**.
- This code is later translated into machine language by a compiler. The translated code is referred to as **object code**.
- Source code is the source of a computer program.
- It contains declarations, instructions, functions, loops and other statements, which act as instructions for the program on how to function.
- Programs may contain one or more source code text files, which can be stored on a computer's hard disk, in a database, or printed in books of code snippets.

What is closed-source software?

- It is software in which the **public is not given access to the source code, so they can't see or modify it in any way**.

Topic 23. NEW FOREIGN TRADE POLICY

Important for subject: Economy

Union Minister of Commerce and Industry, Shri Piyush Goyal, recently launched the Foreign Trade Policy 2023.

Foreign Trade Policy 2023:

- Foreign Trade Policy (2023) is a policy document which is based on continuity of time-tested schemes facilitating exports as well as a document which is nimble and responsive to the requirements of trade.
- The Key Approach to the policy is based on these 4 pillars – Incentive to Remission,
- Export promotion through collaboration – Exporters, States, Districts, Indian Missions, Ease of doing business, reduction in transaction cost and e-initiatives and Emerging Areas – E-Commerce Developing Districts as Export Hubs and streamlining SCOMET policy.

Key Highlights of FTP 2023:

- **Process Re-Engineering and Automation :**
- Greater faith is being reposed on exporters through automated IT systems with risk management system for various approvals in the new FTP.
- The policy emphasizes export promotion and development, **moving away from an incentive regime to a regime which is facilitating**, based on technology interface and principles of collaboration.
- FTP 2023 **codifies implementation mechanisms in a paperless, online environment, building on earlier ‘ease of doing business’ initiatives.**
- **Reduction in fee structures and IT-based schemes** will make it easier for MSMEs and others to access export benefits.
- **Duty exemption schemes for export production** will now be implemented **through Regional Offices** in a rule-based IT system environment, eliminating the need for manual interface.

Towns of Export Excellence :

- Four new towns, namely **Faridabad, Mirzapur, Moradabad, and Varanasi, have**

been designated as **Towns of Export Excellence (TEE)** in addition to the existing 39 towns.

- **Towns of Export Excellence** is a status provided to those towns which produce and export goods worth a minimum value in a specific sector.
- Sectors include handicraft, handloom, seafood, pharmaceutical, fisheries, apparel, coir, leather products, etc.
- Once a town is recognized as a TEE it helps in maximizing its potential and enables them to move higher in the value chain.
- According to the Ministry of Commerce and Industry, **towns producing goods worth Rs 750 crore (US\$ 98.7 million) or more can be recognized as Towns of Export Excellence.** For certain sectors like handloom, handicraft, agriculture, and fisheries the threshold limit is set at Rs 150 crore (US\$ 19.7 million).
- The TEEs will have **priority access to export promotion funds under the MAI scheme** and will be able to avail Common Service Provider (CSP) benefits for export fulfillment under the EPCG Scheme.
- **Market Access Initiative (MAI) Scheme** is an **Export Promotion Scheme** envisaged to act as a catalyst to promote India's exports on a sustained basis. The objective of the **Export Promotion Capital Goods (EPCG) Scheme** is to **facilitate import of capital goods** for producing quality goods and services and enhance India's manufacturing competitiveness.
- This addition is expected to boost the exports of handlooms, handicrafts, and carpets.

Recognition of Exporters:

- Exporter firms recognized with 'status' based on export performance, will now be partners in capacity-building initiatives.
- Similar to the "each one teach one" initiative, 2-star and above status holders would be encouraged to provide trade-related training based on a model curriculum to interested individuals.
- This will help India build a skilled manpower pool capable of servicing a \$5 trillion economy before 2030.
- Status recognition norms have been re-calibrated to enable more exporting firms to achieve 4 and 5-star ratings, leading to better branding opportunities in export markets.

Promoting Export from the Districts :

- The FTP aims at building partnerships with State governments and taking forward the **Districts as Export Hubs (DEH) initiative** to promote exports at the district level.
- **District specific export action plans** to be prepared for each district outlining the district specific strategy to promote export of identified products and services.

District Export Hub Initiative

- Nodal Ministry: Ministry of Commerce and Industry.
- It is a **Centrally Sponsored Scheme**.
- The Scheme will be **part of the new Foreign Trade Policy (FTP)**.
- Aim: To help producers across 200 districts scale up manufacturing and find foreign buyers for their goods.
- Implementing Body: **Directorate General of Foreign Trade(DGFT)**.
- Under the scheme, **District Export Promotion Committees(DEPCs) have been constituted** in most of the districts and products and services with export potential have been identified in each district.

Streamlining SCOMET Policy :

- India is placing more emphasis on the “export control” regime as its integration with export control regime countries strengthens.
- There is a wider outreach and **understanding of SCOMET among stakeholders**.
- **SCOMET** item is an acronym for **Special Chemicals, Organisms, Materials, Equipment, and Technologies**, and **these are dual-use items** that can be used for both civilian and military applications.
- India’s **Foreign Trade Policy regulates the export of items on the SCOMET List**.
- The exporter must obtain a license from the Directorate General of Foreign Trade, Ministry of Commerce, to export SCOMET.

Facilitating E-Commerce Exports :

- E-commerce exports are a promising category that requires distinct policy interventions from traditional offline trade.
- Various estimates suggest India’s e-commerce export potential in the range of \$200 to

\$300 billion by 2030.

- FTP 2023 outlines the intent and roadmap for establishing e-commerce hubs and related elements.
- As a starting point, the **consignment wise cap on E-Commerce exports through courier has been raised from ₹5Lakh to ₹10 Lakh in the FTP 2023.**
- **Facilitation under Export Promotion of Capital Goods (EPCG) Scheme**
- The EPCG Scheme, which allows import of capital goods at zero Customs duty for export production, is being further rationalized. Some key changes being added are:
- **Prime Minister Mega Integrated Textile Region and Apparel Parks (PM MITRA)** scheme has been added as an **additional scheme eligible to claim benefits under the CSP (Common Service Provider) Scheme** of Export Promotion Capital Goods Scheme (EPCG).
- **Dairy sector to be exempted from maintaining Average Export Obligation** – to support the dairy sector to upgrade the technology.
- **Battery Electric Vehicles (BEV) of all types, Vertical Farming equipment,**
- **Wastewater Treatment and Recycling, Rainwater harvesting system and Rainwater Filters, and Green Hydrogen are added to Green Technology products** – will now be eligible for reduced Export Obligation requirement under EPCG Scheme..

Facilitation under Advance authorization Scheme :

- **Advance authorization Scheme** accessed by **Domestic Tariff Area (DTA)** units provides duty-free import of raw materials for manufacturing export items.
- Based on interactions with industry and Export Promotion councils, certain facilitation provisions have been added in the FTP 2023.
- **Advance Authorisation Scheme** allows the **duty-free import of inputs, which are physically incorporated in an export product.** In addition to any inputs, packaging material, fuel, oil, and catalyst which is consumed/utilized in the process of production of export product, is also allowed.
- **Only Exporter (either merchant or manufacturer) who holds an AEO Certification** (Authorized Economic Operator) is **eligible to opt for this scheme.**
- The inputs imported are exempt from duties like Basic Customs Duty, Additional Customs Duty, Education Cess, Anti-dumping duty, Safeguard Duty and Transition

Product-Specific Safeguard duty, Integrated tax, and Compensation Cess, wherever applicable, Important for subject to certain conditions.

Amnesty Scheme

- Finally, the **Government is strongly committed to reducing litigation and fostering trust-based relationships** to help alleviate the issues faced by exporters.
- In line with “**Vivaad se Vishwaas**” initiative, which sought to settle tax disputes amicably, the **government is introducing a special one-time Amnesty Scheme under the FTP 2023 to address default on Export Obligations.**
- This scheme is intended to **provide relief to exporters who have been unable to meet their obligations under EPCG and Advance Authorizations.**

Topic 24. INDIA’S UNEMPLOYMENT RATE RISES TO 3-MONTH HIGH OF 7.8% IN MARCH

Important for subject: Economy

India’s unemployment rate rose to a three-month high in March to 7.8 percent as the country’s labour markets deteriorated, according to data from the Centre for Monitoring Indian Economy (CMIE).

Concept:

- Unemployment rate is defined as the percentage of persons unemployed among the persons in the labour force.
- **PLFS**
- NSO launched the PLFS in April 2017. The first annual report (July 2017-June 2018) was released in May 2019. According to the third annual report on Periodic Labour Force Survey (PLFS), conducted by the NSO between July 2019 and June 2020, the unemployment rate fell to 4.8 per cent in 2019-20. In 2018-19, it stood at 5.8 per cent and 6.1 per cent in 2017-18.
- **CMIE**
- According to the Centre for Monitoring of Indian Economy (CMIE), the monthly jobless rate which rose to 23.52 per cent in April 2020, it was 10.18 per cent in June 2020,

- CMIE is a leading business information company. It was established in 1976, primarily as an independent think tank.
- CMIE produces economic and business databases and develops specialised analytical tools to deliver these to its customers for decision making and for research. It analyses the data to decipher trends in the economy.

Topic 25. ZEE INSIDER TRADING: SEBI BANS 3 INDIVIDUALS FROM SECURITIES MARKET

Important for subject: Economy

SEBI has barred three individuals from the securities market for two years and imposed penalty totalling Rs90 lakh on the mina case pertaining to insider trading activities in the scrip of Zee Entertainment Enterprises Ltd (ZEEL).

Insider Trading

- Insider trading is the buying or selling of a publicly-traded company's shares/debt papers by someone who has confidential information about that shares/debt papers.
- Insider trading is defined as a malpractice wherein trade of a company's securities is undertaken by people who by virtue of their work have access to the otherwise non-public information/confidential information which can be crucial for making investment decisions.
- When insiders, e.g. key employees or executives who have access to the strategic information about the company, use the same for trading in the company's stocks or securities, it is called insider trading.
- An insider is a person who possesses either access to valuable non-public information about a corporation or ownership of stock equaling more than 10% of a firm's equity. This makes a company's directors and high-level executives insiders.

Mechanism to prevent insider trading

- According to SEBI Promoters will be held responsible for violation of insider trading norms, if they possess unpublished price-sensitive information (UPSI) regarding the company without any "legitimate purpose".
- **Legitimate purpose** – Sharing of the UPSI by an insider with partners, collaborators,

lenders, customers, suppliers, merchant bankers, legal advisors, auditors, insolvency professionals or other advisors or consultants, provided that such sharing has not been carried out to evade or circumvent the prohibitions of these regulations.

Recommendation of Kotak committee

- The committee has recommended flow of unpublished price sensitive information (UPSI) shall be considered for 'legitimate purpose', and not an offence under the
- SEBI (Insider Trading) for those who:
- Is part of the promoter group.
- Has a nominee director on the board.
- The information should be pursuant to a formal agreement in accordance with the regulations.
- Communication of information must comply with the Insider Trading Regulations.

Topic 26. INDIA AND MALAYSIA CAN NOW USE INDIAN RUPEE TO SETTLE TRADE, SAYS MEA

Important for subject: Economy

What has happened?

India and Malaysia have agreed to settle trade in the Indian rupee, the Ministry of External Affairs announced on Saturday

How it will happen?

- The India International Bank of Malaysia(IIBM) has already operationalized this mechanism by opening a special Rupee Vostro account through its corresponding bank in India, Union Bank of India.

What is Vostro Account?

- Vostro accounts are used to make payments in domestic currency. The opening of this account will allow Malaysia to use the Indian Rupee to settle trade payments. This move is expected to be beneficial for both India and Malaysia. It will eliminate the need for foreign exchange conversion and will reduce transaction costs. This development is also expected to lead to increased trade between the two countries,

especially in areas such as textiles, automobiles, and electronics.

Why it is significant?

- The announcement is seen as a decisive step towards dedollarisation and an effort to safeguard Indian trade from the impact of Russia's war in Ukraine and its subsequent fallout and sanctions

What is De-dollarization?

De-dollarization is a process of substituting the US dollar as the currency used for:

- Trading oil and/ or other commodities
- Buying US dollars for the forex reserves
- Bilateral trade agreements
- Dollar-denominated assets
- It happens when the leading central banks diversify their reserves away from the USD to other assets or currencies like the Euro, Renminbi or gold.
- The USD (United States Dollar) has been the world's dominant currency since the conclusion of the second world war. Dollar has also been the most sought reserve currency for decades, which means it is held by central banks across the globe in significant quantities. Dollar is also primarily used in cross-border transactions by nations and businesses.
- This unique position not only makes the US the leader in the financial and monetary system, but also provides incomparable leverage when it comes to coercive ability to shape decisions taken by governments, businesses, and institutions.

Causes of this shift:

- The USD as a sanctions weapon-The US has for long used imposition of sanctions as a tool to achieve foreign policy and goals, which entails restricting access to US led services in payment and financial transaction processing domain
- The emergence of China, Slowdown in the US economy, European Union's independent policy assertion, Russia-US detachment, and us-china trade war increasing voices from across the world to create a polycentric world and financial system in which hegemonic capacities can be muted.

- The rise of digital or cryptocurrencies at an increasing pace.

Examples

- Dedollarization emerged as a priority for Russia in 2014 in response to the imposition of Western sanctions following the annexation of Crimea that limited the ability of state firms and banks to raise financing in Western markets.
- Between 2013 and 2020, the Russian central bank halved its dollar-denominated reserves. In 2021, it revealed plans to completely ditch all dollar assets from its sovereign wealth fund and increase holdings in euros, yuan, and gold instead, thus acquiring a quarter of the world's yuan reserves.
- China also began seeing value in this initiative after the onset of the US-China trade war in 2018 and the use of punitive financial measures by the US.
- EU members had switched to INSTEX (Instrument in Support of Trade Exchanges) which acts as a special-purpose vehicle to facilitate non-USD trade with Iran to avoid US sanctions
- The EU remains the largest investor as well the biggest trade partner for Russia, with trade taking place in euros, instead of dollars.
- Further, in recent years, Russia has also switched to settlements in national currencies with India (for arms contracts) and the two traditionally strong defence partners are aiming at exploring technology as means for payment in national currencies.

Impact

- **Reduce trade volatility and risk**-The “de-dollarisation” by several central banks is imminent, driven by the desire to insulate them from geopolitical risks, where the status of the US dollar as a reserve currency can be used as an offensive weapon.
- **As an alternative to economic sanctions.**
- Reduce demand of USD thus, relative **depreciation of USD and imported inflation in the USA.**
- **Push to globalisation Reduce3 spillover effect of economic crisis in one country to global economy Challenges**
- **Finding alternatives to the dollar-currency** with the right amount of availability, acceptability and stability.

- Given the psychological bias, the world will continue to prefer the USD as a “store of value” and a “medium of exchange”, fulfilling the basic functions of money.
- Sudden dumping of dollar assets by adversarial central banks will also pose balance sheet risks to them as it will erode the value of their overall dollardenominated holdings.
- No full proof from sanctions – increasing reliance on the euro and thus greater exposure to EU sanctions;
- Finding true exchange rate-US dollar being the link currency for determining the exchange value of any two currencies
- A new international payments system that could operate as an alternative to the US-dominated SWIFT, as international trade needs a payment and financial system to take place
- Dollar’s continued primacy as the medium of exchange in international currency markets, selling euros in exchange for rubles is likely to be difficult without going through the dollar, as Iran learned a few years ago.
- Increase economic autonomy
- **De Dollarization and India:-**India, currently among the most dollarized countries (in invoicing) and hence relatively difficult to switch to other modes given the economic and political relation with the USA. However,
- While others accumulate dollars from their earnings of trade surplus, India maintains a large forex reserve even though India imports less than it exports. In
- India’s case, the dollar reserves come through infusion of Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI), which reflects the confidence of foreign investors in India’s growth prospects. Thus, India is less impacted by economic sanctions of the USA.
- Just like Chinese renminbi, Indian rupee is also not yet fully convertible at the exchange markets. While this means that India can control its burden of foreign debt, and inflow of capital for investment purposes in its economy
- India remains vulnerable to policy changes by other nations’ monetary policies which are beyond India’s own control. For instance, it has been often highlighted that a tightening of the US monetary policy leads to capital outflows (capital flight) from India, thus impacting India adversely.

- **Alternatives:** Instead of switching dependence from the USD to any other currency like euro, yuan or backing currency to the ‘old gold’ will not solve the problem but repeat the crisis the global economy went through pre-Bretton Woods times.

Currency swap agreements

- A central bank digital currency (CBDC) that bypasses the dollar-China submitted a “Global Sovereign Digital Currency Governance” proposal at the Bank for International Settlements to influence global financial rules via its digital currency, the e-Yuan.
- A global currency or an arrangement like the IMF’s SDR
- Introduction of a new Russia-China payment system, bypassing SWIFT and combining the Russian SPFS (System for Transfer of Financial Messages) with the Chinese CIPS (Cross-Border Interbank Payment System).
- National electronic payments system-like Russia’s Mir or India’s UPI

Topic 27. THE NPCI’S NEW CIRCULAR ON LEVY CHARGES

Important for subject: Economy

The National Payments Corporation of India (NPCI), which governs the Unified Payment Interface (UPI), **directed the banks that they can now levy charges on merchant transactions made via Prepaid Instrument wallets using UPI.**

- As these directions by NPCI got leaked to the media, the NPCI clarified that the usual bank-to-bank UPI transactions would not be charged and that customers will not have to pay for transactions made via Prepaid Payment Instruments (PPI) on UPI.
- **NPCI clarified that the new interchange charges are only applicable for PPI merchant transactions.**

Prepaid Payment Instruments (PPIs)

- Prepaid Payment Instruments (PPIs) are a type of payment method that is **used to purchase various goods and services as well as send or receive money by using the stored value in the wallet.**
- Under the PPI mode of transaction, the **users must pre-load the digital wallet with a desired amount** by using cash, or debit to a bank account, by credit/debit cards, or

UPI.

- PPIs can be in the **form of mobile wallets, vouchers, secure tokens, physical smart cards, or any other form** that allows access to prepaid funds.
- The most **prevalent form of PPI used in India at present is the mobile wallet.**
- It is to be noted **that PPIs can only be used in Indian rupees.**

PPI interoperability

- Earlier, in order to use PPI at any merchant, it was mandatory for the respective merchant to be engaged directly by the specific PPI issuer (specific network).
- The PPIs with which the merchant did not have a direct tie-up used to get rejected.
- This provision restricted the customers of one specific mobile wallet to use the money in the wallet only at those merchant locations which had a direct tie-up with the same PPI wallet provider if a customer had a Paytm wallet, he/she could only use the money in the wallet for making payments to those merchants who accepted Paytm QR codes.
- The **RBI has now mandated interoperability among different PPI wallet providers** to address the issues associated with this limitation of PPIs.
- The PPI issuers have now tied up with NPCI for issuing interoperable RuPay PPI cards and for developing interoperable wallets on UPI rails.
- PPIs in the form of mobile wallets can now be linked to UPI which creates interoperable wallets on UPI rails.

Working of PPI interoperability through UPI

- Linking one's PPI wallet to UPI would enable individuals to transact using the Scan and Pay option on all UPI interoperable QR codes and facilitate the use of PPI wallets at all merchant locations. With the help of PPI interoperability, individuals can also send or receive money to any other wallet user.
- Likewise, a merchant with any UPI QR code would be able to accept payments from any PPI issuer or mobile wallet.
- PPI on UPI is expected to increase the incidence of merchant transactions in rural areas and enhance digital financial inclusion by catering to services such as healthcare, education, utility bills, transit, etc.

Topic 28. OPEN-SOURCE SEEDS MOVEMENT

Important for subject: Economy

As public sector breeding declined and the private sector began to dominate the seed sector, the need for alternatives became keenly felt to safeguard the plant varieties and indigenous seeds.

Background

- Farmers have innovated and shared seeds without any intellectual property rights (IPR) claims for centuries.
- Farmers also haven't sought exclusive rights over seeds and germplasm to prevent others from innovating on the seeds.
- In 1999, a **Canadian plant-breeder named E. Michaels** suggested an approach to seeds based on **the principles of open source software**.
- **Seed movement** is required to **provide proper rights to the plant breeders**.

Open -Source Seed

- An open-source crop variety is one that **is not restricted by plant patents or other proprietary limitations used by F1 hybrids and crops of CMS and GMO technologies**.
- The **open-source seed movement affirms that plant genetics and their physical traits cannot, and should not, be owned by individuals or corporations**.
- In other words, **plants should never be privatized or restricted** because they are a collective resource.
- The genetics of open-source seeds are protected and pledged to forever remain in the public domain.
- The **Open Source Seed Initiative** simply asks for a pledge, that an individual won't "restrict others' use of these seeds or their derivatives by patents or other means, and to include this pledge with any transfer of these seeds or their derivatives".

State of such Initiatives in India

- Open Worldwide, the number of seed firms using open source models and the crop varieties and seeds made available there under is small but growing. **India is yet to**

test and adopt it widely.

- Under the **Plant Variety Protection and Farmers' Rights Act (PPVFR) 2001**, farmers can register varieties as 'farmer varieties' if they meet certain conditions, and have the right to reuse, replant, and exchange seeds.
- However, they can't breed and trade in varieties protected under the Act for commercial purposes.
- Using the **open source approach here will enable farmers to gain more rights over germplasm and seeds and facilitate innovation**. So there is a need to test this approach with farmers and the three FPOs can take the lead.

How is Intellectual Property protected in agriculture?

- In effect, there are now **two forms of IPR protection in agriculture: plantbreeders' rights and patents**.
- Traditionally, **farmers and cultivators have innovated and shared seeds without any intellectual property rights (IPR) for centuries**.
- However, the **advent of hybrid seeds and advancements in scientific plantbreeding have led to the grant of plant breeders' rights (PBR) and patents**.
- As per PBR and patents regime, rights-holders can demand royalty on seeds and legally enforce intellectual property rights (IPR) and in the case of a few regimes, rights-holders can also limit the unauthorised use of such seeds.
- Together, **they restrict farmers' rights and the freedom to develop new varieties using germplasm from IP-protected varieties**. They have thus further consolidated the seed sector and increased the number of plant varieties covered by IPRs.
- The high prices of genetically modified seeds and IP claims triggered many problems, including the State's intervention on Bt cotton seeds in India.
- As public sector breeding declined and the private sector began to dominate the seed sector, the need for alternatives became keenly felt.
- This is when the success of open-source software inspired a solution. In 1999, a Canadian plant-breeder named T.E. Michaels suggested an approach to seeds based on the principles of open-source software.

Concerns associated with IPR protection in the agriculture sector

- There are mainly two modes of IPR protection in agriculture namely plant-breeders rights (PBR) and patents.
- These modes of IPR protection have restricted the rights of the farmers and the freedom to develop new varieties using germplasm from IP-protected varieties.
- Further, the high costs and prices associated with genetically modified seeds and IP claims have given rise to various problems and issues which have led to the State's intervention in Bt cotton seeds in India.
- Also, the IPR regime in agriculture has led to the decline of public-sector breeding and the domination of private companies in the seed sector.

Topic 29. FM REVIEW FINANCIAL INCLUSION SCHEMES

Important for subject: Economy

The review meeting, which will be chaired by DFS Secretary Vivek Joshi, will cover Jansuraksha Schemes, Pradhan Mantri Mudra Yojana, Stand UP India and PM SVANidhi scheme, sources said.

PM SVANidhi scheme

- It is a special **micro-credit facility scheme for providing affordable loan to street vendors.**
- The scheme is aimed at enabling the street vendors to resume their livelihoods that have been adversely affected due to COVID-19 lockdown.
- Under the scheme, each of these streets vendors **will be given a credit loan of Rs 10,000, which they can return as monthly installments within a year.**
- Those who repay their loans on time will **get 7 percent annual interest as subsidy** which will be transferred in their bank accounts. There is no provision for penalty
- The scheme targets to benefit over **50 lakh street vendors**, who had been vending on or before 24th March this year, **in urban areas.** The duration of the scheme is till
- March 2022. The street vendors belonging to the **surrounding peri-urban or rural areas are being included as beneficiaries under the urban livelihoods programme for the first time.**
- The lending institutions under the Scheme include Scheduled Commercial Banks, Regional Rural Banks, Small Finance Banks, Cooperative Banks, NBFCs, Micro

Finance institutions and Self Help Group banks.

Jan Suraksha Schemes

- It comprises of Pradhan Mantri Suraksha Bima Yojana which offer Rs. 1000 to Rs. 5000, Pradhan Mantri Jeevan Jyoti Bima Yojana offering Rs. 1 lakh to Rs. 2 lakh for accidents, and Atal Pension Yojana offering Rs.2 lakh insurance cover.
- Following the success of the Pradhan Mantri Jan Dhan Yojana scheme, an accidental cover scheme, which became a hit with the citizens of the country, the Modi-led government has introduced three new schemes known as the Jan
- Suraksha Schemes. The schemes cover areas such as insurance for the poor, pension and so on.

The three schemes introduced under the Jan Suraksha Schemes are,

- **Pradhan Mantri Suraksha Bima Yojana**
- **Pradhan Mantri Jeevan Jyoti Bima Yojana**
- **Atal Pension Yojana**

The schemes were simultaneously launched in 160 cities and towns across India.

Pradhan Mantri Suraksha Bima Yojana

- The Pradhan Mantri Suraksha Bima Yojana was introduced by the government to encourage the citizens of India to get insurance access and coverage. The minimum annual premium for the scheme is Rs.12, and subscribers are given two types of insurance coverage – Accidental death or complete disability and partial disability insurance cover. The terms for both types of insurances are between 2 to 4 years. The insurance cover for partial disability is up to Rs.1 lakh and for complete disability or death is Rs.2 lakh. The tax-free premium is debited from one's bank account automatically in the case of a long-term insurance plan. Subscribers can nominate their family members, who would receive the insurance coverage in the case of death or complete disability.

The eligibility criteria for the scheme are:

- Should be an Indian resident between the ages of 18 to 70 years.

- Should have a savings account with any bank in India, from which the premiums would be automatically debited.
- Should provide his/her Aadhaar card and regular KYC documents when applying.
- Every Indian citizen is eligible for the scheme.

Pradhan Mantri Jeevan Jyoti Bima Yojana

- With only 20% of the country's population having insurance, the Pradhan Mantri Jeevan Jyoti Bima Yojana was introduced to provide insurance for the poor of the country and raise awareness on the need for an insurance cover. The premium of the scheme is at an affordable Rs.330 per annum and the risk coverage per annum is at Rs.2 lakh. While applying for the scheme, subscribers can nominate a person, usually family members, to avail the insurance in the case of complete disability or death. The scheme can be availed from any public insurance company across the country.

The eligibility criteria are mentioned below:

- The applicant should be between 18 to 50 years of age.
- Should be an Indian resident.
- Should have a savings bank account from which the annual premium is automatically debited.
- Should have an Aadhaar card and regular KYC documents when applying.
- Since the introduction of the Jan Suraksha Schemes, over 63 million Indians have subscribed to either the Pradhan Mantri Suraksha Bima Yojana, the Atal Pension Yojana or the Pradhan Mantri jeevan Jyoti Bima Yojana at banks across the country making the Jan Suraksha yet another successful move by the government.

Topic 30. COMPREHENSIVE AND PROGRESSIVE AGREEMENT FOR TRANS-PACIFIC PARTNERSHIP

Important for subject: International relations

The UK acceded to the Comprehensive and Progressive Agreement for Trans Pacific Partnership (CPTPP), with Prime Minister Rishi Sunak describing the outcome as an example of “post-Brexit freedoms”.

- The agreement will now need to be ratified by Westminster and each of the CPTPP

countries.

- The country will become the first new member, and the first in Europe, to join the agreement since it came into force in 2018.
- The deal is a “**gateway**” to the **Indo-Pacific region** which would account for a majority (54%) of global economic growth in the future.
- It will also, as a **CPTPP member**, get a **veto on whether China joins the treaty**.

About CPTPP

- The CPTPP, also known as TPP-11, is a **free trade agreement with 11 members**:
- **Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, Peru, New Zealand, Singapore and Vietnam.**
- The eleven signatories have combined economies representing 13.4 percent of global gross domestic product, at approximately US\$13.5 trillion, making the CPTPP one of the world’s largest free-trade areas by GDP, along with the United States–Mexico–Canada Agreement, the European Single Market, and the Regional Comprehensive Economic Partnership.
- It **succeeded the Trans-Pacific Partnership after the United States withdrew under former President Donald Trump in 2017.**
- The bloc is home to more 500 million people and will be worth 15% of global GDP once the United Kingdom joins.
- **Beijing had applied to become a member** of the bloc in September 2021.
- The **CPTPP commission in 2023 is chaired by New Zealand.**
- **All 11 countries of CPTPP are members of the Asia-Pacific Economic Cooperation (APEC).**

Asia-Pacific Economic Cooperation (APEC)

- It is a forum of **21 Asia-Pacific economies established in 1989.**
- **Members:** Australia; Brunei Darussalam; Canada; Chile; People’s Republic of
- China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; the Philippines; the Russian Federation; Singapore; Chinese Taipei; Thailand; the United States of America; Vietnam.
- It seeks to promote free trade and economic cooperation throughout the AsiaPacific

region.

- The **APEC Secretariat, headquartered in Singapore**, provides advisory and logistic services as well as research and analysis.
- **APEC decisions are reached by consensus, and commitments are made on a voluntary basis.**

Topic 31. CAN COUNTRIES BE SUED OVER CLIMATE CHANGE?

Important for subject: International Relations

The International Court of Justice (ICJ) has been asked to provide an opinion on what kind of obligations countries have towards climate change reduction, based on the promises they have made to the UNFCCC.

Details

- Recently, the **UNGA passed a resolution seeking opinion from the ICJ** regarding the **accountability of countries** towards climate change reduction, **based on the promises they have made by these countries to the UNFCCC.**
- The **resolution passed by consensus** had been **pushed through by one of the smallest countries in the world, the Pacific Island of Vanuatu.**
- This island was devastated in 2015 by the effects of Cyclone Pam, believed to have been spurred by climate change.

What does the resolution seek?

- Asked the ICJ to deliberate on two questions
- What are the obligations of states under international law to ensure the protection of the climate system for present and future generations?
- What are the legal consequences under these obligations for states where they, by their acts and omissions, have caused significant harm to the climate system?
- The resolution **refers to several international protocols including the Paris Agreement (2015), the United Nations Convention on the Law of the Sea and even the Universal Declaration of Human Rights.**
- The entire process is expected to take **about 18 months for the ICJ to deliberate and deliver its opinion.**

India's position

- **Cautiously silent about the move** India has thus far been **cautiously silent about the move**, although it is generally supportive of the need for climate justice.
- India is also **vocal in holding the developed world accountable for global warming**.
- It has referred the resolution to legal authorities in the country who will look into the implications and international ramifications of the ICJ opinion.
- India **did not co-sponsor the draft resolution**
- India **did not join the overwhelming majority of countries that co-sponsored the draft resolution**.
- **Wait and watch mode**
- India is watching how global powers like the U.S. and China respond to the resolution, as without their support, it will be hard to implement.

India does not want top-down approach in climate change discussion

- India was among the countries which voiced concerns about whether launching a judicial process was the best way to reach shared goals.
- Successfully tackling the climate crisis is best achieved via diplomatic efforts.
- As per India, top-down approach is not needed in the discussion around climate change.

Is the advisory opinion of the ICJ binding?

- The **ICJ is being asked for an advisory opinion**, which by **definition would not be legally binding as an ICJ judgment**.
- However, its clarification of international environmental laws would make the process more streamlined.
- The **ICJ opinion would carry legal weight and moral authority in dealing with contentious issues such as:** climate reparations by the developed world, legal culpability for countries that do not achieve their NDC promises, and climate support to the most vulnerable parts of the world battling the effects of global warming.
- This is significant as according to the latest IPCC Synthesis report, global climate levels have already increased 1.1 degrees since pre-industrial levels in the past century.

- Deep cuts in greenhouse gas emissions reductions, as much as by a half, are required by 2030 to keep this goal.

Topic 32. OPEC PLUS ANNOUNCES OIL PRODUCTION CUTS

Important for subject: International Relations

Saudi Arabia and other OPEC+ oil producers announced further oil output cuts of around 1.16 million barrels per day, in a surprise move that analysts said would cause an immediate rise in prices and the United States called inadvisable.

- The **pledges bring the total volume of cuts by OPEC+**, which groups the Organization of the Petroleum Exporting Countries with Russia and other allies, to 3.66 million bpd according to Reuters calculations, **equal to 3.7% of global demand.**

OPEC and OPEC+

- Established in 1960 by founding members **Iran, Iraq, Kuwait, Saudi Arabia and Venezuela**, OPEC has since expanded and now has 13 member states.
- Member countries are: **Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, Venezuela.**
- Qatar terminated its membership on 1st January 2019.

OPEC+:

- With the **addition of another 10 allied major oil-producing countries**, the OPEC is known as OPEC+.
- **OPEC+ countries include 13 OPEC member countries, Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.**
- The objective of the organization is to coordinate and unify the petroleum policies of its Member Countries and ensure the stabilisation of oil markets in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers and a fair return on capital for those investing in the petroleum industry.
- Previously controlled by western-dominated multinational oil companies known as the “Seven Sisters,” **OPEC sought to give the oil-producing nations greater influence over the global petroleum market.**
- They account for roughly **40 % of the world’s crude oil and 80 % of the globe’s**

oil reserves, according to estimates from 2018.

- They usually meet every month to determine how much oil the member states will produce.
- However, many allege that OPEC behaves like a cartel, determining the supply of oil and influencing its price in the world market.

Topic 33. HOW IOC DECISION ON ARMY-LINKED ATHLETES CRIPPLES RUSSIA OLYMPIC HOPES

Important for subject: International Relations

The International Olympic Committee recommended individual athletes from Russia and Belarus should be allowed to return to competition under a neutral status as long as they have no military incantational Olympic Committee

- IOC was created on 23 June 1894. The first Olympic Games of the modern era opened in Athens on 6 April 1896.
- It is a not-for-profit independent international organisation
- HQ: Lausanne, Switzerland.

Mandate:

- 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 34. FINLAND JOINS NATO BLOC

Important for subject: International Relations

Finland officially became the **31st member of the North Atlantic Treaty Organization (NATO)**.

- This latest move marks a major shift in the security landscape in northeastern Europe amidst the ongoing Russia-Ukraine war now that Finland has joined NATO, if Finland is invaded or attacked, all NATO members would come to its aid.
- The move also marks **the end of an era of military non-alignment for Finland**.

- Finland, after **repelling an invasion attempt by the Soviet Union during the Second World War, had opted for non-alignment and maintain friendly relations with Russia.**
- Finland's accession is seen as a **setback for Russia as Finland shares a 1,340- km eastern frontier with Russia.**
- Russia has said that it **would strengthen its military capacity in its western and northwestern regions in response to the move.**

North Atlantic Treaty Organization:

- It is an **intergovernmental military alliance.**
- Established by **Washington treaty** that was signed on 4 April 1949.
- **Headquarters — Brussels, Belgium.**
- Headquarters of Allied Command Operations — Mons, Belgium.

Significance:

- It constitutes a system of collective defence whereby its independent member states agree to mutual defence in response to an attack by any external party.

Composition:

- Since its founding, the admission of new member states has increased the alliance from the original 12 countries to 30. The most recent member state to be added to NATO was North Macedonia on 27 March 2020 (Before Finland).
- NATO membership is open to “any other European state in a position to further the principles of this Treaty and to contribute to the security of the North Atlantic area.”

Objectives:

- **Political** – NATO promotes democratic values and enables members to consult and cooperate on defense and security-related issues to solve problems, build trust and, in the long run, prevent conflict.
- **Military** – NATO is committed to the peaceful resolution of disputes. If diplomatic efforts fail, it has the military power to undertake crisis-management operations.
- These are carried out under the **collective defence clause of NATO's founding**

treaty – Article 5 of the Washington Treaty or under a United Nations mandate, alone or in cooperation with other countries and international organizations.

NATO membership:

- NATO had 30 members before the accession of Finland.
- In 1949, there were **12 founding members of the Alliance**: Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom and the United States.
- The **other member countries** are: Greece and Turkey (1952), Germany (1955), Spain (1982), the Czech Republic, Hungary and Poland (1999), Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia (2004), Albania and Croatia (2009), Montenegro (2017) and North Macedonia (2020).

Topic 35. UN STATISTICAL COMMISSION

Important for subject: International Relations

India has been elected to the highest statistical body of the United Nations for a four-year term beginning January 1, 2024.

About UN Statistical Commission

- The **United Nations Statistical Commission, established in 1947**, is the highest body of the global statistical system bringing together the Chief Statisticians from member states from around the world.
- It is the **highest decision-making body for international statistical activities, responsible for setting of statistical standards** and the development of concepts and methods, including their implementation at the national and international level.
- The **Statistical Commission oversees the work of the United Nations Statistics Division (UNSD)**, and it is a **Functional Commission of the UN Economic and Social Council**.
- **Sessions:** The 54th session of the United Nations Statistical Commission was held on 28 February – 3 March 2023.

Mandate:

- The **Statistical Commission** was established by the **Economic and Social Council**.

Commission shall assist the Council:

- In promoting the development of national statistics and the improvement of their comparability;
- In the coordination of the statistical work of specialized agencies;
- In the development of the central statistical services of the Secretariat;
- In advising the organs of the United Nations on general questions relating to the collection, analysis and dissemination of statistical information;
- In promoting the improvement of statistics and statistical methods generally.

Items considered

- The Statistical Commission considers special issues of concern in international statistical development, methodological issues, coordination and integration of international statistical programmes, support of technical cooperation activities in statistics and organizational matters.

Frequency of meetings

- In July 1999 the Economic and Social Council decided that the Commission should meet annually for four days each session, starting in the year 2000.

Membership

- The Commission **consists of 24 member countries of the United Nations** elected by **the United Nations Economic and Social Council** on the basis of an equitable geographical distribution according to the following pattern:
 1. Five members from African States;
 2. Four members from Asia-Pacific States;
 3. Four members from Eastern European States;
 4. Four members from Latin American and Caribbean States;
 5. Seven members from Western European and other States.
- The **term of office of members is four years.**

Bureau

- The **officers of the Commission, also referred to as the Bureau, are the Chairman, 3 Vice-chairmen and the Rapporteur.**

- **About United Nations Economic and Social Council**
- The Economic and Social Council is at the heart of the United Nations system to advance the three dimensions of sustainable development – economic, social and environmental.
- It is the central platform for fostering debate and innovative thinking, forging consensus on ways forward, and coordinating efforts to achieve internationally agreed goals.
- It is also responsible for the follow-up to major UN conferences and summits.
- The **UN Charter established ECOSOC in 1945 as one of the six main organs of the United Nations.**

Topic 36. IFC SAYS TO STOP FUNDING NEW COAL RELATED INFRA PROJECTS

Important for subject: International Relations

The **International Finance Corporation (IFC)**, which is the **private sector division of the World Bank Group**, has held that it will not support investments in new coal-related projects.

- The International Finance Corporation (IFC) extends **funds to banks and other financial institutions to promote infrastructure and energy projects.**
- The IFC has so far lent around \$5 billion to about 88 financial institutions in India.
- In 2023, the IFC is looking to undertake various steps which are in line with the Paris Agreement ambitions.
- The IFC is looking to **mandate a commitment from financial institution clients to not originate and finance any new coal projects.**
- In 2020, the IFC announced a policy that **mandated clients to reduce their exposure to coal projects by half by 2025, and to zero by 2030**, however, it did not halt any new investments, but the latest update disallows this too.

About the International Finance Corporation (IFC):

- It is an **international financial institution** that offers **investment, advisory, and asset management services to encourage private sector development in developing countries.**

- It is a **member of the World Bank Group** and is headquartered in **Washington, D.C., United States**.
- It was established in 1956 as the private sector arm of the World Bank Group to advance economic development by investing in strictly for-profit and commercial projects that purport to reduce poverty and promote development.
- The **IFC is owned and governed by its member countries**, but has its own executive leadership and staff that conduct its normal business operations.
- It is a **corporation whose shareholders are member governments** that provide paid-in capital and which have the right to vote on its matters.

Roles and functions:

- Since 2009, the IFC has focused on a set of development goals that its projects are expected to target. Its goals are to increase sustainable agriculture opportunities, improve healthcare and education, increase access to financing for microfinance and business clients, advance infrastructure, help small businesses grow revenues, and invest in climate health.
- It offers an array of debt and equity financing services and helps companies face their risk exposures while refraining from participating in a management capacity.
- It advises governments on building infrastructure and partnerships to further support private sector development.

Topic 37. CERT-IN MAY BE EXEMPTED FROM GIVING INFORMATION UNDER RTI ACT, SAYS CENTRE

Important for subject: Polity

The Central Government recently informed that the **Indian Computer Emergency Response Team (CERT-in)** may soon be exempt from responding to queries under the **Right to Information (RTI) Act**.

- The Department of Personnel and Training has reviewed a proposal from the Ministry of Electronics and Information Technology to **include CERT-in in the Second Schedule to the RTI Act, which deals with exempted organisations** like the Central Bureau of Investigation (CBI) and the Border Security Force.

Section 24 and Second Schedule of RTI

- **Section 24 of the RTI Act 2005:** It says that this law is not applicable to the intelligence and security organisations specified in the Second Schedule.
- However, the only exception these organisations have is for information on allegations of corruption and human rights violations.

Second Schedule:

- It includes intelligence and security agencies under its ambit.
- Some of them are (i) Intelligence Bureau (IB), (ii) Research and Analysis Wing (RAW) of the Cabinet Secretariat (iii) Directorate of Revenue Intelligence (DRI), (iv) Special Frontier Force (SFF), (v) Border Security Force (BSF) (vi) National Security Guards (NSG) and (vii) Assam Rifles.

Section 8 of the RTI:

- It deals with **exemption from disclosure of information under this legislation.** It says that there shall be no obligation on Government to provide any citizen information, disclosure which will affect (i) India's sovereignty and integrity, (ii) security, (iii) strategic, scientific or economic interests of the state and (iv) relations with foreign States or (v) will lead to incitement of an offence.
- **About Indian Computer Emergency Response Team (CERT-in):** CERT-In is a functional organisation of the Ministry of Information & Electronics Technology.
- It is the **national nodal agency for responding to computer security incidents** as and when they occur.
- Objective: Securing Indian cyberspace.
- CERT-In has been **operational since January 2004.**

Functions:

- Collection, analysis and dissemination of information on cyber incidents; Forecast and alerts of cyber security incidents; Emergency measures for handling cyber security incidents; Coordination of cyber incident response activities; Issue guidelines, advisories, vulnerability notes and whitepapers relating to information security practices, procedures, prevention, response and reporting of cyber incidents.

Topic 38. GUJARAT HC SETS ASIDE CIC ORDER SEEKING INFORMATION ON PRIME MINISTER'S MA DEGREE, FINES ARVIND KEJRIWAL

Important for subject: Polity

The Gujarat High Court said on Friday, 31 March, that the Prime Minister's Office (PMO) need not furnish PM Modi's undergraduate and post-graduate degree certificate.

- In ruling so, the court set aside an order by the Chief Information Commission (CIC) asking the PMO, Gujarat University and Delhi University to file details of Modi's graduate and post graduate degrees.
- Additionally, the Court has also imposed a ₹25,000 fine on Arvind Kejriwal who had asked for details of the PM's degree certificate.

Exemption from disclosure of information is provided on sec 8 of RTI Act.

- Notwithstanding anything contained in this Act, there shall be no obligation to give any citizen, — information, disclosure of which would prejudicially affect the sovereignty and integrity of India, the security, strategic, scientific or economic interests of the State, relation with foreign State or lead to incitement of an offence; information which has been expressly forbidden to be published by any court of law or tribunal or the disclosure of which may constitute contempt of court; information, the disclosure of which would cause a breach of privilege of Parliament or the State Legislature; information including commercial confidence, trade secrets or intellectual property, the disclosure of which would harm the competitive position of a third party, unless the competent authority is satisfied that larger public interest warrants the disclosure of such information; information available to a person in his fiduciary relationship, unless the competent authority is satisfied that the larger public interest warrants the disclosure of such information; information received in confidence from foreign government information, the disclosure of which would endanger the life or physical safety of any person or identify the source of information or assistance given in confidence for law enforcement or security purposes; information which would impede the process of investigation or apprehension or prosecution of offenders; cabinet papers including records of deliberations of the Council of Ministers, Secretaries and other officers: Provided that the decisions of Council of Ministers, the reasons thereof, and the material on the basis of which the

decisions were taken shall be made public after the decision has been taken, and the matter is complete, or over: Provided further that those matters which come under the exemptions specified in this section shall not be disclosed; information which relates to personal information the disclosure of which has not relationship to any public activity or interest, or which would cause unwarranted invasion of the privacy of the individual unless the Central Public Information Officer or the State Public Information Officer or the appellate authority, as the case may be, is satisfied that the larger public interest justifies the disclosure of such information: Provided that the information, which cannot be denied to the Parliament or a State Legislature shall not be denied to any person.

CIC

- The Chief Information Commissioner(CIC) and Information Commissioners(CI) shall be **appointed by the President on the recommendation of a committee** consisting of The Prime Minister, who shall be the Chairperson of the committee.
- The Leader of Opposition in the Lok Sabha.
- A Union Cabinet Minister to be nominated by the Prime Minister.
- Section 12(5) of the RTI Act 2005 provides that the CIC and IC shall be persons of eminence in public life with wide knowledge and experience in law, science and technology, social service, management, journalism, mass media or administration and governance.
- Also, CIC/IC shall not be a MP or MLA, or hold any other office of profit or connected with any political party or carrying on any business or pursuing any profession.
- **CIC shall hold office for a term of five years** from the date on which he enters upon his office and **shall not be eligible for reappointment**
- Information Commissioner(IC) shall also hold office for a term of five years from the date on which he enters upon his office and shall not be eligible for reappointment of IC. However, IC is eligible for appointment as CIC
- Where the Information Commissioner is appointed as the Chief Information Commissioner, his term of office shall not be more than five years in aggregate as the Information Commissioner and the Chief Information Commissioner.

Topic 39. ICCR TO BUILD AMBASSADOR PROGRAMME AMONG FOREIGN STUDENTS IN INDIA

Important for subject: Polity

The **Indian Council for Cultural Relations (ICCR)** aims to **promote India's cultural and creative heritage globally by using the experiences of over 48,000 foreign students** studying in India as brand ambassadors.

- ICCR will **organize Exit Engagement Evenings (E-3) with foreign students** in various Central and State universities, institutes, and agricultural colleges of the country, three or four months before they finish their courses.
- In April 2022, **ICCR launched the India Alumni Portal**, a platform to connect with foreign students worldwide who have studied in India.
- **Values shown:** Cultural Diplomacy, Soft Diplomacy, Brand Ambassadorship, International Education, Networking, and Alumni Engagement.

About ICCR

- The **Indian Council for Cultural Relations (ICCR)** was founded in 1950 by **Maulana AbulKalam Azad**.
- It is an **autonomous organisation of the Government of India**, involved in India's external cultural relations i.e., cultural diplomacy.
- Its **objectives are:** to actively participate in the formulation and implementation of policies and programmes pertaining to India's external cultural relations. to foster and strengthen cultural relations and mutual understanding between India and other countries, to promote cultural exchanges with other countries and people, and to develop relations with nations.
- It is **running 36 cultural centres in different countries** with the promotion of Indian culture and projecting India as a hub for higher education.

It **instituted several awards for foreign nationals** as a way to promote India's culture abroad:

- Distinguished Indologist Award
- World Sanskrit Award

- Distinguished Alumni Award – Citation and Plaque
- Gisela Bonn Award

Topic 40. LOKPAL CLOSES 68% GRAFT COMPLAINTS AGAINST OFFICERS WITHOUT ACTION: REPORT

Important for subject: Polity

- According to a report, close to **68% of corruption complaints against public functionaries filed with the Lokpal of India were disposed of without any action in the last four years.**
- Further, it was seen that the **Lokpal has not prosecuted even a single person accused of graft to date.**
- **The Lokpal of India is the country's first anti-corruption office established under the Lokpal and Lokayuktas Act, 2013 to investigate complaints against public functionaries, including the Prime Minister.**
- Although the Lokpal and Lokayuktas Act was enacted in 2013, India's first Lokpal, Justice Pinaki Chandra Ghosh along with eight other members were appointed only in March 2019.
- As per the data provided by the Lokpal office to a parliamentary panel on the Department of Personnel and Training (DoPT), since 2019-20, Lokpal had received about 8,703 complaints, out of which only 5,981 complaints were disposed of and the office said that only three complaints were fully investigated.
- Additionally, close to 90% of the complaints were rejected for not being "in the prescribed format".
- The Lokpal was allocated a budget of ₹197 crores in 2022-23 and till the end of January 2023, the Lokpal had incurred an expenditure of ₹152 crores.

About Lokpal:

- The Lokpal is an **independent statutory body** established under **Section 3 of the Lokpal and Lokayuktas Act, 2013.**
- The Act allows for setting up of anti-corruption ombudsman called Lokpal at the Centre.

Composition:

- The Lokpal will consist of a chairperson and a maximum of eight members.
- Chairperson should have been a Chief Justice of India, or is or has been a judge of the Supreme Court, or an eminent person who fulfils eligibility criteria as specified.
- 50% of the members are to be judicial members provided that not less than 50% of the members belong to the Scheduled Castes, Scheduled Tribes, OBCs, minorities, and women.

Inquiry Wing:

- Lokpal will have an Inquiry Wing for conducting preliminary inquiry into any offence alleged to have been committed by a public servant punishable under the Prevention of Corruption Act, 1988.

Prosecution Wing:

- It will also have a Prosecution Wing for the prosecution of public servants in relation to any complaint by the Lokpal under this Act.
- **Powers:**
- The Lokpal will have the **power of superintendence and direction over any investigation agency including CBI for cases referred to them by the ombudsman.**
- As per the Act, the Lokpal can summon or question any public servant if there exists a prima facie case against the person, even before an investigation agency (such as vigilance or CBI) has begun the probe.
- Any officer of the CBI investigating a case referred to it by the Lokpal, shall not be transferred without the approval of the Lokpal.
- An **investigation must be completed within six months.** However, the Lokpal or Lokayukta may **allow extensions of six months at a time provided the reasons for the need of such extensions are given in writing.**
- Special courts will be instituted to conduct trials on cases referred by Lokpal.

Jurisdiction of Lokpal:

- It covers a **wide range of public servants — from the Prime Minister (PM),**

ministers and MP, to groups A, B, C, D officers of the central government including the chairperson and members of the Lokpal. However, there are some exceptions for PM:

- Lokpal cannot inquire allegations against the PM relating to international relations, external and internal security, public order, atomic energy, and space.
- Also, complaints against the PM are not to be probed unless the full Lokpal bench considers the initiation of inquiry and at least 2/3rds of the members approve it.
- Such an inquiry against the Prime Minister (if conducted) is to be held in camera and if the Lokpal concludes that the complaint deserves to be dismissed, the records of the inquiry are not to be published or made available to anyone.

Topic 41. NEW PANEL FOR SOLVING ISSUE OF STALLED HOUSING PROJECT FORMED

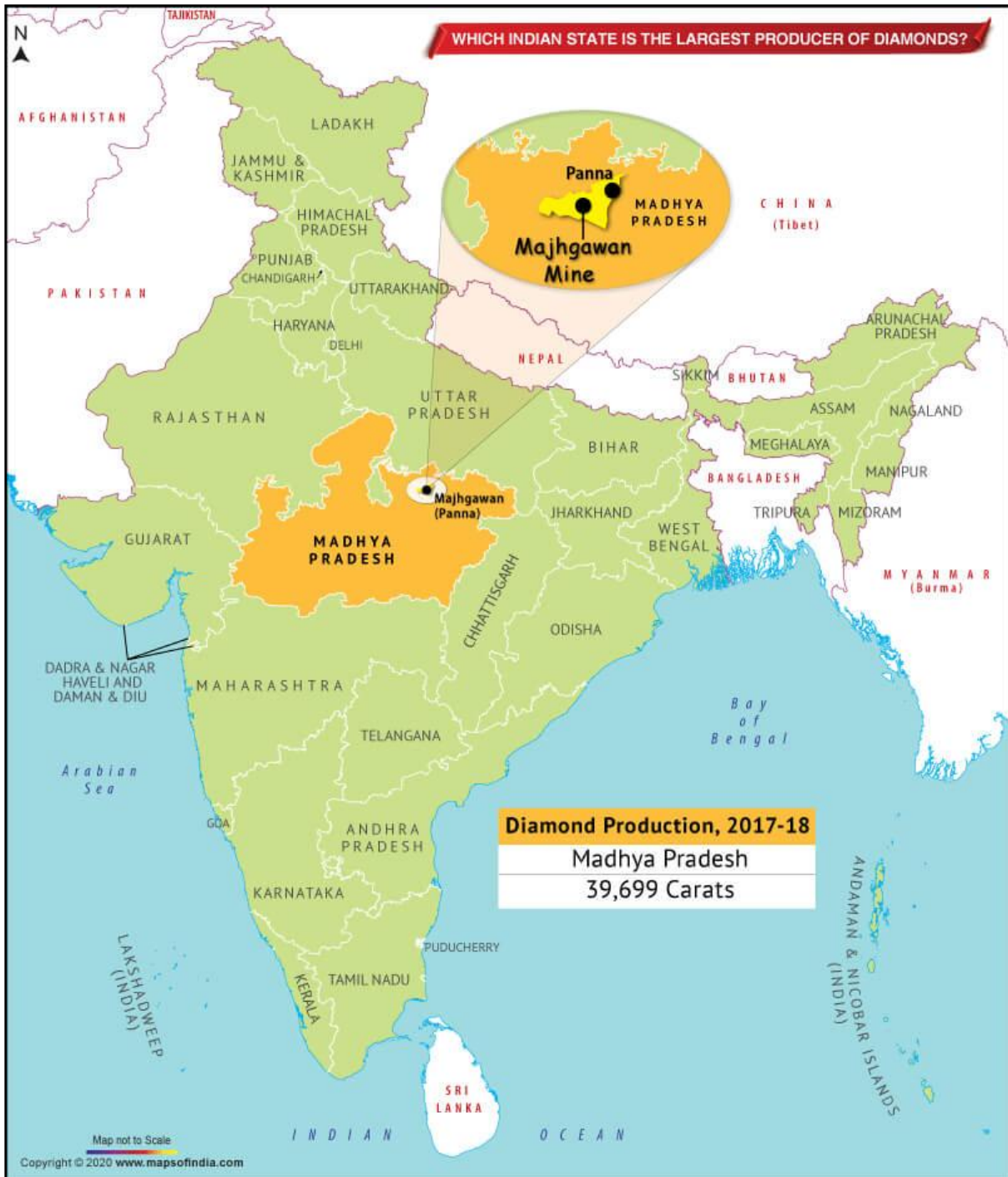
Important for subject: Polity

The Union Housing and Urban Affairs Ministry **has set up a 14-member committee headed by former NITI Aayog CEO Amitabh Kant**, to examine issues related to stalled real estate projects and recommend various ways for their completion.

- The panel will deliberate on the **issues of legacy stalled projects** and **suggest ways to complete and hand over these projects to homebuyers in a timebound manner**, the Ministry order states.
- The ministry has notified the formation of the committee almost a year after the Central Advisory Council (CAC) headed by Housing and Urban Affairs Minister Hardeep Singh Puri decided to set up the committee.
- **Note:** Legacy Project means old and hard to complete projects.

Topic 42. DIAMOND MINING IN PANNA

Important for subject: Geography



NMDC, the country’s largest iron ore miner, reportedly hopes to rope in State Forest Research Institute (SFRI) at Jabalpur, to study tiger movement and other environmental factors **at Panna (in Madhya Pradesh), where it plans to resume diamond mining.**

- NMDC has written to the State Forest Research Institute (SFRI), Jabalpur for

providing their consent and budgetary offer for conducting such studies in consultation with Panna Tiger Reserve and PCCF (WL) Bhopal.

Panna Diamond Mines

- For 3,000 years, India was the only source of diamonds globally until diamond deposits were located in Brazil and South Africa.
- Panna's mines have been supplying precious diamonds for thousands of years.
- In India, the state-controlled National Mineral Development Corporation (NMDC) is the only organised producer of diamonds from its **Majhgawan mine in the Panna region**.
- **Majhgawan mine** is the only Diamond mine in Asia.
- **NMDC Panna is the only diamond mine in the country with more than 74 hectares of mechanised mining.**
- However, small mines of Panna are open cast mines that use traditional techniques and hand tools. Most of them are operated illegally.

Tiger reserve v/s mining

- The Panna Tiger Reserve (PTR) is one of the most critical habitats of tigers in India.
- In 2009, there were no tigers left in the PTR but after a series of measures now, the tiger reserve has around 50 tigers in it.
- For protecting the tiger habitat, authorities are curbing mining activities in the forest by imposing fines.
- The NMDC's diamond mine is also under pressure to phase out its operation. The operation was suspended as the mine's environmental clearance came to an end on December 31, 2020, but later resumed after state government intervention.

About Panna Tiger Reserve:

- The Panna tiger reserve is **situated in the Vindhya Mountain range** in the northern part of Madhya Pradesh.
- **Ken river (a tributary of the Yamuna River) flows through the reserve.**
- The region is also famous for Panna diamond mining.
- **Ken-Betwa River interlinking project** will be located within the tiger reserve.

- As of 2021, the reserve has a population of around 50 tigers, and efforts are being made to increase this number.

Topic 43. IN BISON HILLS, WEDDING BELLS FALL SILENT AS KONDA REDDI TRIBALS FACE ‘CULTURAL TRAUMA’

Important for subject: Geography

A **Konda Reddi tribal habitation** to be rehabilitated for the Polavaram irrigation project in Alluri Sitaramaraju district. Konda Reddi tribal community perform rituals that are associated with river Godavari, but with resettlement and rehabilitation the tribals are in a cultural shock.

About Polavaram Project:

- The present Polavaram Irrigation Project is a modified proposal of the Ramapada Sagar Project.
- It is an **under-construction multi-purpose irrigation National project on the Godavari River in Andhra Pradesh.**
- It will facilitate an **inter-basin water transfer from the Godavari River to the Krishna river** through its Right canal.
- Its reservoir spreads in parts of **Chhattisgarh and Orissa States also.**
- The project is a multipurpose major terminal reservoir project for the development of Irrigation, Hydropower and drinking water facilities.
- The project was started in 2008, accorded national status in 2014 in the Andhra Pradesh Bifurcation Act.
- The Andhra Pradesh government extended the completion date to the 2022 Kharif season.

The Godavari River:

- The Godavari is the **largest Peninsular River system.** It is also called the Dakshin Ganga.
- It rises in the Nasik district of Maharashtra and discharges its water into the Bay of Bengal.
- The Godavari basin extends over states of Andhra Pradesh, Chhattisgarh, Maharashtra, Telangana, Madhya Pradesh, Odisha, Karnataka, Puducherry.

- The Pravara, Manjira and Maner are right bank tributaries and the Purna, Pranhita, Indravathi and Sabari are important left-bank tributaries.

Topic 44. UN TO START ALLOWING DEEP SEA MINING OPERATIONS FROM JULY

Important for subject: Geography

After two weeks of negotiations, the International Seabed Authority has decided that it will start taking permit applications in July from companies that want to mine the ocean's floor.

- The undersea mining will be conducted to extract key battery materials — **cobalt, copper, nickel, and manganese** — from potato-sized rocks called “polymetallic nodules” found at **depths of 4 kilometres to 6 kilometres**.
- The UN's decision to take deep-sea mining applications comes when there is no mining code in place.
- Several countries have insisted that industrial undersea mining should require strict rules.

Deep Sea Mining

- Deep sea mining is a **growing subfield of experimental seabed mining** that involves the retrieval of minerals and deposits **from the ocean floor found at depths of 200 metres (660 ft), up to 6,500 metres (21,300 ft)**.

Where are the deep-sea minerals located?

- The deep sea contains three **primary sources for mining critical minerals**:
- Potato-size **manganese nodules** (rich in manganese, cobalt, copper, nickel, and rare earth elements);
- **Deposits of sulfur-containing minerals** around underwater openings known as hydrothermal vents; and **Cobalt-rich crusts** lining the sides of mid-ocean ridges and underwater mountains, also known as seamounts.
- The majority of proposed deep sea mining sites are near of polymetallic nodules or active and extinct hydrothermal vents at 1,400 to 3,700 metres below the ocean's surface.
- The vents create globular or massive sulfide deposits, which contain valuable metals

such as silver, gold, copper, manganese, cobalt, and zinc.

- The deposits are mined using either hydraulic pumps or bucket systems that take ore to the surface to be processed.

Note:

- The **Clarion-Clipperton Zone** that spans 1.7 million square miles between **Hawaii and Mexico, and it is a potential hotbed for critical minerals.**
- The **Clipperton Fracture Zone**, is a **geological submarine fracture zone of the Pacific Ocean, with a length of around 4500 miles (7240 km).** The fracture, an unusually mountainous topographical feature, begins east-northeast of the Line Islands and ends in the Middle America Trench off the coast of Central America.

Concern:

- The draft decision of ISA's governing council allows companies to file permit applications from July 9.
- In the absence of a mining code, which has been under discussion for nearly 10 years, the 36-member council is uncertain about the process it should adopt for reviewing applications for mining contracts.

Mining Code/ Regulatory Framework

- The mining code currently under development lacks sufficient knowledge of the deep sea and a thorough assessment of environmental impacts of mining operations that are necessary to ensure effective protection of deep-sea life, according to IUCN experts.
- An effective regulatory framework is needed to avoid lasting harm to the marine environment, based on high-quality environmental impact assessments and mitigation strategies.
- These, in turn, must be based on comprehensive baseline studies to improve the understanding of the deep sea, which remains understudied and poorly understood.

United Nations Convention On The Law Of The Sea (UNCLOS)

- The United Nations Convention on the Law of the Sea (UNCLOS), also called the Law of the Sea Convention or the Law of the Sea Treaty is an **international agreement that establishes a legal framework for all marine and maritime**

activities.

- 167 countries and the European Union are parties to the convention.
- UNCLOS came into force in 1994.
- It lays down a comprehensive regime of law and order in the world's oceans and seas establishing rules governing all uses of the oceans and their resources.

Topic 45. UNSEASONAL RAIN IS A NATURAL CALAMITY: MAHARASHTRA

Important for subject: Geography

In a move to provide relief to affected farmers, the Maharashtra cabinet said unseasonal rains will be considered a natural calamity in the state.

Background

- Crops of several farmers were damaged in unseasonal rains and hailstorms in Maharashtra last month. The Opposition had demanded that the state government give immediate relief to the affected farmers.

How does the Law define a Disaster?

- Disaster Management Act, 2005 defines a 'disaster' as a **catastrophe, mishap, calamity or grave occurrence in any area** – arising from natural or man-made causes, or by accident or negligence.
- A **natural disaster includes earthquake, flood, landslide, cyclone, tsunami, urban flood, heatwave**; a man-made disaster can be nuclear, biological and chemical.
- It results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.

Provisions to Classify a National Calamity

- There is **no provision, executive or legal, to declare a natural calamity as a national calamity.**
- The **existing guidelines of the State Disaster Response Fund (SDRF)/ National Disaster Response Fund (NDRF), do not contemplate declaring a disaster as a 'National Calamity.'**

Earlier Attempts in this Direction

- The **10th Finance Commission (1995-2000)** examined a proposal that a disaster is termed “a national calamity of rarest severity” if it affects one-third of the population of a state.
- The panel did not define a “calamity of rare severity” but stated that a calamity of rare severity would necessarily have to be adjudged on a case-to-case basis taking into account.
- The intensity and magnitude of the calamity
- Level of assistance needed
- The capacity of the state to tackle the problem
- The alternatives and flexibility were available within the plans to provide succour and relief, etc.
- In **2001, the National Committee on Disaster Management** under the chairmanship of the then Prime Minister was mandated to look into the parameters that should define a national calamity.
- However, the committee did not suggest any fixed criterion.

Local Disaster:

- A **State Government may use up to 10 per cent of the funds available under the SDRF for providing immediate relief to the victims of natural disasters that they consider to be ‘disasters’ within the local context in the State and which are not included in the notified list of disasters of the Ministry of Home Affairs**
- Important for subject to the condition that the **State Government has listed the State-specific natural disasters and notified clear and transparent norms and guidelines for such disasters with the approval of the State Authority, i.e., the State Executive Authority (SEC).**

Topic 46. FAMED US MUSEUM TO REPATRIATE STOLEN ARTEFACTS

Important for subject: History

The Metropolitan Museum of Art, New York, is returning 15 antiquities to the Government of India after having learned that these were “illegally removed” from India.

Art works returned

- The sculptures **date back from the 1st century BCE to the 11th century CE**, and include terracotta, copper, and stone works.
- Among the antiquities is an enthralling **sandstone sculpture of Apsara**, the celestial dancer.
- The 33.5inch tall sculpture **from Madhya Pradesh dates back to the mid 11th century CE** and is worth \$10,00,000 (around ₹ 82crore).
- A 1st century BCE ceramic pot from Chandraketugarh (archaeological site near Kolkata), a **stone bust of Kamadeva**, the God of Love, from the second half of the 8th century CE, and a **Svetambara enthroned Jina**, with attendant Yaksha and Yakshi, belonging to the 11th century CE, are also part of the antiquities.

Apsara Sculpture

- An apsara is a **heavenly dancer and celestial maiden who accompanies the gods in Hindu mythology.**
- Featuring prominently in sculpture, dance, literature and painting from India, Indonesia, China and Cambodia, apsaras are thought to personify the performing arts.
- This **sensual, sandstone figure came from the walls of a Hindu temple at Khajuraho in North India.**
- She stands **relaxedly in a tribhanga pose**, a gentle, curving S-shaped stance constituted by three bends in the body at the neck, waist and knee.
- This **posture is considered one of the most graceful and sensual of the positions in the Odissi, a major Indian classical dance** that originated in the Hindu temples of Odisha, an eastern coastal state of India. Her lyrical curves evoke the lilting rhythm of music and dance.
- Kama (desire, longing or enjoyable experience) is a central tenet of Hinduism and is considered an integral part of spirit and creation.

Topic 47. PATTANAM MYSTERY

Important for subject: History

Pattanam is a village in central Kerala. It is said to be the only multicultural archaeological site on the southwestern coast of the Indian subcontinent.

- Pattanam is a part of Muziris which is called the ‘first emporium’ of the Indian Ocean.
- The Greco-Roman classical age came into direct contact with an ancient South Indian civilization in Muziris.
- The excavations in Pattanam **highlight that there was no caste or institutionalized creed and use of weapons**. Moreover, it was a **thriving urban centre with a secular society**. However, much of the region remains to be excavated.

Excavations in Pattanam

- The excavations in the region have unearthed less than 1% of the site.
- More than 45 lakh sherds (or ceramic fragments) have been unearthed from the region. These comprise around 1.4 lakh items belonging to regions of the Mediterranean, the River Nile, the Red Sea, the eastern and western Indian Oceans, and the South China Sea.
- The **seal of a sphinx** was also found, which **belongs to the ancient Greek city of Thebes**.
- Based on technological, metallurgical, literary, and artistic advances, it is found that there were rigorous cultural and commercial exchanges in Pattanam.
- It is thus inferred that **Pattanam was a thriving urban centre that existed from the 5th century B.C. till the 5th century A.D.** Moreover, a **peak phase was experienced from 100 B.C. to A.D. 300**.
- Notably, there is **no evidence of the existence of institutionalized religion in ancient Pattanam**. Moreover, there are **no findings of the graded inequality of the caste system that has described contemporary Kerala and most of India**.
- It should be **noted that Pattanam lacks sophisticated weaponry**. This is in stark contrast to other contemporary sites like Berenike in Egypt and Khor Rori in Oman.
- The fragmentary skeleton remains at graves highlight the “secondary” nature of burial. The dead were first cremated and then osseous remains were ceremoniously buried.
- Furthermore, **people of different backgrounds were buried in the same way**.

- Thus, suggesting the prevalence of a **secular ethos**.
- The genotype and ancestry analyses of samples show the link to South Asian, West Asian, and Mediterranean lineages.
- **No artefact indicates any religious customs.**
- Material evidence highlights that the society lived in harmony with nature, much like the several indigenous societies.
- However, much of the site remains to be unearthed.

Topic 48. THIRRA DANCE FORM

Important for subject: History

Recently, ‘Nagaraja Thira’ was celebrated at the Sree Muchilottu temple at Kuthiravattom in Kozhikode.

Thirra Dance

- Thirra or Theyyam thira is a **ritual dance performed in “Kaavu”(grove)& temples of the Malabar region in Kerala State, South India.**
- This art form is performed by the **artists of malaya** (the artist who recognised for performing the art form called as a “perumalayan”) **community**. This art is performed during Utsavam (annual temple festival). Clan deities such as Bhagavathi, Shiva are worshipped in these forms.
- **Theyyam thira is main sub division of Theyyam.** It is similar to the Theyyam dance performed in the same region, except that in Theyyam the performer is considered as the god he is representing, while in Thira the performer is considered as to be possessed by god. Thira brings the gods to life. Performers dress up with ceremonial facial paint and loud clothing and dance in front of the deity, the bhagavathi.
- The objective clearly is to bring a sense of awe to the proceedings. Each performer represents a particular deity and is sponsored by devotees as a prayer offering. These dancers are viewed as being possessed by the gods when they are in their act, with devotees queuing up to meet them to share woes and wishes. The performers belong to the “Peruvannan” caste of, who are given prime importance in Thira. Therefore in Kerala, both upper caste Brahmins, and lower caste tribals have an important place in worship.

Topic 49. STAND UP INDIA SCHEME

Important for subject: Governmental Schemes

The Union Government has released data about the funds sanctioned under the Stand-Up India Scheme.

About Stand-up India Scheme

- Stand up India scheme was launched in 2016. The scheme is anchored by
- Department of Financial Services (DFS), Ministry of Finance, Government of India.
- The scheme was launched to encourage entrepreneurship at the grassroots level especially for promoting economic empowerment and employment generation among SC, ST and women entrepreneurs.
- It does so by helping them to start a greenfield enterprise in manufacturing, services or the trading sector and activities allied to agriculture.
- Stand-Up India Scheme facilitates bank loans between Rs 10 lakh and Rs 1 Crore to at least one Scheduled Caste (SC) or Scheduled Tribe (ST) borrower and at least one woman borrower per bank branch for setting up a greenfield enterprise.
- The scheme endeavors to create an eco-system that facilitates and continues to provide a supportive environment for doing business. The scheme seeks to give access to loans from bank branches to borrowers to help them set up their enterprises.
- The scheme, which covers all branches of Scheduled Commercial Banks, will be accessed in three potential ways:
 - Directly at the branch or,
 - Through Stand-Up India Portal or,
 - Through the Lead District Manager (LDM).

Who all are eligible for a loan?

- SC/ST and/or women entrepreneurs, above 18 years of age; Loans under the scheme are available for only greenfield projects. Greenfield signifies; in this context, the first time venture of the beneficiary in manufacturing, services or the trading sector and activities allied to agriculture.
- In the case of non-individual enterprises, 51 per cent of the shareholding and

controlling stake should be held by either SC/ST and/or Women Entrepreneur.

- Borrowers should not be in default to any bank/financial institution.
- The Scheme envisages 'upto 15 per cent' margin money which can be provided in convergence with eligible Central/State schemes. While such schemes can be drawn upon for availing admissible subsidies or for meeting margin money requirements, in all cases, the borrower shall be required to bring in a minimum of 10 per cent of the project cost as own contribution.

Monitoring of Scheme

- Scheme is **monitored and its performance is reviewed periodically at various levels** such as District Level Consultative Committee (DLCC), State Level Implementation Committee (SLIC), State Level Bankers' Committee (SLBC), through video conference with banks, etc.

Topic 50. THE ATAL PENSION YOJANA

Important for subject: Governmental Scheme

The Atal Pension Yojana was introduced by the Modi-led government to make amends to the already existing National Pension Scheme. In a bid to make the people of India aware of the necessity of having a retirement corpus, either as an investment or to earn a monthly pension, the Atal Pension Yojana aims at giving pensioners a fixed monthly income. Subscribers of this scheme are not allowed to make withdrawals before the time of maturity – retirement age or 60 years – and can earn a monthly pension income between Rs.1,000 to Rs.5,000, depending on their contribution through the tenure.


- **The eligibility criteria for Atal Pension Yojana are listed below:**
- The subscriber when applying should be between 18 to 20 years of age as a minimum of 20 years of contribution before retirement is required.
- Should have a savings account from which the contribution will be automatically debited towards the scheme.
- Should provide the regular KYC documents, preferably Aadhaar card.
- Should have their mobile registered with the bank holding their account.

Financial Index

- The Reserve Bank of India(RBI) announced the formation of a composite Financial Inclusion Index (FIIndex) to capture the **extent of financial inclusion across the country.**
- The FIIndex for the **period ended March 2021 stood at 53.9** compared with 43.4 for the period ended March 2017.
- The annual FIIndex will be **published in July every year**, the RBI said in a release.
- The index incorporates details of banking, investments, insurance, postal as well as the pension sector in consultation with the government and respective sectoral regulators.
- The index captures information on various aspects of financial inclusion in a single value ranging between 0 and 100, **where 0 represents complete financial exclusion and 100 indicates full financial inclusion.**
- The FI Index comprises three broad parameters (weights indicated in brackets)
- **Access (35 percent), Usage (45 percent), and Quality (20 per cent)** with each of these consisting of various dimensions, which are computed based on a number of indicators.
- It has been constructed **without any 'base year'**.
- A unique feature of the index is the **Quality parameter** that captures the quality aspect of financial inclusion as reflected by financial literacy, consumer protection, and inequalities and deficiencies in services

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