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WTO TRIPS WAIVER AND COVID-19 VACCINE EQUITY

In October 2020, **India and South Africa** had submitted a proposal to the WTO, suggesting a **waiver for certain provisions of the TRIPS Agreement** for the **prevention, containment or treatment of COVID-19**. Though the TRIPS Council members agreed to **text-based negotiations**, the latest developments show that discussions hit a hurdle due to a **split** between the developed and developing countries over the negotiation text. If agreed, the waiver will help India **address the public health crisis** by producing more vaccines and distributing them at home; economically, by boosting its generic pharmaceutical industry, and diplomatically, providing vaccines to the developing and least-developed countries. Therefore, India should use all available means and methods, from trade-offs to pressurising, to make the waiver happen.

In October 2020, India and South Africa had submitted a proposal to the World Trade Organization (WTO), suggesting a waiver of certain provisions of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement for the “prevention, containment and treatment of COVID-19”. The proposal seeks the waiver of “**the implementation, application, and enforcement of sections 1, 4, 5 and 7 of part II of the TRIPS agreement**”, which are stipulations referring to copyright, industrial design, patents, and undisclosed information (trade secrets).¹ The proponents of the proposal argue that a waiver will enable timely and equitable access to affordable health products and technologies, including vaccines.

Though many member countries had supported and co-sponsored the proposal, a small but **influential group** of countries, mainly **Australia, Canada**, the European Union (**EU**), **Japan**, the United Kingdom (**UK**) and the United States (**US**), opposed it. They argued that **existing exceptions** under the TRIPS Agreement **are sufficient to address the concerns** mentioned in the proposal. This resulted in sidelining of the waiver proposal for months. However, on **5 May 2021**, the Joseph Biden administration announced its support for **waiving intellectual property protections for COVID-19 vaccines**. It was a significant step towards breaking the seven-month gridlock, and led to many more countries modifying their position on the waiver proposal.

On 25 May 2021, the co-sponsors of the waiver proposal submitted a revised proposal that specified the

scope of the waiver as applying to “health products and technologies” and also added a section on the proposed duration of the waiver, i.e., three years. At present, more than 100 countries, including the US and China support this proposal. The **principal opponent of the waiver** is the EU and in June 2021, it **submitted an alternative proposal** to the TRIPS Council, which requested to **keep TRIPS’ provisions intact** and focused on compulsory licensing and removing vaccine export restrictions to address the concerns raised by India and South Africa. The EU proposal also stated that the TRIPS Agreement **does not prevent countries** from taking measures to protect public health.

At the meeting of the TRIPS Council on 8–9 June 2021, the member states agreed to **text-based negotiations** focusing on two proposals tabled by members. The members also decided to hold a series of meetings till the end of July 2021 to take stock of the text-based negotiations. However, the latest developments show that the **waiver discussions hit a hurdle** due to a **split** between the **developed** and **developing countries** over the negotiation text. This brief discusses how TRIPS becomes a barrier to the equitable access of COVID-19 vaccines. It also examines how a waiver will help India in its fight against COVID-19 at home and abroad.

TRIPS and its Exceptions

TRIPS, a comprehensive multilateral agreement on Intellectual Property (IP), were an outcome of the **Uruguay Round** (1986–94) of negotiations of the General Agreement on Tariffs and Trade (**GATT**). The Agreement came into force on 1 January 1995 and offers a **minimum standard of protection** for **Intellectual Property Rights (IPR)**. In WTO, IPR are divided into two main categories. First, **copyright and related rights** (Articles 9 to 14, Part II of the TRIPS Agreement). Second, **industrial property** that includes **trademarks, geographical indications, industrial designs, patents, integrated circuit layout designs, and undisclosed information** (Articles 15 to 38, Part II of the TRIPS Agreement).

Article IX.3 and IX.4 of the **Marrakesh Agreement** Establishing the WTO deals with TRIPS waivers. Article IX.3 says that in “**exceptional circumstances**” the Ministerial Conference may waive off an obligation imposed on WTO member countries. Such a decision requires the support of three-fourths of the WTO membership. According to Article IX.4, any waiver granted for more than one year will be

reviewed by the Ministerial Conference. Based on the annual review, the Conference may extend, modify, or terminate the waiver.

The TRIPS Agreement provides some flexibility primarily in the form of compulsory licensing and research exceptions through Articles 30 and 31. While Article 30 permits WTO members to make limited exceptions to patent rights, Article 31 provides a detailed exception, provided certain conditions are met. Compulsory licensing is the process of granting a license by a government to use a patent without the patent holder's consent. Article 31 permits granting compulsory license under circumstances such as “national emergencies”, “other circumstances of extreme urgency”, “public noncommercial use”, or against “anti-competitive” practices.

In addition to these original waivers, the Declaration on the **TRIPS Agreement and Public Health**, adopted at the **2001 Doha Ministerial Meeting**, also recognises some exceptions, for instance, in situations of a public health emergency, member countries have the freedom to determine the grounds upon which compulsory licenses are granted. Similarly, under Article 66.1, the least developed countries (**LDCs**) are given waivers for implementing TRIPS on **pharmaceuticals** till 1 January 2033.

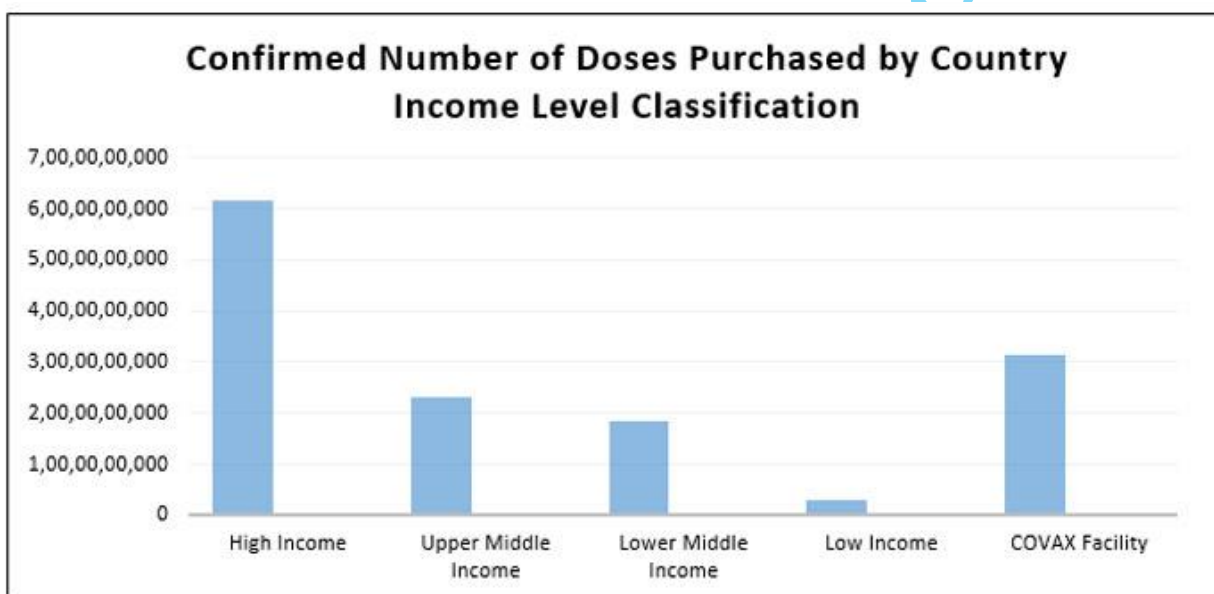
COVID-19 and TRIPS Waiver

Two significant factors rekindled the debate on TRIPS waiver for essential medical products—first, vaccine inequity, and second, the insufficiency of existing waiver provisions in fighting the COVID-19 pandemic. COVID-19 is an exceptional circumstance, and equitable global access to the vaccine is necessary to bring the pandemic under control. However, the world is witnessing quite the reverse, i.e., vaccine nationalism. Vaccine nationalism is “my nation first” approach to securing and stockpiling vaccines before making them available in other countries. A TRIPS waiver would be instrumental in addressing the growing inequality in the production, distribution, and pricing of the COVID-19 vaccines.

Vaccine Inequity

According to Duke Global Health Innovation Center, which monitors COVID-19 vaccine purchases,

rich nations representing just 14 per cent of the world population have bought up to 53 per cent of the most promising vaccines so far. As of 4 July 2021, the high-income countries (HICs) purchased more than half (6.16 billion) vaccine doses sold globally. At the same time, the low-income countries (LICs) received only 0.3 per cent of the vaccines produced. The low and middle-income countries (LMICs), which account for 81 per cent of the global adult population, purchased 33 per cent, and COVAX (COVID-19 Vaccines Global Access) has received 13 per cent. Many HICs bought enough doses to vaccinate their populations several times over. For instance, Canada procured 10.45 doses per person, while the UK, EU and the US procured 8.18, 6.89, and 4.60 doses per inhabitant, respectively.



Consequently, there is a significant disparity between HICs and LICs in vaccine administration as well. As of 8 July 2021, 3.32 billion vaccine doses had been administered globally. Nonetheless, only one per cent of people in LICs have been given at least one dose. While in HICs almost one in four people have received the vaccine, in LICs, it is one in more than 500. The World Health Organization (WHO) notes that about 90 per cent of African countries will miss the September target to vaccinate at least 10 per cent of their populations as a third wave looms on the continent. South Africa, the most affected African country, for instance, has vaccinated less than two per cent of its population of about 59 million. This is in contrast with the US where almost 47.5 per cent of the population of more than 330

million has been fully vaccinated. In Sub-Saharan Africa, vaccine rollout remains the slowest in the world. According to the International Monetary Fund (IMF), at current rates, by the end of 2021, a massive global inequity will continue to exist, with Africa still experiencing meagre vaccination rates while other parts of the world move much closer to complete vaccination.

This vaccine inequity is not only morally indefensible but also clinically counter-productive. If this situation prevails, LICs could be waiting until 2025 for vaccinating half of their people. Allowing most of the world's population to go unvaccinated will also spawn new virus mutations, more contagious viruses leading to a steep rise in COVID-19 cases. Such a scenario could cause twice as many deaths as against distributing them globally, on a priority basis. Preventing this humanitarian catastrophe requires removing all barriers to the production and distribution of vaccines. TRIPS is one such barrier that prevents vaccine production in LMICs and hence its equitable distribution.

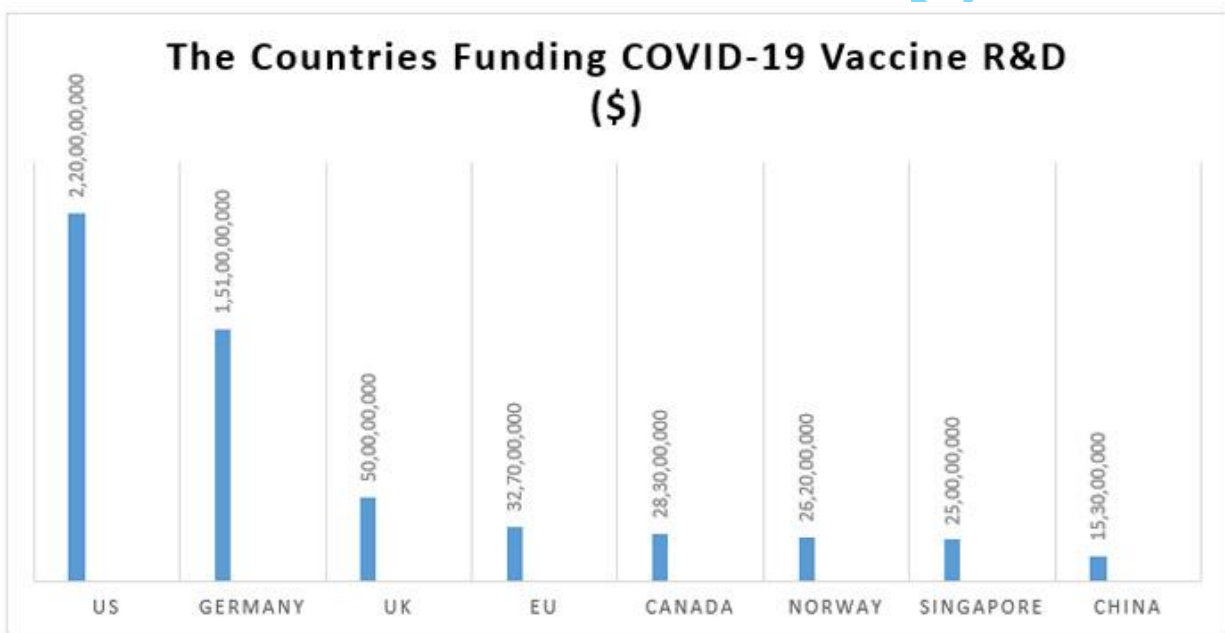
TRIPS: Barrier to Equitable Health Care Access

The opponents of the waiver proposal argue that IPR are not a significant barrier to equitable access to health care, and existing TRIPS flexibilities are sufficient to address the COVID-19 pandemic. However, history suggests the contrary. For instance, when South Africa passed the Medicines and Related Substances Act of 1997 to address the HIV/AIDS public health crisis, nearly 40 of world's largest and influential pharma companies took the South African government to court over the violation of TRIPS. The Act, which invoked the compulsory licensing provision, allowed South Africa to produce affordable generic drugs. The Big Pharma also lobbied developed countries, particularly the US, to put bilateral trade sanctions against South Africa.

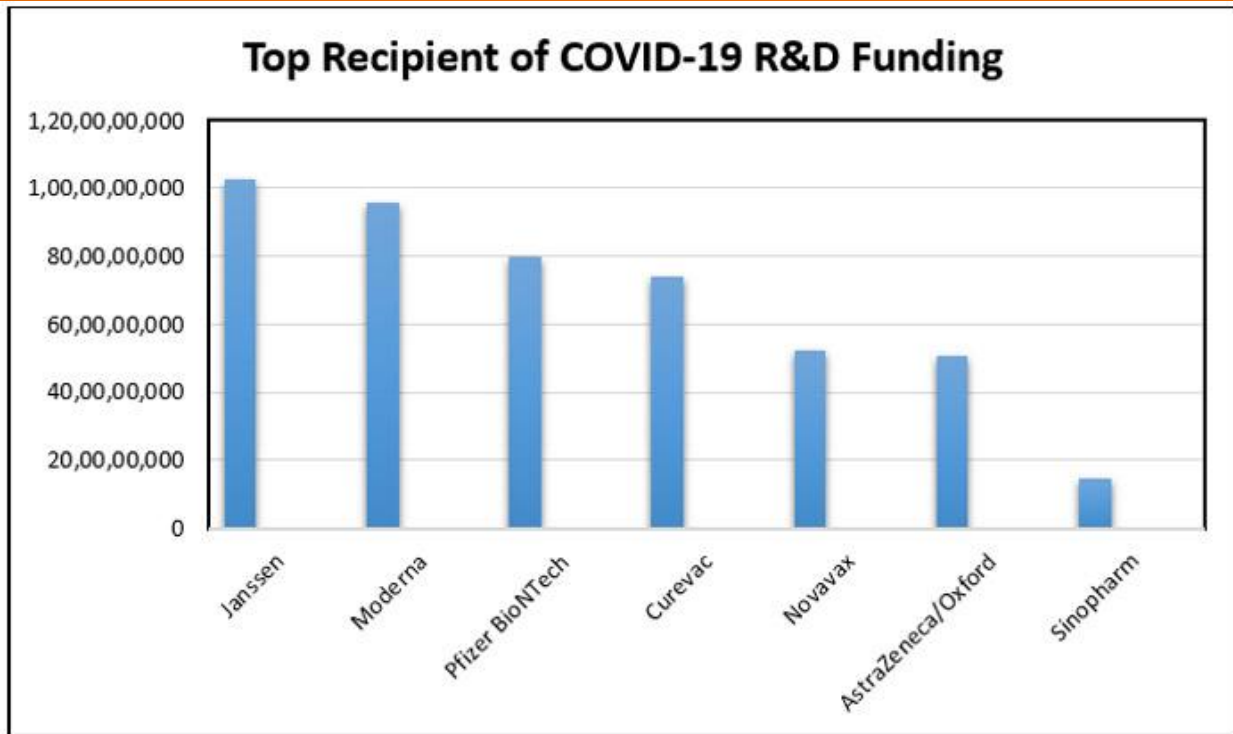
Similarly, when Indian company Cipla decided to provide generic antiretrovirals (ARVs) to the African market at a lower cost, Big Pharma retaliated through patent litigations in Indian and international trade courts and branded Indian drug companies as thieves. Another instance was when Swiss company Roche initiated patent infringement proceedings against Cipla's decision to launch a generic version of cancer drug, "erlotinib". Though the Delhi High Court initially dismissed Roche's appeal by citing "public interest" and "affordability of medicines," the continued to pressure the generic pharma companies over IPR. Likewise, Pfizer's aggressive patenting strategy prevented South Korea in

developing pneumonia vaccines for children.

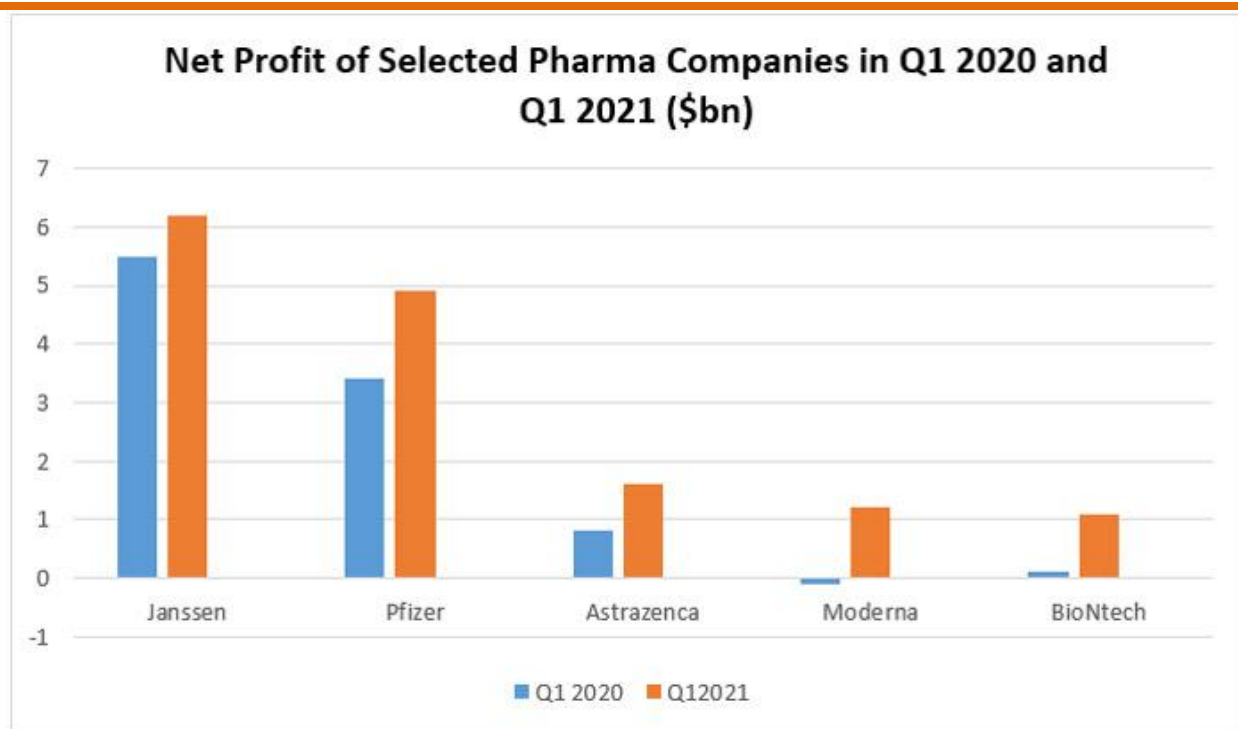
A recent document by Médecins Sans Frontières (MSF), or Doctors Without Borders, highlights various instances of how IP hinders manufacturing and supply of diagnostics, medical equipment, treatments and vaccines during the COVID-19 pandemic. For instance, during the peak of the COVID-19 first wave in Europe, Roche rejected a request from the Netherlands to release the recipe of key chemical reagents needed to increase the production of diagnostic kits. Another example was patent holders threatening producers of 3D printing ventilators with patent infringement lawsuits in Italy. The MSF also found that patents pose a severe threat to access to affordable versions of newer vaccines.



The opponents of the TRIPS waiver also argue that IP is the incentive for innovation and if it is undermined, future innovation will suffer. However, most of the COVID-19 medical innovations, particularly vaccines, are developed with public financing assistance. Governments spent billions of dollars for COVID-19 vaccine research. Notably, out of \$6.1 billion in investment tracked up to July 2021, 98.12 per cent was public funding. The US and Germany are the largest investors in vaccine R&D with \$2.2 billion and \$1.5 billion funding.



Private companies received 94.6 per cent of this funding; Moderna received the highest \$956.3 million and Janssen \$910.6 million. Moreover, governments also invested \$50.9 billion for advance purchase agreements (APAs) as an incentive for vaccine development. A recent IMF working paper also notes that public research institutions were a key driver of the COVID-19 R&D effort—accounting for 70 per cent of all COVID-19 clinical trials globally. The argument is that vaccines are developed with the support of substantial public financing; hence there is a public right to the scientific achievements. Moreover, private companies reaped billions in profits from COVID-19 vaccines.



One could argue that since the US, Germany and other HICs are spending money, their citizens are entitled to get vaccines first, hence vaccine nationalism is morally defensible. Nonetheless, it is not the case. The TRIPS Agreement includes several provisions which mandates promotion of technology transfer from developed countries to LDCs. For instance, Article 7 states that "the protection and enforcement of IP rights should contribute to the promotion of technological innovation and the transfer and dissemination of technology, to the mutual advantage of producers and users of technical knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations." Similarly, Article 66.2 also mandates the developed countries to transfer technologies to LDCs to enable them to create a sound and viable technological base. The LMICs opened their markets and amended domestic patent laws favouring developing countries' products against this promise of technology transfer.

Another argument against the proposed TRIPS waiver is that a waiver would not increase the manufacturing of COVID-19 vaccines. Indeed, one of the significant factors contributing to vaccine

inequity is the lack of manufacturing capacity in the global south. Further, a TRIPS waiver will not automatically translate into improved manufacturing capacity. However, a waiver would be the first but essential step to increase manufacturing capacity worldwide. For instance, to export COVID-19 vaccine-related products, countries need to ensure that there are no IP restrictions at both ends – exporting and importing. The market for vaccine materials includes consumables, single-use reactors bags, filters, culture media, and vaccine ingredients. Export blockages on raw materials, equipment and finished products harm the overall output of the vaccine supply chain. If there is no TRIPS restriction, more governments and companies will invest in repurposing their facilities.

Similarly, the arguments such as that no other manufacturers can carry out the complex manufacturing process of COVID-19 vaccines and generic manufacturing as that would jeopardise quality, have also been proven wrong in the past. For instance, in the early 1990s, when Indian company Shantha Biotechnics approached a Western firm for a technology transfer of Hepatitis B vaccine, the firm responded that “India cannot afford such high technology vaccines... And even if you can afford to buy the technology, your scientists cannot understand recombinant technology in the least.” Later, Shantha Biotechnics developed its own vaccine at \$1 per dose, and the UNICEF (United Nations Children’s Emergency Fund) mass inoculation programme uses this vaccine against Hepatitis B. In 2009, Shantha sold over 120 million doses of vaccines globally.

India also produces high-quality generic drugs for HIV/AIDS and cancer treatment and markets them across the globe. Now, a couple of Indian companies are in the last stage of producing mRNA (Messenger RNA) vaccines. Similarly, Bangladesh and Indonesia claimed that they could manufacture millions of COVID-19 vaccine doses a year if pharmaceutical companies share the know-how. Recently, Vietnam also said that the country could satisfy COVID-19 vaccine production requirements once it obtains vaccine patents. Countries like the United Arab Emirates (UAE), Turkey, Cuba, Brazil, Argentina and South Korea have the capacity to produce high-quality vaccines but lack technologies and know-how. However, Africa, Egypt, Morocco, Senegal, South Africa and Tunisia have limited manufacturing capacities, which could also produce COVID-19 vaccines after repurposing.

Moreover, COVID-19 vaccine IPR runs across the entire value chain – vaccine development, production,

use, etc. A mere patent waiver may not be enough to address the issues related to its production and distribution. What is more important here is to share the technical know-how and information such as trade secrets. Therefore, the existing TRIPS flexibilities, such as compulsory and voluntary licensing, are insufficient to address this crisis. Further, compulsory licensing and the domestic legal procedures it requires is cumbersome and not expedient in a public health crisis like the COVID-19 pandemic.

India's Role in Ensuring Vaccine Equity

India's response to COVID-19 at the global level was primarily two-fold. First, its proactive engagements in the regional and international platforms. Second, its policies and programmes to provide therapeutics and vaccines to the world. Since the beginning of the COVID-19 pandemic, India has been advocating international cooperation and policy coordination in fighting it. For instance, in April 2020, India co-sponsored a UN resolution that called for fair and equitable access to essential medical supplies and future vaccines to COVID-19. Later, in October 2020, India also put pressure on developed countries with a joint WTO proposal for TRIPS waiver.

India's Vaccine Maitri initiative also aims vaccine equity. As of 29 May 2021, India has supplied 663.698 lakh doses of COVID-19 vaccines to 95 countries. It includes 107.15 lakh doses as a gift to more than 45 countries, 357.92 lakh doses by commercial sales, and 198.628 lakh doses to the COVAX facility. The COVAX initiative aims to ensure rapid and equitable access to COVID-19 vaccines for all countries, regardless of their income level. India has decided to supply 10 million doses of the vaccine to Africa and one million to the UN health workers under the COVAX facility. India has also removed the IPR of Covaxin that would help platforms like C-TAP once WHO and developed countries' regulatory bodies approve the vaccine.

If agreed, the waiver would benefit India in many ways. First, more vaccines will help the country to control the pandemic and its recurring waves. Second, it will be a boost to India's pharma industry, particularly the generic medicine industry. According to the Biotechnology Innovation Organization, 834 unique active compounds are involved in the current R&D of COVID-19 therapeutics, vaccines, and diagnostics. It means that thousands of new patents are awaited, and that will hinder India's ability to produce COVID-19 related medical products. Only through a waiver, this challenge can be addressed.

Similarly, scientists note that mRNA is the future of vaccine technology. However, manufacturing mRNA vaccines involves complex processes and procedures. Only a very few Indian manufacturers have access to this technology; however, that too is limited. Once Indian companies have access to mRNA technology, it will help country's generic medicine industry and boost India's economy. Therefore, even if the WTO agrees on a waiver for a period shorter than proposed, India should accept it. In addition, mRNA vaccines can be produced in lesser time compared to the traditional vaccines. While traditional vaccines' production takes four to five months, mRNA needs only six to eight weeks. Access to this technology will be vital for India in expediting the fight against COVID-19 and future pandemics.

Finally, a waiver may strengthen India's diplomatic soft power. At present, what hinders India's Vaccine Maitri initiative is the scarcity of vaccines at home. On the other hand, China is increasing its standing in Africa, South America and the Pacific through vaccine diplomacy. The WHO approval of the Chinese vaccines and lack of access to vaccines by most developing countries, opens up huge space for China to do its vaccine diplomacy. Here, India should convince its Quad partners, particularly Australia and Japan, who oppose the waiver that vaccine production in developing countries through TRIPS waiver will enable the grouping to deliver its pledged billion doses of COVID-19 vaccine in the Indo-Pacific region.

In short, the proposed waiver, if agreed, will help India in addressing the public health crisis by producing more vaccines and distributing them at home; economically, by boosting its generic pharmaceutical industry, and diplomatically, providing vaccines to the developing and least-developed countries. Therefore, India should use all available means and methods, from trade-offs to pressurising, to make the waiver happen.

6.2 WORLD'S FIRST NANO LIQUID UREA

Recently, the **Indian Farmers Fertiliser Cooperative Limited (IFFCO)** has launched the **Nano**

Urea Liquid.

Need for Nano Liquid Urea

- India is **dependent on imports** to meet its urea requirements.
- During 2019-20, the **production of urea was only 244.55 LMT** as against the **consumption volume of 336 lakh metric tonnes** leaving a gap of over 91 LMT.
- India **imported 91.99 LMT urea fertiliser** in 2019-20 to fill this gap.
- The excess urea causes **environmental pollution, harms soil health**, and makes plants more **susceptible to disease and insect infestation**.

Nano Urea Liquid

- It is a **nutrient to provide nitrogen to plants** as an alternative to the conventional urea.
- It is the **world's first nano liquid urea**.
- It is developed to **replace conventional urea** and it can curtail the **requirement of the same by at least 50%**.
- It contains **40,000 ppm of nitrogen in a 500 ml bottle** which is equivalent to the impact of nitrogen nutrient provided by one bag of conventional urea.
- The **conventional urea is effective 30-40 per cent** in delivering nitrogen to plants, while the **effectiveness of the Nano Urea Liquid is over 80 per cent**.
- It will have a huge positive impact on the **quality of underground water, very significant reduction in the global warming** with an impact on climate change and **sustainable development**.

6.1 AmbiTAG

Recently, the Ministry of Education has launched a temperature data logger called 'AmbiTAG'.

- It is **India's first indigenous temperature data logger** for the cold chain management.
- It is developed by **Indian Institute of Technology, Ropar (IIT Ropar)** in Punjab.
- It is a **first-of-its-kind Internet of Things (IoT) device**.

- It records **real-time ambient temperature** during the transportation of perishable products, vaccines and even body organs and blood.
- The recorded temperature further helps to know whether that **particular item transported from anywhere in the world is still usable or perished** because of temperature variation.
- It continuously records the **temperature of its immediate surroundings from -40 to +80 degrees** in any time zone for a full 90 days on a single charge.
- It has been developed under **Technology Innovation Hub** i.e. AWaDH (Agriculture and Water Technology Development Hub) and its Startup ScratchNest.

8.2 HORTICULTURE CLUSTER DEVELOPMENT PROGRAMME

Recently, the Ministry of Agriculture & Farmers Welfare has launched the **Horticulture Cluster Development Programme**.

Features of Horticulture Cluster Development Programme

- It is a **central sector programme**.
- It will be implemented by the **National Horticulture Board (NHB)** of the Ministry of Agriculture and Farmers' Welfare.
- It will be implemented in **12 horticulture clusters out of the total 53 clusters** selected for the programme covering 11 States/UTs.
- The clusters of the pilot phase include:
 - **Shopian (J&K) and Kinnaur (H.P.)** for Apple;
 - **Lucknow (U.P.), Kutch (Gujarat) and Mahbubnagar (Telangana)** for Mango;
 - **Anantpur (A.P.) and Theni (T.N.)** for Banana;
 - **Nasik (Maharashtra)** for Grapes;
 - **Siphahijala (Tripura)** for Pineapple;
 - **Solapur (Maharashtra) and Chitradurga (Karnataka)** for Pomegranate; and
 - **West Jaintia Hills (Meghalaya)** for Turmeric

- The clusters will be implemented through **Cluster Development Agencies (CDAs)** which are appointed on the recommendations of the respective State/UT Government.

Implementation Framework of Horticulture Cluster Development Programme

- **National Horticulture Board (NHB)** shall provide financial assistance and supervise the overall implementation of the programme.
- A government/ public sector entity recommended by the State/Central Government shall be appointed as a **Cluster Development Agency (CDA)** for each identified cluster for the implementation of CDP.
- CDA will establish a **Cluster Development Cell (CDC)** with a dedicated team of officers within the CDA for the smooth implementation of the programme.
- The CDAs shall select **Implementing Agency/ Agencies (IAs) through Expression of Interest (EOI)** in an open and transparent manner for different verticals of the Cluster.
- The **Programme Management Unit (PMU)** of NHB shall provide technical assistance to NHB and CDA for the effective implementation of the Cluster Development Programme.

Significance of Horticulture Cluster Development Programme

- It is aimed at **growing and developing identified horticulture clusters** to make them globally competitive.
- It will **address all major issues related to the Indian horticulture sector** including pre-production, production, post-harvest management, logistics, marketing and branding.
- It will **benefit about 10 lakh farmers** and related stakeholders of the value chain.
- It aims aim to **improve exports of the targeted crops** by approx. 20% and create cluster-specific brands to enhance the competitiveness of cluster crops.
- It is designed to **leverage geographical specialisation and promote integrated and market-led development** of horticulture clusters.
- It is expected to **attract an estimated investment of INR 10,000 crore** when implemented in all the 53 clusters.

1.2 WEAK BUSINESS CONFIDENCE INDEX

Recently, the **Federation of Indian Chambers of Commerce & Industry (FICCI)** has released the latest round of **FICCI's Business Confidence Survey**.

- The business sentiment in India has taken a beating with **70 per cent of businesses citing a weak demand situation** as a key containing factor for business.
- The overall business confidence index as measured by FICCI **nosedived to 51.5** in May from a decadal high of 74.2 measured in February.

Reasons for businesses losing confidence

Financial concerns

- A low demand scenario led to **47 per cent of businesses projecting lower profits** in the upcoming six months and 37 per cent of businesses projecting similar profits as the previous six months.
- The businesses are also expecting **stagnation in exports**, with 73 per cent of businesses expecting similar or lower exports in the next six months and only 27 per cent expecting an increase in exports.

Employment and consumer sentiment

- The **lower optimism about profits** also translated to muted hiring plans, with only 19 per cent of **businesses foreseeing hiring prospects** in the coming two quarters.

Factors holding back business growth

- An increasing number of businesses saw the **availability of credit and the cost of raw materials** as a major concern.
- The **rising cost of raw materials** is hitting profitability.
- Sixty-five per cent of respondents cited the high cost of **raw material as a constraining factor for business growth**.
- There was a **significant increase in the number of businesses reporting worse conditions** in the economy, industry, and their firms.
- The number of respondents reporting **worsening conditions for their firms rose to**

28 per cent in May from 16 per cent in February.

Policy Recommendations for limiting the impact on Economy and Businesses

- The respondents of the survey unanimously felt that the government must, first and foremost, **focus on controlling covid cases.**
- A **massive vaccination drive** could decouple India's economy from another pandemic induced shock.
- The participants strongly believed that **regular communication from the government** on the status of the pandemic and necessary response measures undertaken is vital to dispel any doubts and panic.
- The RBI should continue to **ensure ample liquidity in the system** and must take additional measures to encourage banks to lend more.
- The companies unanimously felt the **need for another fiscal package**, focusing majorly on addressing the demand side.
- The demand boosting measures such as **direct income support to rural as well as urban poor, income tax reductions for the middle class** and **temporary reductions in indirect taxes** must be urgently considered.

FICCI

- It is the **largest and oldest apex business organization** in India, established in 1927.
- It is a **non-government, not-for-profit organization.**
- Its history is closely interwoven with **India's struggle for independence, its industrialization**, and its emergence as one of the most rapidly growing global economies.
- It provides a platform for **networking and consensus building** within and across sectors.
- It is the **first port of call for Indian industry**, policy makers and the international business community.

1.1 PERSPECTIVE ON INDIA'S FALLING GDP

Recently, the Indian government released its latest estimates of economic growth for the last financial

year that ended in March 2021.

Key Highlights

Gross Domestic Product

- The **GDP growth rate has been a point of growing weakness** for the last 5 of these 7 years of the current government.
- The **GDP growth rate steadily fell** from over 8% in FY17 to about 4% in FY20 due to ripples of demonetisation and a poorly designed and hastily implemented Goods and Services Tax (GST).
- India's GDP growth pattern resembled an **"inverted V"** even before Covid-19 hit the economy.

GDP per capita

- **India's GDP per capita** is now what it used to be in 2016-17 i.e. the year when the slide started.
- It is a metric that **breaks down a country's economic output per person** and is calculated by dividing the GDP of a country by its population.

Unemployment rate

- According to the government's own surveys, **India's unemployment rate was at a 45-year high in 2017-18** i.e. the year after demonetisation and the one that saw the introduction of GST.
- It was estimated that between 2012 and 2018, the **total number of employed people fell by 9 million**.
- India started **routinely witnessing unemployment rates** close to 6%-7% in the years leading up to Covid-19 as against the norm of unemployment rate of 2%-3%.

Inflation Rate

- In the first three years, the government greatly **benefited from very low crude oil prices**.
- The **sudden and sharp fall in oil prices** allowed the government to completely tame the high retail inflation in the country.

- It allowed the government to **collect additional taxes on fuel**.
- India was one of few countries that has **witnessed inflation trending consistently above or near the RBI's threshold** since late 2019.

Fiscal Deficit

- It is essentially a **marker of the health of government finances** and tracks the amount of money that a government has to borrow from the market to meet its expenses.
- There are **two downsides** of excessive borrowing:
 - The government borrowings **reduce the investible funds available for the private businesses to borrow** which drives up the price for such loans.
 - It **increase the overall debt that the government has to repay** i.e. the higher debt levels imply a higher proportion of government taxes going to pay back past loans.

Rupee vs dollar

- The exchange rate of the domestic currency with the US dollar is a **robust metric to capture the relative strength** of the economy.
- A US dollar was worth **Rs 59** when the government took charge in 2014 and seven years later, it is **closer to Rs 73**.
- The relative weakness of the rupee reflects the **reduced purchasing power of the Indian currency**.

What is the impact of falling GDP?

- If the rate of GDP growth falls below the rate of labour force growth, there **won't be enough new jobs created to accommodate all new job seekers**.
- A fall in per capita income **reduces the tax revenues for the Government** which also reduces the amount spent on public services including investment in infrastructure.
- At a higher debt level, there is a risk that **rating agencies would downgrade India's credit rating**.
- The higher interest rate will **increase the amount of Government's debt interest**

payments, reducing the available amount to be spent on public infrastructure.

- A weaker rupee would mean that everything from **studying abroad to holidaying abroad will become more expensive.**

8.1 LITORIA MIRA

Recently, a team of Australian scientists has discovered a curious “**chocolate frog**” tree frog i.e. **Litoria Mira** in the lowland rainforests of New Guinea.

Litoria Mira

- It is a **species of frog lives in the rainforests of New Guinea** that appears to be made from chocolate.
- It is inspired by the **Latin adjective mirum**, which means **surprised or strange.**
- It stems from the scientist’s surprise in discovering an **undescribed member of the predominately Australian Litoria genus** of tree frogs.
- It has a well-known relative i.e. the **common green tree frog** of Australia called **Litoria cerulean.**
- It can be distinguished from all other Litoria by its **unique combination of moderately large size, webbing on hand, relatively short and robust limbs**, and small violet patch of skin on the edge of its eyes.
- The reason that the **chocolate frog from New Guinea and the Australian green tree frog** are similar is that Australia and New Guinea used to be linked by land for much of the late Tertiary period.
- It was discovered in one of the world’s most **unpleasant places for humans** i.e. a hot rainforest swamp infested with malarial mosquitoes, spiky trees and crocodiles and without roads.

3.2 STATE OF FINANCE FOR NATURE REPORT 2020

Recently, the United Nations has released the **State of Finance for Nature Report 2020.**

State of Finance for Nature Report

❖ It was jointly produced by the **United Nations Environment Programme, the World Economic Forum** and **the Economics of Land Degradation**.

❖ Its purpose is to **provide up-to-date information about public and private sector finance** that is channelled to activities and assets that can be considered NbS and to present estimates of the future needs.

❖ It complements the **vast array of existing literature and processes** that monitor specific flows of environment or development finance.

Highlights

❖ The annual investments in **nature-based solutions (NbS)** will have to be tripled by 2030 and increase four-fold by 2050 from the current level of investments.

➤ The Nature-based solutions refer to **sustainable management and use of nature** to tackle socio-environmental challenges.

❖ It found that approximately \$133 billion currently flows into **nature-based solutions annually** (using 2020 as base year).

➤ The **public funds make up 86 per cent** and private finance 14 per cent of these investments.

❖ It estimated existing **public and private investment** directed to NbS.

➤ The investments of \$133 billion comprise about **0.10 per cent of global gross domestic product**, most of which come from public sources.

❖ The largest proportion of this investment is carried out by **public financial services providers, including the governments, development finance institutions (DFIs), environmental / climate funds**.

➤ It represents **86 per cent of total investment flows** to protect biodiversity and landscapes, mixed with activities such as sustainable forestry.

➤ The public sector spending for the same is dominated by the **United States and China, followed by Japan, Germany and Australia**.

❖ The **US tops the list with approximately \$36 billion** a year in NbS spending, and is closely followed by China with \$31 billion.

❖ The countries such as **Brazil, India and Saudi Arabia** are likely spending large amounts of

money too, but they do not report internationally comparable data.

❖ The following contribute to **14 per cent of total NbS financing equal to \$18 billion a year**, mostly through investments in sustainable supply chains and biodiversity offsets:

- Commercial financial institutions
- Investors including insurance companies, asset management firms
- Philanthropies including foundations and endowments

Future commitments under State of Finance for Nature Report

❖ The public and private actors will need to **scale up their annual investments** by at least four times to meet future climate, biodiversity and land degradation targets.

❖ By 2050, total investment of **nature needs will amount to \$8.1 trillion**, while annual investment should reach \$536 billion annually by 2050.

❖ It called for a **comprehensive system and framework for labelling, tracking, reporting and verifying** the state of finance for NbS.

It recommended **reforming taxes, repurposed agricultural policies and trade-related tariffs** and harnessing the potential of carbon markets.

3.1 PROTECTED PLANET REPORT 2020

Recently, the **United Nations Environment Programme (UNEP)** and the **International Union for the Conservation of Nature (IUCN)** have released **Protected Planet Report 2020**.

❖ It is the **first in the series** to include data on OECMs in addition to protected areas.

❖ It was issued by **UNEP World Conservation Monitoring Centre (UNEP-WCMC)** and the **International Union for Conservation of Nature (IUCN)**, with support from the **National Geographic Society**

❖ It underlined the progress the world has made toward the ambitious goals agreed by countries in 2010 at the **United Nations Convention on Biological Diversity**.

❖ It called for existing **protected and conserved areas to be identified and recognised** by accounting for the efforts of indigenous peoples, local communities and private entities.

- ❖ It added that a **global network of effective and equitable protected and conserved areas** will play a vital role in safeguarding the health of people and planet for generations to come.
- ❖ It provided a **strong starting point from which to begin** working towards this ambitious goal.

Highlights

- ❖ It highlighted that **82 per cent of countries and territories increased their share of protected area and coverage** of other effective area-based conservation measures (OECM) since 2010.

➤ The OECM are a **conservation designation for areas** that are achieving the effective in-situ conservation of biodiversity outside of protected areas.

- ❖ It says that over **21 million square kilometres** has been placed within protected and conserved areas.

➤ It implies that **42 per cent of the area now within protected and conserved areas** has been added in the last decade.

- ❖ It resulted in at least **22.5 million square kilometres (16.64 per cent) of land and inland water ecosystems** and **28.1 million square kilometers (7.74 per cent) of coastal waters** and the ocean are within protected areas and OECMs.

- ❖ It highlighted that on an average, **62.6 per cent of key biodiversity areas (KBA)** either fully or partially overlaps with protected areas and OECMs.

➤ The KBAs are sites that **contribute significantly to the global persistence** of biodiversity, in terrestrial, freshwater and marine ecosystems.

➤ The average percentage of each KBA within protected areas and OECMs is **43.2 per cent for terrestrial, 42.2 per cent for inland water** and **44.2 per cent for marine** (within national waters).

United Nations Convention on Biological Diversity

- ❖ It was opened for signature on 5 June 1992 at the **United Nations Conference on Environment and Development** (the Rio Earth Summit).

- ❖ It entered into force on **29 December 1993**.

- ❖ It has 3 main **objectives**:

- The conservation of biological diversity;
- The sustainable use of the components of biological diversity; and
- The fair and equitable sharing of the benefits arising out of the utilization of genetic resources
- It was conceived as a practical tool for translating the principles of Agenda 21 into reality.

2.2 IEA ROADMAP TO NET-ZERO BY 2050

Recently, the **International Energy Agency (IEA)** released one of the most consequential reports which give a **comprehensive pathway to net-zero carbon dioxide (CO₂) emissions by 2050**.

Need for Roadmap to Net-Zero by 2050

- The number of countries announcing pledges to **achieve net-zero emissions** over the coming decades continues to grow.
- The pledges by governments to date fall well short of what is required to **bring global energy-related carbon dioxide emissions** to net zero by 2050.
- The **viable pathway to net-zero emission is narrow** and requires an unprecedented transformation of how energy is produced, transported and used globally.

Roadmap to Net-Zero by 2050

- It is the **world's first comprehensive study** of how to transition to a net zero energy system by 2050 while ensuring stable and affordable energy supplies.
- It sets out a **cost-effective and economically productive pathway**, resulting in a clean, dynamic and resilient energy economy dominated by renewables like solar and wind instead of fossil fuels.
- It examines key uncertainties, such as the **roles of bioenergy, carbon capture and behavioural changes** in reaching net zero.
- It sets out more than **400 milestones to guide the global journey** to net zero by 2050.

Features of Roadmap to Net-Zero by 2050

- It calls for **no investment in new fossil fuel supply projects**, and no further final investment decisions for new unabated coal plants.
- By 2035, there are **no sales of new internal combustion engine passenger cars**, and by 2040, the global electricity sector has already reached net-zero emissions.
- The pathway calls for **annual additions of solar PV to reach 630 gigawatts by 2030**, and those of wind power to reach 390 gigawatts.
- It aims to **increase energy efficiency resulting in the global rate of energy efficiency** improvements averaging 4% a year through 2030.
- The pathway calls for **annual additions of solar PV to reach 630 gigawatts by 2030**, and those of wind power to reach 390 gigawatts.
- The report suggests most of the **global reductions in CO2 emissions between now and 2030** will come from currently-available technologies.
- The IEA's report recommends that **governments increase and reprioritize research and development** spending and put them at the core of energy and climate policy.
- The rate of **installation of solar PV and wind power needs to triple by 2030** and increase nearly **900% by 2050** to meet future demand.
- The IEA's **net-zero scenario envisions the world thriving in 2050**, with the global economy doubling in size and nearly 2 billion more people.

Significance of Roadmap to Net-Zero by 2050

- ❖ It brings a historic surge in **clean energy investment** that creates millions of new jobs and lifts global economic growth.
- ❖ It describes a net zero pathway that **requires the immediate and massive deployment** of all available clean and efficient energy technologies, combined with a major global push to accelerate innovation.
- ❖ The report has **three main aims**:
 - To examine the impacts of announced **net-zero emissions pledges** and what they might mean for

the energy sector.

➤ To develop a new energy-sector pathway towards **achieving net-zero emissions** globally by 2050.

❖ The report will provide a **detailed sector-by-sector analysis of the changes** that would be needed over the next 30 years, including specific technology and policy milestones, and the wider implications for economies and society.

➤ To set out **key policy recommendations for governments** to act upon in the near-term, and a **long-term agenda for change to achieve net-zero goals**, including with a view to reaching other Sustainable Development Goals.

International Energy Agency (IEA)

❖ The **IEA was founded in 1974** by industrialised countries within the framework of the **Organisation for Economic Co-operation and Development (OECD)** in response to the oil embargo.

❖ The countries seeking to **become members of the IEA** must also be **members of the OECD**.

❖ In addition, the **country must demonstrate** several requirements such as:

➤ **Crude oil and/or product reserves equivalent to 90 days** of the previous year's net imports, to which the government has immediate access;

➤ **A demand restraint programme** to reduce national oil consumption by up to 10%;

➤ **Legislation and organisation to operate** the Co-ordinated Emergency Response Measures (CERM) on a national basis;

➤ **Legislation and measures to ensure** that all oil companies under its jurisdiction report information upon request;

➤ **Measures in place to ensure the capability** of contributing its share of an IEA collective action.

❖ It was established as the **main international forum for energy co-operation** on a variety of issues such as security of supply, long-term policy, information transparency and international energy relations.

❖ The IEA's **founding members** were Austria, Belgium, Canada, Denmark, Germany, Ireland, Italy, Japan, Luxembourg, The Netherlands, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom and the United States.

➤ They were followed by Greece, New Zealand, Australia, Portugal, Finland, France, Hungary, Czech Republic, Republic of Korea, Slovak Republic, Poland, Estonia and Mexico.

❖ The **eight associate members** of IEA are Brazil, China, India, Indonesia, Morocco, Singapore, South Africa and Thailand.

6.3 SINOVAC VACCINE GETS WHO EMERGENCY APPROVAL

Recently, the World Health Organization (WHO) has approved **China's Sinovac Covid vaccine** for emergency use.

Sinovac Vaccine

❖ It is an **inactivated vaccine**.

➤ It works by **using killed viral particles** to expose the body's immune system to the virus without risking a serious disease response.

❖ The **Beijing-based biopharmaceutical company Sinovac** is behind the CoronaVac.

❖ It is the **second Chinese vaccine** to receive the green light from the WHO, after **Sinopharm**.

❖ It is a **more traditional method of vaccine** that is successfully used in many well-known vaccines like rabies.

❖ One of Sinovac's main advantages is that it can be **stored in a standard refrigerator** at 2-8 degrees Celsius.

➤ It implies that Sinovac is a lot more **useful to developing countries** which might not be able to store large amounts of vaccine at low temperatures.

❖ The Strategic Advisory Group of Experts on Immunization recommends the **vaccine for use in adults 18 years and older**, in a two-dose schedule with a spacing of two to four weeks.

Significance of Sinovac Vaccine Approval

❖ It prevented **symptomatic disease in 51% of those vaccinated** and prevented severe symptoms and hospitalisation in 100% of samples.

❖ The approval **opens the door for the jab to be used in the Covax programme**, which aims

to ensure fair access to vaccines.

- ❖ The emergency approval means the **vaccine meets international standards for safety, efficacy and manufacturing.**
- ❖ The **low- and middle-income countries will be the main benefactors of China's vaccine** production as rich nations scooped up most of the more expensive candidates produced by the likes of Pfizer-BioNtech and Moderna.

1.3 SURGE IN FDI INFLOWS

Recently, the Ministry of Commerce & Industry has announced that in a pandemic-ravaged year, **India managed to rake in the highest ever foreign direct investment** during financial year 2020-21 at \$81.72 billion.

Reasons for surge in FDI inflows

- ❖ The measures taken by the government on the fronts of **Foreign Direct Investment (FDI) policy reforms** have resulted in increase in 10 per cent higher FDI inflows.
- ❖ The **investment facilitation and ease of doing business** have resulted in increased FDI inflows into the country.
- ❖ An increase of 47% in **“repatriation/disinvestment”** entirely accounts for the rise in the gross inflows.
- ❖ It is entirely on account of **net foreign portfolio investment** because foreign institutional investment (FIIs) has boomed by an astounding 6,800% to \$38 billion in 2020-21.
 - The surge in total FDI inflow during the pandemic year is entirely explained by **booming short-term FIIs** in the capital market.
- ❖ The government has showcased the **rise in gross FDI inflows as a badge of the success** of its economic policies to counter the widespread criticisms of output and investment slowdown and rising unemployment rates.
- ❖ **Singapore was the biggest investor in India** last fiscal, accounting for 29 per cent FDI, followed by the **United States at 23 per cent** and **Mauritius at 9 per cent.**
 - The **US and UK reported 227 per cent and 44 per cent year-on-year increase** in FDI in India

during FY21.

❖ Out of top 10 countries, **Saudi Arabia was the top investor** in terms of percentage increase during FY21.

➤ It invested **\$2,816.08 million in comparison to \$89.93 million** reported in the previous financial year.

❖ Among states, **Gujarat received the highest FDI** at 37 per cent of the total equity inflows.

➤ **Maharashtra and Karnataka** had the second and third highest flow at 27 per cent and 13 per cent, respectively.

❖ The **computer software and hardware segment received the most FDI** in FY21, accounting for 44 per cent of total FDI equity inflow.

➤ Under computer software and hardware segment, the major recipient states during the fiscal under review were **Gujarat at 78 per cent, Karnataka at 9 per cent and Delhi at 5 per cent.**

➤ The **construction (infrastructure) activities and services sector** followed with 13 per cent and 8 per cent share, respectively.

Significance of increase in FDI inflows

❖ It reflects the **confidence of international investors in India's market** as FDI inflows play an important role as India faces huge infrastructure funding requirements to boost growth.

❖ **Increased Employment and Economic Growth:** The increased FDI boosts the manufacturing as well as the services sector which in turn creates jobs, and helps reduce unemployment among the educated youth.

❖ **Human Resource Development:** The skills gained and enhanced through training and experience boost the education and human capital quotient of the country.

❖ **Development of Backward Areas:** The FDI enables the transformation of backward areas in a country into industrial centres which in turn provides a boost to the social economy of the area.

❖ **Provision of Finance & Technology:** The introduction of newer, enhanced technologies and processes results in their diffusion into the local economy, resulting in enhanced efficiency and effectiveness of the industry.

❖ **Increase in Exports:** The creation of 100% Export Oriented Units and Economic Zones have

further assisted FDI investors in boosting their exports from other countries.

❖ **Exchange Rate Stability:** The constant flow of FDI into a country translates into a continuous flow of foreign exchange which helps the country's Central Bank maintain a comfortable reserve of foreign exchange.

4.2 SUSTAINABLE ALTERNATIVE TOWARDS AFFORDABLE TRANSPORTATION (SATAT) SCHEME

Recently, the Union Minister of Petroleum and Natural Gas & Steel presided over a virtual ceremony in which a **number of initiatives** were launched to provide major fillip to the **SATAT initiative**.

❖ A **Cooperation Agreement** was signed by Oil and Gas majors including IndianOil, HPCL, BPCL, GAIL and IGL, for the promotion and development of the SATAT.

➤ The Cooperation agreement provides for **establishing a strong network for marketing** the entire produced quantity of CBG Plants through various channels.

➤ The agreement also has provision for **associate implementers** to join the SATAT movement.

➤ The **IndianOil shall act as coordinator** under the SATAT scheme and liaison with the Government and other agencies on behalf of Industry members.

➤ **GAIL shall serve as the coordinator** for the implementation of the CBG-CGD synchronization scheme.

❖ The Ministry also signed **MoUs with Essar Capital Limited, XEMX Projects, Knowledge Integration Services, and Global Green Growth Institute, Seoul** to set up new CBG Plants across the country.

❖ The Ministry laid the foundation stones of **5 upcoming CBG Plants** at Gujarat (2), Uttar Pradesh (2) and Punjab (1).

➤ It will be set up by CNM Energy Solution Pvt Ltd, Carboneu Pvt Ltd, Cities Innovative Biofuels Private Limited and CEF Budhana Energy Private Ltd.

❖ A **website to provide a digital boost** to the SATAT programme was also unveiled by the Ministry.

➤ It shall be a **resource centre** for new and existing CBG Plants providing details on CBG & SATAT, enablers under the SATAT scheme and FAQs.

SATAT Scheme

❖ It was launched in 2018 by the **Ministry of Petroleum & Natural Gas** in association with **Indian Oil Corporation Ltd., Bharat Petroleum Corporation Ltd. and Hindustan Petroleum Corporation Ltd.**

❖ It envisages **targeting production of 15 MMT** of CBG from **5000 plants by 2023**.

❖ It aims to set up **Compressed Bio-Gas production plants** and make CBG available in the market for use as a green fuel.

Significance of SATAT Scheme

❖ It will provide an **investment of 1.75 lakh crore**, an additional **revenue source** to farmers, and **75,000 direct job opportunities** and lakhs of indirect jobs.

❖ It would **benefit vehicle-users** as well as **farmers and entrepreneurs**.

❖ It holds great promise for **efficient municipal solid waste management** and in tackling the problem of polluted urban air due to farm stubble-burning and carbon emissions.

❖ It will help **bring down dependency on crude oil imports** and in realising the Prime Minister's vision of enhancing farmers' income, rural employment and entrepreneurship.

Compressed Bio-Gas (CBG)

❖ Bio-gas is **produced naturally (through a process of anaerobic decomposition)** from waste / bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc.

❖ After purification, it is **compressed and called CBG**, which has **high methane content**.

❖ It is exactly similar to the **commercially available natural gas** in its composition and energy potential.

❖ It can be used as an **alternative, renewable automotive fuel** with similar calorific value and other properties similar to CNG.

Benefits of Compressed Bio-Gas (CBG)

- ❖ Responsible waste management, reduction in carbon emissions and pollution;
- ❖ Additional revenue source for farmers;
- ❖ Boost to entrepreneurship, rural economy and employment;
- ❖ Support to national commitments in achieving climate change goals;
- ❖ Reduction in import of natural gas and crude oil; and
- ❖ Buffer against crude oil/gas price fluctuations

2.1 COMMITTEE ON VARIABLE CAPITAL COMPANY (VCC)

Recently, the expert committee on **Variable Capital Company (VCC)** submits its report to the **International Financial Services Centres Authority (IFSCA)**.

- ❖ The Committee of Experts to examine the **feasibility of the Variable Capital Company (VCC)** was constituted by International Financial Services Centres Authority (IFSCA).
- ❖ It aims to examine the **suitability of the Variable Capital Company** as a vehicle for fund management in the International Financial Services Centre in India.
- ❖ It was set up to **explore the potential for allowing another legal structure** i.e. variable capital company (VCC) as an additional option through which asset managers could pool the investors' funds.
- ❖ It examined the **relevance and adaptability of the VCC for the IFSC** in India or alternative structures to attract fund business in the IFSC.
- ❖ The pooling of funds in India is undertaken through **three types of entities**, namely:
 - Limited liability companies governed under the **Companies Act, 2013**;
 - Limited liability partnerships under the **Limited Liability Partnership Act**; and
 - Trusts governed under the **Indian Trusts Act, 1882**.

Variable Capital Company (VCC)

- ❖ It is a **new corporate structure** for investment funds.

- ❖ It has a variable capital structure that **provides flexibility in the issuance and redemption** of its shares.
- ❖ It can be set up as a **single standalone fund or an umbrella fund** with two or more sub-funds, each holding a portfolio of segregated assets and liabilities.
- ❖ It is basically an **alternative form of corporate** vehicle that dispenses with some of the key limitations of companies and LLPs.
- ❖ It can be used for **both open-ended and closed ended** alternative and traditional fund strategies.

International Financial Services Centres Authority (IFSCA)

- ❖ It has been established in 2020 under the **International Financial Services Centres Authority Act, 2019**.
- ❖ It is headquartered at **GIFT City, Gandhinagar** in Gujarat.
- ❖ It is a **unified authority for the development and regulation** of financial products, financial services and financial institutions.
- ❖ The GIFT IFSC is the **maiden international financial services centre** in India.
- ❖ Its objective is to develop a **strong global connect and focus on the needs of the Indian economy** as well as to serve as an international financial platform for the entire region and the global economy as a whole.

4.1 ONE NATION ONE STANDARD MISSION

Recently, the **Research Design & Standards Organization (RDSO)** of Indian Railways has become the **first institution to be declared SDO** (Standard Developing Organization) under “**One Nation One Standard**” mission.

- ❖ It is a scheme which provides for “**Recognition of SDO**”.
- ❖ It is an initiative of **Bureau of Indian Standards (BIS)**.
- ❖ It is envisioned on the line of ‘**one nation one ration card**’ in order to ensure quality products in India.

Significance of One Nation One Standard Mission

- ❖ It aims at **aggregating and integrating the existing capabilities and dedicated domain specific expertise** available with various organizations in the country engaged in standards development.
- ❖ It will enable **convergence of all standard development activities** in the country resulting in “One National Standard for One Subject”.
- ❖ It aims to usher in more **faster transition from development of technology & innovation stage** to actual use on ground.
- ❖ It aims to make **India the leader in setting global benchmarks** in setting standards.

Bureau of Indian Standards (BIS)

- ❖ It is the **National Standard Body** of India established under the **BIS Act 2016**.
- ❖ It came into existence, through an **act of parliament in 1987**.
- ❖ It is established for the **harmonious development of the activities of standardization** and marking and quality certification of goods.

6.7 H10N3 BIRD FLU

Recently, a 41-year-old man in China’s eastern province of Jiangsu has been **confirmed as the first human case of infection** with a rare strain of bird flu known as **H10N3**.

- ❖ It is a **low pathogenic or relatively less severe strain of the virus in poultry** and the risk of it spreading on a large scale was very low
- ❖ According to the Food and Agriculture Organisation (FAO), the **H10N3 flu appears to be rare in birds**.
- ❖ The World Health Organization (WHO) said while the **source of the patient’s exposure to the H10N3 virus was not known**, there was no indication of human-to-human transmission yet.
- ❖ The avian influenza viruses that have **little impact on birds**, can be much more serious in people, such as the H7N9 strain that killed almost 300 people in China.
- ❖ The strain is **“not a very common virus,”** and only around 160 isolates of the virus were

reported in the 40 years to 2018.

Risks associated with H10N3 Bird Flu

- ❖ The risk of further infection with **H10N3 is currently believed to be very low**, with experts describing the case as “sporadic”.
- ❖ The growing surveillance of avian influenza in the human population will **result in more infections with bird flu viruses** are being picked up.
- ❖ In February, Russia reported the **first human infection with the H5N8 virus** that caused huge damage on poultry farms across Europe, Russia and East Asia last winter.

Bird Flu

- ❖ **Bird flu, or avian flu**, is caused by influenza viruses that spread between birds.
 - ❖ It can often **spread easily between birds**, but very rarely causes disease in humans
 - ❖ There is a very **wide range of influenza viruses in circulation in birds**, much wider than in the main mammalian hosts of influenza: man, pigs and horses.
 - ❖ **Two strains of bird flu, H5N1 and H7N9**, (first seen in 2013) led to human contamination in Asia through infected birds.
- **H5N1 first broke out in 1997**, and then spread between 2003 and 2011, while **H7N9 was first seen in 2013**.

ONEWEB'S LOW EARTH ORBIT (LEO) CONSTELLATION

Recently, the **OneWeb's Low Earth Orbit (LEO) constellation** reached 218 in-orbit satellites following the **successful launch of 36 satellites**.

- ❖ It is a **global communications company that aims to deliver broadband satellite Internet** around the world through its fleet of LEO satellites.
- ❖ The OneWeb satellites are built at an **OneWeb and Airbus joint venture facility in Florida** that can produce up to two satellites a day.
- ❖ The launch roll-out of the satellites is facilitated by **French company Arianespace** using **Russian made Soyuz rockets**.

- ❖ The company has announced plans to enter the **Indian market by 2022**.

Low Earth Orbit (LEO) technology

- ❖ The LEO satellites have been orbiting the planet since the 1990s, providing **companies and individuals with various communication services**.

- ❖ The LEO satellites are **positioned around 500km-2000km from earth**, compared to stationary orbit satellites which are approximately 36,000km away.

- ❖ As **LEO satellites orbit closer to the earth**, they are able to provide stronger signals and faster speeds than traditional fixed-satellite systems.

- ❖ They also have the potential to rival if not exceed existing ground-based networks because **signals travel faster through space** than through fibre-optic cables.

- ❖ LEO satellites travel at a **speed of 27,000 kph** and **complete a full circuit of the planet in 90-120 minutes**.

➤It implies that **individual satellites can only make direct contact with a land transmitter** for a short period of time thus requiring massive LEO satellite fleets.

Indian satellite internet market

- ❖ The acquisition of OneWeb by **Bharati Limited** could arguably give it a **distinct advantage in India** and parts of Africa.

- ❖ The **Starlink and OneWeb aim to launch in India by 2022**, with Amazon's Project Kuiper also in talks to receive regulatory approval to operate in the country.

- ❖ Over **70% of rural Indians do not have access to the Internet**, a problem that is particularly worrisome given the increasing need for digital integration in the fields of education and banking.

The barriers to entry and elevated prices will make it **difficult for satellite broadband companies to operate in India** in the short term.



7.1 RISE IN CRUDE OIL PRICES

Recently, the **crude oil prices have hit a two-year high** with Brent crude rising above the \$71 per

barrel mark and hitting the highest level since May 2019.

Reasons for crude oil price rising

❖ The crude oil prices have been rising steadily since the beginning of 2021 when **Brent Crude was trading at about \$52 per barrel** buoyed both by hopes of:

➤ **Improving demand** due to economic recoveries across geographies; and

➤ **Supply cuts** by key oil-producing countries

❖ The Organisation of Petroleum Exporting Countries (OPEC) **extended supply cuts** made in 2020 when crude oil prices had reached a low of under \$19 per barrel through the first five months of 2021.

❖ **Saudi Arabia notably made an additional voluntary production cut** of 1 million barrels per day between February and April.

➤ **Only 250,000 barrels of production has been restored** in May and 750,000 barrels of production is set to be restored over June and July.

Impact of high crude oil prices on India

❖ The rising crude oil prices have **contributed to petrol and diesel prices rising** to record high levels across the country.

❖ The **price of petrol has been hiked by Rs 10.8 per litre** since the beginning of the year while the **price of diesel has been hiked by Rs 11.5 per litre** in the same time period.

❖ The oil marketing companies have however noted that even **current record-high prices are lower than what refiners should be charging** in line with international prices.

❖ The **prices of petrol and diesel are benchmarked to a 15-day rolling average** of the international prices of the petroleum products.

❖ The **state and central taxes account for about 58 per cent** of the pump price of petrol and 52 per cent of the pump price of diesel in the national capital.

The central government had in **2020 hiked central excise duties on petrol by Rs 13 per litre** and those on diesel by Rs 16 per litre to shore up revenues as economic activity fell due to the pandemic.

5.1 RESTRICTIONS ON GOVERNMENT SERVANTS BEFORE AND AFTER RETIREMENT

Recently, the Centre has amended its **pension rules putting new restrictions on officials** of intelligence and security organisations after retirement.

New restrictions

- ❖ The government has amended the **Central Civil Services (Pension) Rules-1972**.
- ❖ Under amended Rule-8(3) (a), **officials retired from certain intelligence and security establishments will not be allowed to write anything** about their organisation without permission.
 - It says **no government servant**, who, having worked in any intelligence or security-related organisation included in the Second Schedule of the RTI Act, shall, **without prior clearance from the Head of the Organisation**, make any publication after retirement, of any material relating to and including:
 - The **domain of the organisation**, including any reference or information about any personnel and his designation, and experience or knowledge gained by virtue of working in that organisation;
 - The **sensitive information**, the disclosure of which would prejudicially affect the sovereignty and integrity of India, the security, strategic, scientific or economic interests of the state, or relation with a foreign state.
- ❖ The **Second Schedule of the RTI Act** covers 26 organisations including the Intelligence Bureau, R&AW, Directorate of Revenue Intelligence, CBI, NCB, BSF, CRPF, ITBP and CISF.

Existing provisions

- ❖ The pension of government servants is already **subject to their conduct after retirement**.
- ❖ The Rule 8 of the CCS Pension Rules says that the **future good conduct shall be an implied condition** of every grant of pension and its continuance.
- ❖ The appointing authority may, by order in writing, **withhold or withdraw a pension or a part** thereof, whether permanently or for a specified period, if the pensioner is **convicted of a serious crime** or is found guilty of grave misconduct.

➤ The expression '**grave misconduct**' includes the communication or disclosure of any secret official code or password or any sketch, plan, model, article, note, document or information.

Need for amendment to pension rules

❖ It was prompted by **concerns arising out of the fact that some high-profile retired officers had written books** on their tenure, and some of these had revealed information.

❖ It was in process for around four years after the **Committee of Secretaries** recommended it.

What restrictions are government employees under while in service?

❖ The **Rule 7 of the CCS Conduct Rules** restricts government servants from resorting to or abetting any form of strike or coercion.

❖ The **Rule 8 restricts them**, except with government sanction, from owning or participating in the editing or management of any newspaper or other periodical publication or electronic media.

❖ The **Rule 9 restricts a government servant** from making statements of fact or opinion in writing or in a telecast or a broadcast.

➤ It might have the effect of an adverse criticism of any current or recent policy or action of the Central Government or a State Government.

❖ The **Rule 9 of the CCS Pension Rules** says that if any government official has committed any misconduct and retires, he or she may face departmental proceedings only until four years of the date of committing that misconduct.

Is a retired government servant restricted from taking up employment?

❖ The **Rule 26, Death-cum-Retirement Benefits Rules**, restricts a pensioner from any commercial employment for one year after retirement, except with previous sanction of the central government.

❖ The **non-compliance can lead the central government declaring** that the employee shall not be entitled to the whole or such part of the pension and for such period as may be specified.

➤ The above mentioned **cooling-off period was two years until 2007**, when an amendment reduced it to one year.

Rules related to political activity while in service

❖ The **Conduct Rules bars government servants** from being associated with any political party or organisation, and from taking part or assisting any political activity.

The amendment in 2014 added a clause to Rule 3(1) which said, **“Every government employee shall at all times maintain political neutrality”** and **“commits himself to and uphold the supremacy of the Constitution and democratic values”**.

6.5 MISSIONS OF NASA FOR THE EXPLORATION OF VENUS

Recently, the **NASA has selected two missions** to the planet Venus.

❖ The missions are called **DAVINCI+ and VERITAS** which have been selected based on their potential for scientific value and the feasibility of their development plans.

DAVINCI+ and VERITAS

❖ The missions are part of the space agency’s **Discovery Program**, which began in 1992.

➤ It was launched to give scientists the **chance to launch some missions that use fewer resources** and have shorter developmental times.

❖ **DAVINCI+** is short for **‘Deep Atmosphere Venus Investigation of Noble gases, Chemistry, and Imaging’**.

➤ It is the **first US-led mission** to the planet’s atmosphere since 1978.

➤ It will try to understand **Venus’ composition** to see how the planet formed and evolved.

➤ It also consists of a **descent sphere that will pass through the planet’s thick atmosphere** and make observations and take measurements of noble gases and other elements.

➤ It will also try to return the **first high resolution photographs** of a geological feature that is unique to Venus.

❖ The second mission called **VERITAS** is short for **‘Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy’**.

➤ It will map the planet’s surface to **determine its geologic history** and understand the reasons why it developed so differently from Earth.

➤ It will **orbit Venus with a radar** that will help to create a three dimensional reconstruction of its

topography which might be able to tell scientists if processes such as plate tectonics and volcanism are still active there.

➤ It will also **map the emissions from Venus's surface** that may help in determining the type of rocks that exist on Venus.

➤ It will also determine if **active volcanoes are releasing water vapour** into the atmosphere.

Venus

- ❖ It is the **second-brightest object** in the sky after the moon.
- ❖ It appears bright because of its **thick cloud cover** that reflects and scatters light.
- ❖ It is called the **Earth's twin** because of their similar sizes.
- ❖ The planet's thick atmosphere **traps heat** and is the reason that it is the **hottest planet in the solar system**, despite coming after Mercury.
- ❖ The surface temperatures on **Venus can go up to 471 degrees Celsius**, which is hot enough to melt lead.
- ❖ It **moves forward on its orbit around the Sun** but **spins backwards around its axis** slowly which implies that on Venus the Sun rises in the west and sets in the East.
- **One day on Venus is equivalent to 243 Earth days** because of its backward spinning, opposite to that of the Earth's and most other planets.
- ❖ Venus also **does not have a moon** and **no rings**.

4.5 SDG INDIA INDEX & DASHBOARD 2020-21

Recently, the NITI Aayog has released the third edition of **SDG India Index & Dashboard 2020-21**.

SDG India Index

- ❖ It was **first launched** in 2018.
- ❖ It is **designed and developed** by NITI Aayog.
- ❖ The preparation of the index followed **extensive consultations with the primary stakeholders** i.e. the States and Union Territories, the UN agencies in India, Ministry of Statistics and

Programme Implementation (MoSPI), and the key Union Ministries.

- ❖ It has been **comprehensively documenting and ranking the progress** made by States and Union Territories towards achieving the Sustainable Development Goals.
- ❖ It has become the **primary tool for monitoring progress on the SDGs** in the country and has simultaneously fostered competition among the States and Union Territories.
- ❖ It remains a **rare data-driven initiative to rank our States and Union Territories** by computing a composite index on the SDGs.
- ❖ The **States and Union Territories are classified** as below based on their SDG India Index score:

- **Aspirant:** 0–49
- **Performer:** 50–64
- **Front-Runner:** 65–99
- **Achiever:** 100

Key Highlights of SDG India Index 2020-21

- ❖ It is **more robust than the previous editions** on account of wider coverage of targets and indicators with greater alignment with the NIF.
- It **covers 115 indicators incorporate 16 out of 17 SDGs**, with a qualitative assessment on Goal 17 and cover 70 SDG targets.
- ❖ It is an **improvement over the 2018–19 and 2019–20 editions** of the index, which had utilised 62 indicators across 39 targets and 13 Goals, and 100 indicators across 54 targets and 16 Goals, respectively.
- ❖ It is developed in collaboration with the **United Nations in India**.
- ❖ It tracks **progress of all States and UTs** on 115 indicators that are aligned to MoSPI's National Indicator Framework (NIF).

Overall results and findings of SDG India Index 2020-21

- ❖ The country's **overall SDG score has improved** by 6 points i.e. from 60 in 2019 to 66 in 2020–21.

- ❖ The positive stride towards achieving the targets is largely driven by exemplary country-wide performance in **Goal 6 (Clean Water and Sanitation) and Goal 7(Affordable and Clean Energy)**.
- ❖ **Mizoram, Haryana, and Uttarakhand are the top gainers** in 2020–21 in terms of improvement in score from 2019, with an increase of 12, 10 and 8 points, respectively.

Classification of states/UTs based on categories

- ❖ **Kerala has retained the top rank** in Niti Aayog's SDG India Index 2020-21, while Bihar has been adjudged as the worst performer.
- Both **Himachal Pradesh and Tamil Nadu** took the second spot with a score of 74.
- ❖ **Bihar, Jharkhand and Assam** were the worst performing states in this year's India index.

6.4 XraySetu TO IDENTIFY COVID POSITIVE PATIENTS

Recently, the Ministry of Science & Technology has unveiled a platform called '**XraySetu**' to identify COVID positive patients.

XraySetu Platform

- ❖ It is a **new AI-driven platform** which will facilitate **early-COVID interventions over Whatsapp** with the help of Chest X-ray interpretation.
- ❖ It is developed by **ARTPARK (AI & Robotics Technology Park)** in collaboration with Bangalore based **HealthTech startup Niramai** and the **Indian Institute of Science (IISc)**.
- ❖ It provides an automated **interpretation of Chest X-Rays** to predict if a patient has any lung abnormality that indicates COVID-19 infection.
- ❖ The platform can also **detect 14 additional lung-related ailments**, including tuberculosis and pneumonia, alongside others.

Significance of XraySetu Platform

- ❖ It can work with **low-resolution images sent via mobiles**, is **quick and easy to use**, and can facilitate **detection in rural areas**.

- ❖ It has **semantic annotations of affected areas** for review and localized heatmap by doctors to help them verify it easily with other modalities.
- ❖ It paves the way for **exponential technologies like AI to leapfrog** and provide cutting-edge healthcare technology to rural India in an extremely cost-effective manner.
- ❖ It can further be used for **both analog and digital X-rays** and has been successfully piloted by more than 300 doctors in rural areas over the last 10 months.
- ❖ It can **enable cutting-edge AI-driven systems** powering mobile PHCs, which can make healthcare more accessible even across rural India at a fraction of the cost.
- ❖ It allows doctors in rural areas to **plan early intervention for their patients** by simply taking a picture of their X-ray and sending it over via Whatsapp.

ARTPARK (AI & Robotics Technology Park)

- ❖ It is an **autonomous section-8, not-for-profit Company**.
- ❖ It is established by the **Indian Institute of Science (IISc), Bengaluru**, with support from the **Department of Science & Technology (DST)**.
- ❖ It is initiated under the **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)**.
- ❖ It is further collaborating with infrastructure partners like **C-DAC (for leveraging AI supercomputer ParamSiddi), Nvidia & AWS** to scale this free service to all the doctors in rural India.
- ❖ It is **Seed-funded by DST** under NM-ICPS Mission & Government of Karnataka to the tune of 230 cr.
- ❖ It is currently incubated at the **Robert Bosch Centre** for Cyber-Physical Systems at IISc.



INDIA CYCLES4CHANGE CHALLENGE

Recently, the Ministry of Housing & Urban Affairs has informed that the **India Cycles4Change Challenge** is beginning to gain momentum in Indian cities.

- ❖ A cycling revolution has taken over India, with cycling being seen as an **important mode of**

safe and healthy personal transport medium that ensures social distancing.

- ❖ The cycling saw a **huge rise in demand** as the COVID-19 pandemic was making inroads across the country.
- ❖ The lockdown restrictions had **significantly affected the commuters of public transport**, who saw cycling as a personal and COVID-safe alternative for short and medium distance commute.
- ❖ The cycling was also seen as a **means of staying healthy- physically and mentally** by the people who were confined to their homes.

India Cycles4Change Challenge

- ❖ It was launched in 2020 under the **Smart Cities Mission** by the **Ministry of Housing and Urban Affairs**.
- ❖ Its objective is to **inspire and support Indian cities to quickly implement cycling-friendly initiatives** in response to COVID-19.
- ❖ **107 cities registered to be a part of the cycling revolution** and 41 cities undertook initiatives vis. surveys, discussions, pop-up cycle lanes, safer neighbourhoods, open street events etc.
- ❖ The **Smart Cities Mission**, in association with **Institute for Transport and Development Policy (ITDP)** conducted training modules and other capacity building initiatives to guide 107 cities on various cycling initiatives.
- ❖ The **cities which can apply** for India Cycles4Change Challenge are:
 - Cities with 5 lakh plus population;
 - Capital cities of states/UTs; and
 - Cities under the Smart Cities Mission

Activities under India Cycles4Change Challenge

- ❖ The key intervention areas identified for piloting of solutions are as under:

Identifying barriers to cycling by listening to the people

- ❖ Cities undertook perception surveys to understand citizens' needs with regard to cycling.
- ❖ The cities conducted surveys and interviews and engaged with more than 60,000 people

throughout the country to understand cycling needs.

Making streets and neighbourhoods safe and fun for cycling

- ❖ Cities created dedicated cycle lanes to help cyclists ride safely.
- ❖ Cities like Bhubaneswar, Surat, Kochi, and Greater Warangal used traffic cones, bollards, and paints to test out interventions.
- ❖ Many cities like Vadodara and Gurugram made intersections safer for cyclists and pedestrians to cross by painting colourful crosswalks.

Creating a cycling community

- ❖ Local Civil Society Organisations were engaged with to conduct various events at a large scale and in neighbourhoods' level to bring the cycling community together.
- ❖ Cities such as Jabalpur, New Town Kolkata hosted cycle repair clinics to make cycle service accessible and affordable, encouraging more people to come on to the streets.

Empowering women to cycle

- ❖ Many cities including Nashik, New Town Kolkata, and Bengaluru hosted cycle training camps for older women, boosting their confidence to cycle.
- ❖ To improve access to cycles, Kohima, Rajkot, and Chandigarh launched cooperative cycle rental schemes and public bicycle sharing systems in neighbourhoods.

Changing everyday behaviour through campaigns

- ❖ Cities such as Rajkot and Jabalpur launched Cycle2Work campaigns, where senior officials of the government pedalled to office to inspire citizens to cycle.
- ❖ In Rajkot, the city distributed cycles to employees, awarded them for their efforts, and regularly showcased the carbon offset they had achieved through cycling.

Significance of India Cycles4Change Challenge

- ❖ The challenge had a Test-Learn-Scale (TLS) approach which the **participating cities adopted by testing various initiatives** through quick low-cost interventions.
- ❖ Its aim is to encourage cities to **initiate and implement quick interventions and**

promotional activities to encourage cycling and further develop a conceptual scale-up strategy.

- ❖ It will promote shortlisted cities to further **develop and commence the implementation of the concept scale-up plan** with inputs from National and International experts.

4.3 MODEL TENANCY ACT

Recently, the Union Cabinet chaired by the Prime Minister Shri Narendra Modi has approved the **Model Tenancy Act** for circulation to all States / Union Territories for adaptation.

Need for Model Tenancy Act

- ❖ In India, the **rental yield for residential property is quite low**, even in bigger cities as it is in the range of 1.5% to 3% of the capital values.

- It has **disincentivised people from investing** in second or third homes which could be rented out.

- ❖ It is aimed at **opening up of the vacant housing stock** for rental housing purposes and helping bridge the trust deficit that exists between tenants and landlords.

- ❖ The real estate experts say that **clear-cut incentives to boost rental housing via a sound policy** will positively help the government to further strengthen its Housing for All initiative.

- ❖ The real estate experts say that the Act can **fuel the rental housing supply pipeline** by attracting more investors.

- It will help **students, working professionals and migrant populations** to find urban accommodation.

- ❖ There was **no sound mechanism to resolve tenant-landlord conflicts** and property owners find it challenging to evict tenants if they misuse the property.

- ❖ The NRIs have historically found it **challenging to rent out properties** because of the complexities of getting good tenants, managing rental agreements, and taking care of the maintenance of these properties.

Features of Model Tenancy Act

- ❖ It will provide setting up of **separate rent authorities, courts and tribunals** in districts to

protect the interest of both the owner and tenant.

❖ It calls for establishing a separate **Rent Court and Rent Tribunal** in every state/UTs to hear appeals for matters connected to rental housing.

➤ Only the **rent court and no civil court will have the jurisdiction** to hear and decide the applications relating to disputes between landowner and tenant and matters connected with it.

❖ The **maximum limit of security deposit** has been fixed for:

➤ Residential premises-Maximum two months' rent; and

➤ Non-residential property-Maximum six months' rent

❖ The **written agreement is a must** for all new tenancies and it will have to be submitted to the concerned district 'Rent Authority'.

❖ The **rent and duration of tenancy will be fixed by mutual consent** between owner and tenant through a written agreement.

❖ Under the Model Tenancy Act, unless otherwise agreed in the tenancy agreement, the **landlord will be responsible** for activities

➤ Structural repairs except those necessitated by damage caused by the tenant;

➤ Whitewashing of walls;

➤ Painting of doors and windows;

➤ Changing and plumbing pipes when necessary; and

➤ Internal and external electrical wiring and related maintenance when necessary

❖ Under the Model Tenancy Act, the **tenant will be responsible** for:

➤ Drain cleaning;

➤ Switches and socket repairs;

➤ Kitchen fixtures repairs;

➤ Replacement of glass panels in windows, doors;

➤ Maintenance of gardens and open spaces among others;

➤ Must not intentionally or negligently damage the premises or permit such damage; and

➤ Must notify the landowner of any damage, as soon as possible

❖ The Model Tenancy Act says that **no landlord or property manager can withhold any essential supply** to the premises occupied by the tenant.

❖ If tenancy has not been renewed and premises not vacated, the tenancy shall be deemed to be **renewed on a month-to-month basis on the same terms and conditions** as were in the expired tenancy agreement, for a **maximum period of six months**.

❖ A landowner or property manager may **enter a premise in accordance with written notice or notice through electronic medium** served to the tenant **at least twenty-four hours before** the time of entry.

➤ The entry can be for the following reasons:

➤ To carry out repairs or replacement or do or get work done in the premises;

➤ To carry out an inspection of the premises for the purpose of determining whether the premises are in a habitable state; and

➤ For any other reasonable purpose for entry as specified in the Tenancy Agreement

Coverage under the Model Tenancy Act

❖ The Act will **apply to premises let out for residential, commercial or educational use**, but **not for industrial use**.

❖ It also **won't cover hotels, lodging houses, inns**, etc.

❖ It will be **applied prospectively** and will not affect existing tenancies.

❖ It seeks to **cover both urban** as well as **rural areas**.

Significance of Model Tenancy Act

❖ It will help **overhaul the legal framework** with respect to rental housing across the country, which would help spur its overall growth.

❖ It aims at creating a **vibrant, sustainable and inclusive rental housing market** in the country.

❖ It will enable creation of **adequate rental housing stock for all the income groups** thereby

addressing the issue of homelessness.

- ❖ It will enable **institutionalisation of rental housing** by gradually shifting it towards the formal market.
- ❖ It will facilitate **unlocking of vacant houses** for rental housing purposes.
- ❖ It is expected to give a **fillip to private participation in rental housing** as a business model for addressing the huge housing shortage.

3.3 China's 'artificial sun' EAST

Recently, the **China's Experimental Advanced Superconducting Tokamak (EAST)**, which mimics the energy generation process of the sun, set a new record after it ran at 216 million degrees Fahrenheit (120 million degrees Celsius) for 101 seconds.

- ❖ The "**artificial sun**" also achieved a **peak temperature of 288 million degrees Fahrenheit** (160 million degrees Celsius), which is over ten times hotter than the sun.
- ❖ In 2020, **South Korea's KSTAR reactor** set a new record by maintaining a plasma temperature of over 100 million degrees Celsius for 20 seconds.

China's 'artificial sun' EAST

- ❖ The **Experimental Advanced Superconducting Tokamak (EAST) reactor** is an advanced **nuclear fusion** experimental research device.
- ❖ It is located at the **Institute of Plasma Physics of the Chinese Academy of Sciences (ASIPP)** in Hefei, China.
- ❖ The purpose of the artificial sun is to **replicate the process of nuclear fusion**, which is the same reaction that powers the sun.
- ❖ It is one of **three major domestic tokamaks** that are presently being operated across the country.
- ❖ It first became **operational in 2006**.
- ❖ It is part of the **International Thermonuclear Experimental Reactor (ITER) facility**,

which will become the world's largest nuclear fusion reactor when it becomes operational in 2035.

❖ The project includes the contributions of several countries, including **India, South Korea, Japan, Russia and the United States.**

Working of China's 'artificial sun' EAST

❖ It is designed to **replicate the nuclear fusion process** carried out by the sun and stars.

➤ The nuclear fusion is a process through which **high levels of energy are produced without generating large quantities of waste.**

➤ Unlike fission, **fusion does not emit greenhouse gases** and is considered a **safer process with lower risk of accidents.**

❖ For nuclear fusion to occur, **tremendous heat and pressure are applied** on hydrogen atoms so that they fuse together.

❖ The **nuclei of deuterium and tritium**, both found in hydrogen, are made to fuse together to create a helium nucleus, a neutron along with a whole lot of energy.

❖ With the help of a strong magnetic field, **the plasma is kept away from the walls of the reactor** to ensure it does not cool down and lose its potential to generate large amounts of energy.

Importance of record made by China's 'artificial sun' EAST

❖ The next goal for the scientists behind the experimental reactor is to **maintain the high temperature** for a long period of time.

❖ It is a **step in the right direction** as far as China's green development is concerned.

❖ It is more like a future technology that's **critical for China's green development push.**



3.4 EQUAL ACCESS TO GREEN CARDS FOR LEGAL EMPLOYMENT (EAGLE) ACT

Recently, the Democrat Representative Zoe Lofgren and Republican John Curtis have introduced the **Equal Access to Green cards for Legal Employment (EAGLE) Act** of 2021.

EAGLE Act

❖ The bipartisan act seeks to **phase out the seven per cent per-country limit** on employment-based immigrant visas.

➤ It **raises the per-country limit on family-sponsored visas** from seven per cent to 15 per cent. It provides for a nine-year period for the elimination of this limit.

❖ It provides for a **nine-year period for the elimination** of this limit.

❖ With the EAGLE Act, the **per-country cap would be removed**, which may expedite the petitions for those applying for employment-based green cards.

Need for EAGLE Act

❖ The **seven per cent limit was introduced in the mid-20th century**, which has led countries with relatively small populations to be allocated the same number of visas as a relatively large-population country.

❖ A person from a **large-population country with extraordinary qualifications** who could contribute greatly to our economy and create jobs waits **behind a person with lesser qualifications** from a smaller country.

❖ The backlogged Indian workers face an **impossible wait of nine decades** if they all could remain in the line.

➤ It implies that more than **200,000 petitions filed for Indians could expire as a result of the workers dying of old age** before they receive green cards.

Significance of EAGLE Act

❖ It will benefit the **US economy by allowing American employers to focus on hiring immigrants** based on their merit, not their birthplace.

❖ It ensures that **no country may receive more than 25 per cent of reserved visas and no country may receive more than 85 per cent of unreserved visas**.

Importance of EAGLE Act for Indians

❖ It will be **advantageous for Indian job-seekers** who currently rely on temporary visas or await green cards to work in the US.

❖ The think-tank Cato Institute had reported in March 2020 that **75 per cent of the backlog for**

employment-based visas was made up of Indians.

Predecessors to the EAGLE Act

❖ The **Fairness for High-Skilled Immigrants Act (HR1044)** was passed by the House of Representatives in July 2019 with a resounding margin.

➤ The bill sought to **implement similar provisions which would remove the seven per cent cap** on per-country employee-backed immigrant visas.

❖ Another version of the **bill (S386)** was passed by the Senate in the 116th session of the Congress.

❖ According to the **American Immigration Lawyers' Association**, the legislation failed because the differences between the two versions were not reconciled prior to the end of the session.

4.6 SUPREME COURT'S RULING ON SEDITION CASE

Recently, the Supreme Court has **quashed case of sedition** filed against journalist Vinod Dua in Himachal Pradesh for allegedly making remarks against Prime Minister Narendra Modi and the government.

❖ In a video, Dua had criticised Prime Minister Modi and the Centre for the **handling of the migrant crisis last year**.

❖ The government filed a case of sedition against Dua in which **section 124A of the IPC penalises sedition** as punishable with either imprisonment ranging from three years to a lifetime, a fine, or both.

❖ The Himachal Pradesh government argued in the Supreme Court that Dua had **attempted to spread misinformation or incorrect information and cause panic** in the perception of the general public.

❖ Both the state and the Centre argued against quashing the FIR because the **state wanted to investigate** whether such statements were “deliberate” or “unintended and innocent assertions”.

Ruling of the Supreme Court

❖ It held that his **remarks constituted genuine criticism of the government** and could not be labelled seditious.

❖ The court has directed that **FIRs against persons belonging to the media with “at least 10 years’ standing not be registered** unless cleared by a committee to be constituted by every State Government.

➤ The committee should comprise of the **Chief Justice of the High Court or a Judge designated by him, the leader of the Opposition and the Home Minister of the State** to prevent misuse of the sedition law.

❖ It must be clarified that every **Journalist will be entitled to protection in terms of Kedar Nath Singh**, as every prosecution under **Sections 124A and 505 of the IPC** must be in strict conformity with the scope and ambit of the above mention sections.

Kedar Nath Singh guidelines

❖ In the **landmark 1962 Kedar Nath Singh case**, the Supreme Court upheld the constitutional validity of the sedition law.

➤ The apex court attempted to **restrict its scope for misuse**.

❖ The court held that **unless accompanied by an incitement or call for violence**, criticism of the government cannot be labelled sedition.

❖ The **seven principles** in the Kedar Nath Singh ruling specify situations in which the charge of sedition cannot be applied:

➤ The expression **‘the government established by law’** has to be distinguished from the persons for the time being engaged in carrying on the administration.

➤ The **‘government established by law’** is the **visible symbol of the State** and the very existence of the State will be in jeopardy if the Government established by law is subverted.”

➤ Any acts within the meaning of Section 124-A which have the **effect of subverting the Government** by bringing that Government into contempt or hatred, or creating disaffection against it, would be within the penal statute.

➤ The **feeling of disloyalty to the Government established by law** or enmity to it imports the idea of tendency to public disorder by the use of actual violence or incitement to violence.

➤ The comments without exciting those feelings which **generate the inclination to cause public disorder** by acts of violence would not be penal.

- A citizen has a **right to say or write whatever he likes about the Government**, or its measures, by way of criticism or comment, so long as he does not incite people to violence against the Government established by law.
- The provisions of the Sections make it reasonably clear that the **sections aim at rendering penal only** such activities as would be intended, or have a tendency, **to create disorder or disturbance of public peace**.
- It is only when the words, written or spoken, etc. which have the **pernicious tendency or intention of creating public disorder or disturbance of law and order** that the law steps in to prevent such activities in the interest of public order.
- We propose to **limit its operation only to such activities** as come within the ambit of the observations of the Federal Court.

1.4 RBI'S DECISION TO KEEP REPO RATE UNCHANGED

Recently, the **Monetary Policy Committee (MPC) of the RBI** has kept the **repo rate, unchanged at 4 per cent** for the sixth time in a row and slashed the growth rate to 9.5 per cent for fiscal 2021-22.

Reasons for unchanged repo rate

- ❖ The panel said that the **second wave of Covid-19 has altered** the near-term outlook.
- It necessitated **urgent policy interventions, active monitoring and further timely measures** to prevent emergence of supply chain bottlenecks and build-up of retail margins.
- ❖ The policy support from all sides i.e. **fiscal, monetary and sectoral**, was required to nurture recovery and expedite return to normalcy.
- ❖ The MPC decided to **retain the prevailing repo rate and continue with the accommodative stance** as long as necessary to revive and sustain growth on a durable basis and continue to mitigate the impact of Covid-19 on the economy.

Reasons for slashing growth rate

- ❖ The central bank has **scaled down the FY22 (2021-22) gross domestic product (GDP) growth to 9.5 per cent** as against the previous projection of 10.5 per cent.
- ❖ The **urban demand has been dented by the second wave**, but adoption of new Covid-

compatible occupational models by businesses for an appropriate working environment may cushion the hit to economic activity.

❖ The panel said **domestic monetary and financial conditions remain highly accommodative and supportive** of economic activity.

❖ The **vaccination process is expected to gather steam** in the coming months and should help to normalise economic activity quickly.

RBI's observation on the economy

❖ The central bank's panel said that the following forces could provide **tailwinds to revival of domestic economic activity** when the second wave abates:

- The forecast of a **normal south-west monsoon**;
- The resilience of **agriculture and the farm economy**;
- The adoption of Covid-19 **compatible operational models** by businesses; and
- The **gathering momentum** of global recovery

❖ The **ramping up of the vaccination drive and bridging the gaps in healthcare infrastructure** and vital medical supplies can mitigate the pandemic's devastation.

❖ The rural demand remains **strong and the expected normal monsoon bodes** well for sustaining its buoyancy.

RBI's stand on Inflation

❖ The panel has projected the **retail inflation to be 5.1 per cent**, within the RBI's inflation band of plus/minus four per cent during 2021-22.

➤ It has forecast 5.2 per cent in Q1, 5.4 per cent in Q2, 4.7 per cent in Q3 and 5.3 per cent in Q4 of 2021-22 with risks broadly balanced.

❖ The inflation trajectory is likely to be **shaped by uncertainties** impinging on the upside and the downside.

❖ The **rising trajectory of international commodity prices**, especially of crude, together with logistics costs, pose **upside risks to the inflation outlook**.

❖ The **excise duties, cess and taxes imposed by the Centre and States** need to be adjusted in

a coordinated manner to **contain input cost pressures** emanating from petrol and diesel prices.

RBI's plans on the liquidity front

- ❖ It will continue to **conduct regular operations** for liquidity management.
- ❖ It has decided to **conduct another operation under G-SAP** (government securities acquisition programme) for purchase of G-Secs of Rs 40,000 crore.
- ❖ It has also been decided to **undertake another G-SAP in Q2 of 2021-22** and conduct secondary market purchase operations of Rs 1.20 lakh crore to support the market.
- ❖ It has undertaken **regular open market operations** and injected additional liquidity to the tune of Rs 36,545 crore in addition to Rs 60,000 crore under the first G-SAP.

4.7 DECOMMISSIONING OF INS SANDHAYAK

Recently, the Ministry of Defence has announced the **decommissioning of INS Sandhayak**.

INS Sandhayak

- ❖ It is the **first of its class indigenously designed** and built **Hydrographic Survey Ship** of Indian Navy.
- ❖ It was conceptualised by then **Chief Hydrographer** to the Govt. of India, Rear Admiral FL Fraser.
- ❖ The design was finalised by Naval Headquarters and the construction of the ship began at **GRSE Kolkata** by laying the keel in 1978.
- ❖ It was commissioned in the Indian Navy in **1981**.
- ❖ It has **undertaken approximately 200 major Hydrographic Surveys** and numerous minor surveys in both East and West coasts of the country, the Andaman seas and the neighbouring countries too.
- ❖ It has been an active participant in many **significant operations** such as:
 - **Operation Pawan:** Assisting the Indian Peace Keeping Force in Sri Lanka in 1987;
 - **Operations Sarong and Rainbow:** Rendering humanitarian assistance post Tsunami of 2004; and

➤ Participation in maiden joint INDO-US HADR Exercise 'Tiger-Triumph'.

6.8 DECLINE IN STAR FORMATION ACTIVITY

Recently, a team of astronomers from the **National Centre for Radio Astrophysics (NCRA-TIFR) in Pune**, and the **Raman Research Institute (RRI)** have discovered the reason behind **decline in star formation activity** 8 billion years ago.

Highlights

- ❖ The study stated that the **fuel critical to hydrogen formation is atomic hydrogen gas** content of galaxies.
- ❖ The researchers used the **Giant Metrewave Radio Telescope (GMRT) to measure the atomic hydrogen gas** content of galaxies 9 billion years ago.
- ❖ The measurement of the atomic hydrogen gas mass was done by using the GMRT to search for a **spectral line in atomic hydrogen**, which can only be detected with radio telescopes.
- ❖ The star formation in early galaxies was so intense that they would **consume their atomic gas in just two billion years** and if the galaxies could not acquire more gas, their star formation activity would decline and finally cease.
- ❖ It appears likely that the cause of the declining star- formation in the Universe is simply that galaxies were **not able to replenish their gas reservoirs after some epoch**.

Giant Metrewave Radio Telescope (GMRT)

- ❖ It is a **unique facility for radio astronomical research** using the metre wavelengths range of the radio spectrum.
- ❖ It is located at a site about **80 km north of Pune**.
- ❖ It consists of **30 fully steerable gigantic parabolic dishes of 45m diameter** each spread over distances of upto 25 km.
- ❖ It has been set up by **National Centre for Radio Astrophysics (NCRA)**, a center of the school of natural sciences of the TIFR.

Goals of Giant Metrewave Radio Telescope (GMRT)

- ❖ To detect the highly **redshifted spectral line of neutral Hydrogen expected from proto-clusters or proto-galaxies** before they condensed to form galaxies in the early phase of the Universe and
- ❖ To search for and study **rapidly-rotating Pulsars** in our galaxy
- ❖ **Epoch of Galaxy Formation:** Theories of the formation of structure in the Big-Bang Universe predict the presence of proto galaxies or proto clusters of galaxies made up of clouds of neutral Hydrogen gas before their gravitational condensation into galaxies.
- ❖ **Pulsars and Neutron Stars:** GMRT should also be an ideal instrument for the study of Pulsars (rapidly rotating neutron stars with extremely high densities of about 200 million tons per cubic cm).
- ❖ **Galactic and Extragalactic Radio Sources:** Because of its large collecting area and wide frequency coverage, GMRT will be an invaluable and highly versatile instrument for studying many other problems at the frontiers of astrophysics.

4.8 DEVIKA PROJECT OF UDHAMPUR

Recently, the Ministry of Personnel, Public Grievances & Pensions has said that **Devika Project is for all** and therefore suggestions are welcome from every Party.

Devika Project

- ❖ It is **North India's first- of- its- kind project** located in **Udhampur, Jammu & Kashmir**.
- ❖ It is Rs.190 Crore project under the **National River Conservation Plan (NRCP)** which started in March 2019.
- ❖ The **activities involved** under the project are:
 - **Bathing "ghats"** (places) on the banks of the Devika River will be developed;
 - **Encroachments will be removed;** and
 - **Natural water bodies will be restored** and catchment areas will be developed along with cremation ground.
- ❖ The project includes the **construction of three sewage treatment plants** of 8 MLD, 4 MLD and 1.6 MLD capacities.

Devika River

- ❖ It holds great religious significance as it is revered by Hindus as the **sister of river Ganga**.
- ❖ In the **Nilmat Puran** that was written in the 7th century by Nela Muni, it is mentioned that the **Devika River is a manifestation of the mother Goddess Parwati** herself to benefit the people of Mader Desha.
- ❖ It originates from the **hilly Suddha Mahadev temple in Udhampur district** and flows down towards western Punjab (now in Pakistan) where it **merges with the Ravi River**.

EXPERT GROUP ON FIXATION OF MINIMUM WAGES AND NATIONAL FLOOR WAGES

Recently, the Ministry of Labour & Employment Government issued an order and has constituted the **Expert Group** to provide technical inputs and recommendations on **fixation of Minimum Wages and National Floor Minimum Wages**.

Highlights

- ❖ It is the **second expert committee on minimum wages** formed by the government within the last two years.
- ❖ The Group has been constituted for a **period of three years** from the date of notification.
- ❖ The Expert Group is chaired by **Prof Ajit Mishra**, Director of Institute of Economic Growth.
- ❖ The national floor wages refers to the **minimum level of wage that is applicable to all categories of workers** across the country.
- ❖ Under the Code on Wages, a **National Floor Level Minimum Wage will be set by the Centre** to be revised every five years, while **states will fix minimum wages for their regions**, which cannot be lower than the floor wage.

Purpose of Expert Group on Minimum Wages

- ❖ It will give recommendations to the Government on **Minimum Wages and National Floor Wage**.
- ❖ It will look into the **international best practices on the wages and evolve a scientific criteria and methodology** for fixation of wages.

4.9 GREEN GOLD COLLECTION

Recently, the Union Minister of State for Agriculture & Farmer's Welfare has launched the **Bamboo Market Page 'Green Gold Collection'** on Govt e-Marketplace (GeM) portal.

Green Gold Collection

- ❖ It is a unique initiative of the **National Bamboo Mission (NBM)** and **Govt e-Marketplace (GeM)**.
- ❖ It is a **dedicated window** on the GeM portal for **marketing of the Bamboo Goods** (Bamboo based products & Quality Planting Materials).
- ❖ It showcases a **range of exquisitely handcrafted bamboo and bamboo products**, handicrafts, disposals and office utility products on the GeM portal.
- ❖ It aims to provide **bamboo artisans, weavers and entrepreneurs in rural areas with market access** to Government buyers.
- ❖ The **product categories ranging from bamboo poles to bamboo products** in furniture, lifestyle & décor, kitchenware, industrial machinery, handcrafted items such as toys and office utility items like agarbatti/ incense sticks, disposables, water bottles, yoga mats, charcoal, etc. are being uploaded on the portal.

Significance of Green Gold Collection

- ❖ It will provide an **electronic platform for the small manufacturers and niche sellers** thereby vastly increasing their reach to attract buyers.
- ❖ It will provide **niche products from trusted sources** to the buyers.
- ❖ It would prove to be very useful for giving the bamboo entrepreneurs a much **robust market outreach**.
- ❖ It seeks to promote the **adoption and use of bamboo products among Government buyers** and usher a sustainable rural economy for an **Atmanirbhar Bharat**.

6.9 Cosmic Infrared Background Experiment (CIBER)-2 Instrument

Recently, a NASA-funded rocket's launch window will open at the **White Sands Missile Range** in

New Mexico, USA.

Cosmic Infrared Background Experiment (CIBER)-2

- ❖ The scientists have estimated that on average **each galaxy consists of about 100 million stars** in order to roughly estimate the number of stars in the Universe.
- ❖ The instrument will launch aboard a sounding rocket, a small suborbital rocket that will carry scientific instruments on brief trips into space before it falls back to Earth for recovery.
- ❖ The aim of this mission is to **count the number of stars** that exist in the Universe.
- ❖ It is designed to continue the **spectro-photometric and fluctuation campaign of the Extragalactic Background Light (EBL)** in the near infrared.
- ❖ It will help to **evaluate and find the true figures of the stars**, as the highest estimated number of the celestial bodies from the massive universe might not be enough.
- ❖ It is a **near-infrared rocket-borne instrument designed to conduct comprehensive multi-band measurements** of extragalactic background light (EBL) anisotropy on arc-second to degree angular scales.

Working of CIBER-2

- ❖ It will survey a **patch of sky** that will include dozens of clusters of galaxies.
- ❖ The instrument will **not actually count individual stars** but it will instead detect the extragalactic background light, which is all of the light that has been emitted throughout the history of the Universe.
- ❖ It will focus on a **portion of the cosmic infrared background**, which is emitted by some of the most common stars.
- ❖ It is aiming to look at **how bright this light is to give scientists** an estimate of how many of these stars are out there.

Extragalactic Background Light and Cosmic Infrared Background

- ❖ The EBL is a **background glow of the collective photons** produced in the universe over time.
- ❖ It was used in the **first CIBER mission to determine the total light from stars** through

optical to ultraviolet scale.

❖ The objective is to **use cosmic infrared background to point out the common types** of stars such as M and K dwarfs.

The sounding rocket will **measure the number of stars** not by counting the physical bodies themselves, but by the traces of lights that are emitted by stars in faint galaxies.

6.10 DELTA VARIANT OF COVID-19

Recently, the **Public Health England (PHE)** has said a staggering 61% of the samples sequenced are now of the **Delta variant (B.1.617.2) of Covid-19**.

Delta variant of Covid-19

❖ B.1.617 is one of the **multiple SARS COV-2 variants** and its **sub-lineage B.1.617.2**, known as the **Delta variant**.

❖ The early evidence suggests that Delta variant of Covid-19 is **more transmissible** than contemporary lineages.

❖ The World Health Organization (WHO), which has given it the label Delta, has categorised it as a **variant of concern (VOC)**.

❖ The WHO classifies a variant as a VOC when:

➤ It is associated with an **increase in transmissibility or detrimental change** in Covid-19 epidemiology;

➤ **Increase in virulence**; or

➤ **Decrease in the effectiveness** of public health measures or available diagnostics, vaccines, therapeutics.

Delta variant is considered as variant of concern (VOC)?

❖ An **RNA virus**, such as SARS-CoV-2, is made of about 30,000 base pairs of amino acids, placed like bricks next to each other.

❖ The Delta variant contains **multiple mutations** in the spike protein.

Evidence on Severity and Transmissibility

❖ The delta continues to **demonstrate a substantially increased growth rate** compared to Alpha across multiple analyses.

The evidence from England and Scotland suggests there may be an **increased risk of hospitalisation** compared to contemporaneous Alpha cases.

3.5 PROMOTION OF RED TOURISM IN CHINA

Recently, the popularity of '**red tourism**' is at an all-time high in the country as the **Chinese Communist Party** celebrates its 100th anniversary in 2021.

Red Tourism

- ❖ In China, 'red tourism' refers to **visiting sites** which have a **modern revolutionary legacy**.
- ❖ It was launched in 2004 with the purpose to **promote locations with historical and cultural significance** to the ruling Communist Party's history.
- ❖ The red sites in the country now **form the core of a booming tourism industry** that seeks to promote the party's heritage.
- ❖ The tourism sites are a big attraction for the **young Chinese population that loves to travel and learn** more about the country's history.

Significance of Red Tourism

- ❖ It involves visiting places that are of **historical and cultural importance for the Chinese Communist Party**.
- ❖ It has been **bringing in huge revenues** which is fuelling China's economic boom since the pandemic.
- ❖ It seeks to **spread awareness about the history of the Communist Party of China** starting from its origins.
- ❖ It reminds people of the **sacrifices made by the leaders** of the Communist party to forge a modern China.

Famous sites covered by 'red tourism'

❖ It includes places such as:

- **Nanhu Lake** in East China's Zhejiang, where the First National Congress of the Chinese Communist Party was held on a boat in 1921;
- Mao Zedong's birthplace **Shaoshan** have been witnessing huge footfall;
- **Yan'an**, Mao Zedong's revolutionary base area where the Red Army arrived after the Long March;
- **Jinggangshan**, where leading members of the Communist Party of China established their first rural base for the revolution in 1927;
- **Nanchang**, the capital city of Jiangxi Province which witnessed a significant Uprising in 1927 led by Zhou Enlai and He Long; and
- **Jinggang Mountain** in Jiangxi Province where the revolution led by the Communist Party of China began in October, 1927.

Critics of Red Tourism

- ❖ It seeks to **educate people about the country's past** often indulges in one-sided storytelling.
- ❖ It can tend to gloss over the **failures and misdeeds of the Communist leaders of the country**, thus peddling a version of history which can suit the party's interests.

Many have pointed out that more than **fostering the spirit of research and academic scholarship** in history, ideological indoctrination is at the heart of this project.

6.11 CORBEVAX VACCINE

Recently, India has placed an advance order to block **300 million doses of a new Covid-19 vaccine, Corbevax**, from Hyderabad-based Company Biological E.

Corbevax Vaccine

- ❖ It is a "**recombinant protein sub-unit**" vaccine, which means it is made up of a **specific part of SARS-CoV-2** i.e. the spike protein on the virus's surface.

❖ It is **indigenously produced** as its beginning can be traced to the Baylor College of Medicine's National School of Tropical Medicine.

➤ The School had been working on **recombinant protein vaccines for coronaviruses SARS and MERS** for a decade.

❖ It is a **protein sub-unit vaccine**, similar to inactivated whole-cell vaccines such as Covaxin, and does not contain live components of the virus.

Working of Corbevax Vaccine

❖ The spike protein **allows the virus to enter the cells in the body** so that it can replicate and cause disease.

❖ When this protein alone is given to the body, it is not expected to be harmful as the **rest of the virus is absent**.

❖ The body is expected to **develop an immune response** against the injected spike protein.

❖ When the real virus attempts to infect the body, it will already have an **immune response ready that will make it unlikely for the person to fall severely ill**.

❖ It will be among the **first Covid-19 vaccines** to use this platform.

Corbevax Vaccine is different from others

❖ The Covid-19 vaccines approved so far are either **mRNA vaccines (Pfizer and Moderna)** or **viral vector vaccines (AstraZeneca-Oxford/Covishield, Johnson & Johnson and Sputnik V)** or **inactivated vaccines (Covaxin, Sinovac-CoronaVac and Sinopharm's SARS-CoV-2 Vaccine-Vero Cell)**.

❖ The inactivated vaccines, which include **killed particles of the whole SARS-CoV-2 virus**, attempt to target the entire structure of the virus.

❖ Viral vector and mRNA vaccines use a code to **induce our cells to make the spike proteins** against which the bodies have to build immunity.

❖ As it is made using a **low-cost platform**, it is also expected to be among the **cheapest available in the country**.

Importance of Corbevax Vaccine

❖ It is the first time the Indian government has placed an order for a **vaccine that has not received emergency use authorisation.**

The Centre has provided **major pre-clinical and clinical trial support** towards the vaccine's development, including a grant-in-aid of Rs 100 crore from the Department of Biotechnology.

4.10 DEFENCE ACQUISITION COUNCIL (DAC)

Recently, the **Defence Acquisition Council (DAC)** has approved proposals concerning **Capital Acquisitions** of various equipment for **modernisation and operational needs of the Armed Forces** amounting to approx. Rs 6,000 crore.

❖ The DAC also approved issue of **RFP for construction of six Conventional Submarines under Project P 75 (I)** under the Strategic Partnership (SP) Model.

❖ The **project envisages indigenous construction of six conventional submarines** equipped with the state-of-the-art Air Independent Propulsion system at an estimated cost of Rs 43,000 crore.

❖ It is being the first case processed under the **Strategic Partnership model** which would be one of the largest 'Make in India' projects.

Significance of Capital Acquisitions by DAC

❖ It will serve to **facilitate faster and more significant absorption of technology** and create a tiered industrial ecosystem for submarine construction in India.

❖ It will help **reduce current dependence on imports and gradually** ensure greater self-reliance and dependability of supplies from indigenous sources.

❖ India will be **enabled to achieve its 30-year Submarine construction programme** envisioned by the Government to acquire national competence in submarine construction.

❖ It will be an **important step towards enhancing the nation's quest for self-reliance** in modern conventional submarine construction and sustainment activities.

❖ It provides a **unique long-term opportunity and planning certainty** for the industry to invest and support submarine construction.

❖ It will also **infuse the latest technology and weaponry for submarines** in India through strategic tie up between Indian Industry and leading foreign OEMs.

Defence Acquisition Council (DAC)

❖ It is chaired by the **Union Minister of Defence**.

❖ Its objective is to **ensure expeditious procurement** of the approved requirements of the Armed Forces in terms of capabilities sought.

❖ The **functions** of the DAC include:

➤ In-principle approval of **15 Year Long-Term Integrated Perspective Plan** for Defence Forces;

➤ **Accord of Acceptance of Necessity** to acquisition proposals;

➤ **Categorization of the acquisition** proposals relating to 'Buy', 'Buy & Make' and 'Make';

➤ Issues relating to **Single vendor clearance**; and

➤ **Decision regarding 'offset' provisions** in respect of acquisition proposals above Rs. 300 crores.

5.3 SAGE (SENIORCARE AGEING GROWTH ENGINE) INITIATIVE

Recently, the Ministry of Social Justice & Empowerment has launched the **SAGE (Seniorcare Ageing Growth Engine) Initiative** and SAGE Portal.

Need for SAGE Initiative

❖ **India's elderly population is on the rise** as the share of elders, as a percentage of the total population in the country, is expected to increase from around 7.5% in 2001 to almost 12.5% by 2026.

❖ There is an **urgent need to create a more robust elder care ecosystem** in India, especially in the post-COVID phase.

❖ The number of elderly people is **steadily increasing in our country**, so there is a need to keep in mind that the elderly should remain **happy, healthy, and financially and physically active**.

SAGE (Seniorcare Ageing Growth Engine) initiative

❖ The SAGE portal will be a **"one-stop access" of elderly care products and services** by

credible start-ups.

- ❖ The **start-ups will be selected on the basis of innovative products and services**, which they should be able to provide across sectors such as health, housing, care centers etc.
- ❖ It is designed as per the **suggestions of the Empowered Committee on start-ups for the elderly** to solicit the involvement of youth and their innovative ideas for elderly care.
- ❖ An allocation of **Rs 25 crores has been made for the SAGE project** in the current financial year i.e. 2021-22.
- ❖ The Ministry will act as a **facilitator, enabling the elderly to access the products** through these identified start-ups.
- ❖ It aims to **identify, evaluate, verify, aggregate, and deliver products, solutions and services** directly to the stakeholders.

Senior Citizen Welfare Fund

- ❖ It has been established under the **Finance Act, 2015**.
- ❖ It aims to be **utilized for such schemes for the promotion of the welfare of senior citizens**, in line with the National Policy on Older Persons.
- ❖ The unclaimed money lying under **Small Savings Schemes, Employees Provident Fund, Public Provident Fund schemes, Life and non-life insurance schemes or policies maintained by insurance companies and accounts of Coal Mines Provident Fund** is transferred into Senior Citizens' Welfare Fund.
- ❖ Any unclaimed deposit such as Small savings and other savings schemes of the Central Government including the **Post Office Savings Accounts, Post Office Recurring Deposit Accounts, Post Office Time Deposit Accounts, Post Office Monthly Income Accounts, Senior Citizens' Savings Scheme Accounts, Kisan Vikas Patras** etc. goes into the SCWF.

8.3 BLACK CARBON AND GLACIER MELTING

The report titled "**Glaciers of the Himalayas: Climate Change, Black Carbon and Regional Resilience**" says that the **glaciers** are melting faster than the global average ice mass. However, the strong policy on **black carbon** can sharply cut glacier melt.

- ❖ The research report is **released by the World Bank** and covers the **Himalaya, Karakoram,**

and **Hindu Kush (HKHK)** mountain ranges.

Black Carbon

- ❖ Black carbon is a **kind of an aerosol**.
- An **aerosol** is a suspension of fine solid particles or liquid droplets in the air.
- ❖ Among aerosols (such as brown carbon, sulphates), Black Carbon (BC) has been **recognized as the second most important anthropogenic agent for climate change** and the **primary marker to understand the adverse effects caused by air pollution**.
- ❖ It **gets emitted** from gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuel. It **comprises a significant portion of particulate matter or PM**, which is an air pollutant.

HKHK Mountain Region:

- ❖ HKHK Region **spans eight countries**; Afghanistan, Pakistan, India, Nepal, China, Bhutan, Bangladesh and Myanmar and also **has some of the world's tallest mountains including Mt. Everest and K2**.
- ❖ HKHK Glaciers **feed into river systems** including Ganga, Yangtze, Irrawaddy, and Mekong.
- The water that runs down from glaciers **feeds the agriculture**, on which nearly 2 billion people are dependent upon.
- ❖ HKHK Region, also known as the **third pole**, along with China's Tien Shan Mountains holds most ice outside the North and the South Pole.

Black Carbon:

- ❖ BC is a **short-lived pollutant** that is the **second-largest contributor to warming the planet behind carbon dioxide (CO₂)**.
- Unlike other greenhouse gas emissions, BC is **quickly washed out and can be eliminated from the atmosphere if emissions stop**.
- Unlike historical carbon emissions it is **also a localised source with greater local impact**.

Source of Black Carbon in Himalayan Region:

❖ **Industry** (primarily brick kilns) and **residential burning of solid fuel** together account for 45-66% of regional anthropogenic (man-made) BC deposition, followed by **on-road diesel fuels** (7-18%) and **open burning** (less than 3% in all seasons) in the region.

Impact of Deposits of BC:

❖ It acts in two ways hastening the pace of glacier melt:

- By decreasing surface reflectance of sunlight.
- By raising the air temperature.

Rate of De-glaciation:

❖ The rate of retreat of HKHK glaciers is **estimated to be 0.3 metres per year in the west to 1.0 metre per year** in the east.

❖ Full implementation of **current policies to mitigate BC can achieve a 23% reduction** but **enacting new policies** and incorporating them through regional cooperation among countries can achieve enhanced benefits.

➤ **National Mission on Sustaining Himalayan Ecosystem (NMSHE)** is one such policy adopted in India. It is one of the eight missions under the **National Action Plan on Climate Change (NAPCC)**.

❖ **BC deposits can be sharply reduced** through new, currently feasible policies **by an additional 50%** from current levels.

Impact of Glacier Melt:

❖ Glacier melt **produces flash floods, landslips, soil erosion, and glacial lake outburst floods (GLOF)**.

❖ In the short run, the higher volumes of melt water **could replace receding groundwater downstream**. But in the long run, decreased water availability would **aggravate water shortage**.

Measures to be Taken:

❖ In the Himalayas, **reducing black carbon emissions from cookstoves, diesel engines, and open burning** would have the greatest impact and could significantly **reduce radiative forcing** and help to

maintain a greater portion of Himalayan glacier systems.

➤ **Radiative forcing is a measure of the change in energy balance** as a result of a change in a forcing agent (e.g., greenhouse gases, aerosol, cloud, and surface albedo) to affect the global energy balance and contribute to climate change.

Steps to be Taken by Regional Governments:

- ❖ Review the **policies on water management**, with an emphasis on basin-based regulation and use of price signals (value of a particular action) for efficiency.
- ❖ Careful **planning and use of hydropower** to reflect changes in water flows and availability.
- ❖ Increasing the **efficiency of brick kilns** through proven technologies.
- ❖ There must also be greater **knowledge sharing** in the region.

6.12 CROPS LOST TO PESTS

According to a recent report, as much as **40% of the world's agricultural crops** are lost to pests each year.

- ❖ The **United Nations** declared 2020 as the **International Year of Plant Health**, which has been extended until 1st July, 2021.

Reasons for the Spread:

- ❖ Half of all **emerging plant diseases** are spread by **global travel and trade**, which have tripled in volume over the last decade.
- ❖ **Weather** is the second-most important factor.

Impact of Climate Change:

- ❖ It will **increase the risk of pests spreading** in agricultural and forestry ecosystems, especially in **cooler Arctic, boreal, temperate and subtropical regions**.

Controlling Invasive Pests:

- ❖ A single, **unusually warm winter** can be enough to assist the establishment of **invasive pests**.
- ❖ **Fall armyworm pests**, which feed on crops like maize, sorghum and millet and **Tephritid fruit flies** (that damage fruit and other crops) have already spread due to a warmer climate.
- ❖ **Desert locusts (the world's most destructive migratory pests)**, are expected to change their migratory routes and geographical distribution because of climate change.

Impact of the Plant Pests:

- ❖ It leaves **millions of people without enough food to eat**.
- ❖ It **adversely impacts agricultural activities** and thereby, the primary source of income for rural poor communities.
- ❖ **Invasive pests cost countries at least USD 70 billion annually** and are one of the **main drivers of biodiversity loss**.

Key Recommendations:

- ❖ Farmers should adopt and policymakers should encourage the use of **environment-friendly methods** such as integrated pest management.
- ❖ To make trade safe, it is important to implement **international plant health standards and norms**, such as those developed by the **International Plant Protection Convention (IPPC)** and **Food and Agriculture Organization (FAO)**.
 - The IPPC is a **plant health treaty** signed by over 180 countries including India.
 - It aims to **protect the world's plant resources** from the spread and introduction of pests, and promote safe trade.
- ❖ There is a need for **more research as well as investment** in strengthening national plant health systems and structures.
- ❖ Policymakers and governments should ensure their decisions are based on **sound preparation and data**.
- ❖ **Regularly monitoring plants and receiving early warning information** about emerging threats, helps governments, agricultural officers and farmers take preventive and adaptive measures to keep plants healthy.

Pest Controlling Methods

- ❖ The most popular methods of containing the pest include the use of **Genetically Modified (GM) crops and pesticides**, however, some armyworms have developed resistance to these tactics and are continuing to destroy crops.
 - ❖ Natural approaches, including **breeding predators such as wasps**, to be released into fields when necessary, as well as developing a “**germ warfare**” that isolates diseases to which the caterpillar (armyworm) is prone, are being explored by the scientists.
 - ❖ **A quarantine system**, under which imports of grains and plants that can host such insects are inspected at shipping ports, airports and land border crossings is the first line of defence taken by the countries across the world.
 - ❖ **The quarantine system in India** is governed by the **Plant Quarantine (Regulation of Import into India) Order of 2003**, which is notified under the Destructive Insects and Pests Act of 1914.
- **In India**, quarantine responsibility lies with **the Directorate of Plant Protection, Quarantine & Storage** (headquartered in Faridabad, Haryana). The short staffed directorate and the lack of a strong legislation have made the task of policing borders difficult in India.

6.13 SATELLITE INTERNET

According to an estimate, 1,250 satellites will be launched annually this decade, with 70% of them for commercial purposes.

- ❖ Various private companies are **aiming to deliver broadband satellite Internet** around the world **through** their fleet of **Low Earth Orbit (LEO) satellites**.
- ❖ The idea of a **space internet** system is not new. It is being used through **Geostationary Satellite** for selective users.

Satellite Internet and LEO Technology:

- ❖ **Positioning of Satellites:** LEO satellites are **positioned around 500km-2000km from earth**, compared to **stationary orbit satellites** which are approximately **36,000km** away.
- ❖ **Latency:** Latency, or the time needed for data to be sent and received, is contingent on proximity.

➤ As LEO satellites orbit closer to the earth, they are able to **provide stronger signals and faster speeds** than traditional fixed-satellite systems.

➤ Additionally, because signals travel faster through space than through fibre-optic cables, they also have the potential to rival if not exceed existing ground-based networks.

❖ **Higher Investment:** LEO satellites **travel at a speed of 27,000 kph** and complete a full circuit of the planet in 90-120 minutes.

➤ As a result, individual satellites can only make direct contact with a land transmitter for a short period of time thus requiring massive LEO satellite fleets and consequently, a **significant capital investment**.

➤ Due to these costs, of the three mediums of Internet – fibre, spectrum and satellite – the latter is the most expensive.

Geostationary Satellite Internet:

❖ **Positioning of Satellites:** Geostationary orbit is **located at a height of 35,786 km over the Earth's surface, directly above the Equator**.

➤ Most of the existing space-based Internet systems use satellites in geostationary orbit.

➤ Satellites in this orbit **move at speeds of about 11,000 km per hour, and complete one revolution of the Earth at the same time that the earth rotates once on its axis**.

➤ To the observer on the ground, therefore, a satellite in a geostationary orbit appears stationary.

❖ **Coverage:** The signals from one geostationary satellite can **cover roughly a third of the planet** – and three to four satellites would be enough to cover the entire Earth.

❖ **Easier Connectivity:** As satellites appear to be stationary, it is easier to link to them.

❖ **Latency Issues:** The transmission from a satellite in geostationary orbit has a **latency of about 600 milliseconds**. The geostationary satellites are located at higher altitudes compared to LEO, thus the longer the distance that needs to be covered results in greater latency.

Related Initiatives:

❖ **‘Five to 50’ service (OneWeb):** OneWeb, a private company, has successfully launched constellations of 218 satellites in LEO.

➤ The company only has one more launch to complete before it obtains the capacity to enable its **‘Five to 50’ service** of offering internet connectivity to all regions **north of 50 degrees latitude**.

➤ The Five to 50 service is expected to be switched on by June 2021 with global services powered by 648 satellites available in 2022.

❖ **Starlink:** It is a venture of SpaceX.

➤ **Starlink** currently has 1,385 satellites in orbit and has already started beta testing in North America and initiating pre-orders in countries like India.

➤ However, Starlink’s satellites fly closer to the earth and therefore, the company requires a larger fleet to provide global connectivity than OneWeb.

❖ **Project Kuiper:** It is a **project of Amazon** announced in 2019.

❖ **Loon Project:** Google launched its ‘Loon’ project in 2013, using high-altitude balloons to create an aerial wireless network.

➤ After testing the service in rural Kenya, Google’s parent company, Alphabet, abandoned the project in 2021.

Issues in LEO Satellites Launch:

❖ **Regulation Issues:** During the days of the Sputnik and Apollo missions, governments dominated and regulated space-based activities.

➤ However, today, the balance of power has shifted from countries to companies.

➤ As a result, there are questions related to who regulates these companies, especially given the large number of nations that contribute to individual projects.

➤ It makes the regulatory framework complicated.

❖ **Logistic Challenge:** There are logistical challenges with launching thousands of satellites into space as well.

❖ **Difficulty in Space Observation:** Satellites can sometimes be seen in the night skies which creates difficulties for astronomers as the satellites reflect sunlight to earth, leaving streaks across images.

❖ **Interruptions:** Satellites travelling at a lower orbit can also **interrupt the frequency** of those orbiting above them.

❖ **Space Junk:** There are already almost 1 million objects larger than 1cm in diameter in orbit, a byproduct of decades of space activities.

➤ Those objects, colloquially referred to as ‘space junk,’ have the **potential to damage spacecraft** or collide with other satellites.

8.4 DEVIKA RIVER PROJECT: J&K

Recently, the Minister of State for Development of North Eastern Region has asked for suggestions for the **Devika River project in Udhampur, J&K.**

❖ This project is compared with the **Namami Gange Project.**

❖ This is a **Rs. 190 crore Project.**

❖ The work on the project was **started in March 2019 under the National River Conservation Plan (NRCP).**

❖ Under the project, bathing “**ghats**” (places) on the banks of the Devika River will be **developed**, **encroachments** will be **removed**, **natural water bodies** will be **restored** and **catchment areas will be developed** along with **cremation ground.**

❖ The project includes the **construction of three sewage treatment plants, sewerage network** of 129.27 km, development of two cremation ghats, protection fencing and landscaping, **small hydropower plants** and **three solar power plants.**

❖ On completion of the project, the rivers will see **reduction in pollution and improvement in water quality.**

Devika River:

❖ Devika river **originates from the hilly Suddha Mahadev temple in Udhampur district of Jammu and Kashmir** and flows down towards **western Punjab** (now in Pakistan) where it **merges with the Ravi river.**

❖ The river holds **religious significance** as it is revered by Hindus as the **sister of**

river Ganga.

❖ In June 2020, **Devika Bridge** was inaugurated in Udhampur. Apart from taking care of traffic congestion, the Devika Bridge was also meant **to help smooth passage of Army convoys and vehicles.**

National River Conservation Plan

❖ National River Conservation Plan (NRCP) is a **centrally funded scheme launched in 1995** aimed at **preventing the pollution of rivers.**

❖ Programs for river conservation are being implemented under National River Conservation Plan (NRCP) and NGRBA (National Ganga River Basin Authority).

Activities under NRCP:

❖ Interception and Diversion works to capture the raw sewage flowing into the river through open drains and divert them for treatment.

❖ Sewage Treatment Plants for treating the diverted sewage.

❖ Low Cost Sanitation works to prevent open defecation on riverbanks.

❖ Electric Crematoria and Improved Wood Crematoria to conserve the use of wood and help in ensuring proper cremation of bodies brought to the burning ghats.

❖ River Front Development works such as improvement of bathing ghats.

❖ Public awareness and public participation.

❖ Human Resource Development (HRD), capacity building, training and research in the area of River Conservation.

❖ Other miscellaneous works depend upon location specific conditions including the interface with human population.

2.3 CHINA RELAXES TWO CHILD POLICY: LESSONS FOR INDIA

Recently, China **relaxed its two child policy** and announced it will now **allow three children per married couple.**

❖ It also announced that it would **increase the retirement age** by a few months every year. For

the past four decades, the **retirement age in China has been 60 for men and 55 for women.**

China's Population Policies:

One Child Policy:

➤ China embarked upon its one-child policy in **1980**, when its **government was concerned that the country's growing population**, which at the time was approaching one billion, **would impede economic progress.**

➤ **Chinese authorities have long hailed the policy** as a success, claiming that **it helped the country avert severe food and water shortages** by preventing up to 40 crore people from being born.

➤ It was a **source of discontent**, as the state **used brutal tactics such as forced abortions and sterilisations.**

➤ It also met criticism and remained controversial for **violating human rights, and for being unfair to the poor.**

Two Child Policy:

➤ From **2016**, the Chinese government finally **allowed two children per couple**– a policy change that **did little to arrest the rapid fall in population growth.**

Three Child Policy:

➤ It was announced after **China's 2020 census** data showed that the country's **rate of population growth is falling rapidly despite the 2016 relaxation.**

➤ The country's **fertility rate has dropped to 1.3**, far below the **replacement level of 2.1** required for a generation to have enough children to replace it.

➤ The **United Nations** expects China's **population to begin declining after 2030**, but some experts say this could happen as early as in the next one or two years.

Concerns of Falling Population:

❖ **Decreased Labour:** When the young population in a country declines, it

creates **labour shortages**, which have a major detrimental impact on the economy.

❖ **Increased Social Spending:** More older people also means that **demands for healthcare and pensions** can soar, **burdening the country's social spending system** further when fewer people are working and contributing to it.

❖ **Critical for Developing Nations:** A problem unique to China, though, is that unlike the other developed countries part of this trend, **it is still a middle-income society, despite being the world's second-largest economy.**

➤ Prosperous countries like Japan and Germany, which face similar demographic challenges, can **depend on investments in factories, technology and foreign assets.**

➤ China, however, still **depends on labour-intensive manufacturing and farming.**

➤ A **drop in demographic dividend** could thus **hurt China and other developing nations like India** more than those in the rich world.

Lessons For India:

❖ **Avoid Stringent Measures:** Stringent population control measures have landed China in a human crisis that was inevitable. **If coercive measures like a two-child limit are enforced, India's situation could be worse.**

❖ **Women Empowerment:** The proven ways to lower the fertility rate are to **give women the control over their fertility** and ensure their greater empowerment through **increased access to education, economic opportunities and healthcare.**

➤ As a matter of fact, **China's fertility reduction** is only partly attributable to coercive policies, and is **largely because of the sustained investments the country had made in education, health and job opportunities for women.**

❖ **Need to Stabilize Population:** India has done very well with its **family planning measures** and now it is at **replacement level fertility of 2.1**, which is desirable.

➤ It needs to **sustain population stabilisation** because in **some States** like Sikkim, Andhra Pradesh, Delhi, Kerala and Karnataka, the **total fertility rate is way below replacement level**, which means it can experience in 30-40 years what China is experiencing now.

India's Case

❖ **India's Population Growth:** India's population is estimated to be over **1.36 billion** as of **March 2021**, indicating an estimated **12.4% growth over the last decade**.

➤ That is **lower than the 17.7% between 2001 and 2011**.

➤ However, a 2019 **United Nations** report had projected **India to overtake China as the most populous country by 2027**.

➤ India is **expected to add nearly 273 million people between 2019 and 2050**.

❖ **Indian Measures for Population Control:**

➤ **Prime Minister's Appeal:** During his **Independence Day Speech** in 2019, the Prime Minister appealed to the country that **population control was a form of patriotism**.

➤ **Mission Parivar Vikas:** The Government launched **Mission Parivar Vikas** in 2017 for substantially **increasing access to contraceptives and family planning services in 146 high fertility districts**.

➤ **Compensation Scheme for Sterilization Acceptors:** Under the scheme, the Ministry of Health and Family Welfare provides **compensation for loss of wages** to the beneficiary and also to the service provider (& team) for conducting sterilizations from the year **2014**.

➤ **National Family Planning Indemnity Scheme (NFPIS):** This scheme was launched in the year **2005**. Under this scheme, **clients are insured in the eventualities of death**, complication and failure following sterilization.



5.4 SECTION 51 OF THE DISASTER MANAGEMENT ACT, 2005

Recently, the **former Chief Secretary of West Bengal** was served a **show cause notice by the Home Ministry** under **Section 51 of the Disaster Management (DM) Act, 2005**.

❖ **Show Cause Notice:** The notice was issued for **failing to comply with the Centre's directions to attend the review meeting on Cyclone Yaas** chaired by the Prime Minister in Bengal's Kalaikunda.

- The Act is **violative of Section 51 (b) of the DM Act, 2005.**
- Though the **DoPT (Department of Personnel and Training)** is the **cadre-controlling authority of Indian Administrative Service (IAS) officers**, the **show cause notice was served under provisions of the DM Act**, which is **under the purview of the Home Ministry.**
- ❖ **Section 51 (b) of the DM Act:** The section prescribes “**punishment for obstruction**” for refusal to comply with any direction given by or on behalf of the Central government or the State government or the National Executive Committee or the State Executive Committee or the District Authority under the Act.
- Anyone refusing to comply with orders is **liable for punishment with imprisonment up to one year**, or fine, or both. In case this refusal leads to **death of people**, the person liable shall be punished with **imprisonment up to two years.**
- Section 51 of the Act has **two important reservations.**
- Under the Act, the action on the part of the person has to be ‘**without reasonable cause**’ and ‘**failure of an officer to perform the duty without due permission or lawful excuse**’.
- ❖ **Previous Use of Provisions of DM Act:**
- In **April 2020**, the Home Ministry made **spitting in public a punishable offence.** The guidelines issued by the Ministry under the DM Act, which are binding on the states, also made “**wearing of face masks in public places mandatory.**”
- In **March 2020**, when thousands of migrants gathered at Anand Vihar railway station in Delhi due to the sudden announcement of the countrywide lockdown, **two Delhi government officers were served show cause notice** by the Centre under the DM Act for dereliction of duty.
- ❖ **DM Act:**
- The DM Act was passed by the government of India **in 2005** for the **efficient management of disasters** and other matters connected to it. However it came into force in **January 2006.**
- It was **invoked for the first time in the country in the wake of the Covid-19 pandemic** in the year 2020.
- The Centre, through the **National Disaster Management Authority (NDMA) headed by the Prime Minister**, invoked the provisions of the Act to streamline the

management of the pandemic, empowering District Magistrates to take decisions and centralise other decisions on supply of oxygen and movement of vehicles.

❖ **Main Features of DM Act 2005:**

➤ **Nodal Agency:** The Act designates the **Ministry of Home Affairs** as the nodal ministry for steering the overall national disaster management.

➤ **Institutional Structure:** It puts into place a systematic structure of institutions at the national, state and district levels.

➤ **Finance:** It contains the provisions for financial mechanisms such as the creation of funds for emergency response, **National Disaster Response Fund** and similar funds at the state and district levels.

➤ **Civil and Criminal Liabilities:** The Act also devotes several sections to various civil and criminal liabilities resulting from violation of provisions of the Act.

8.5 PRAN VAYU DEVTA PENSION SCHEME AND OXY VAN (OXYGEN FORESTS)

Amid the ongoing pandemic, several states including Haryana witnessed a **crisis of medical oxygen** that was needed for severely ill Covid-19 patients.

❖ Recently, the Chief Minister of Haryana Manohar Lal Khattar has announced **Pran Vayu Devta Pension Scheme** and **Oxy Van (Oxygen Forests)** on the occasion of World Environment Day.

Pran Vayu Devta Pension Scheme

❖ It is an initiative to **honour all those trees which are of the age of 75 years and above** and have served humanity throughout their life by producing oxygen, reducing pollution, providing shade and so on.

❖ Under the scheme, such trees will be **identified throughout the state** and these will be looked after by involving local people in this scheme.

❖ The Oxy Forests will be **planted on land ranging from 5 acres to 100 acres in the cities of Haryana** in order to get pure air from the environment which benefits the entire humanity.

❖ A **“pension amount” of Rs 2,500 would be given per year** in the name of PVDPS for maintenance of trees older than 75 years.

➤ It shall **continue to increase every year**, on lines similar to the Old Age Samman Pension Scheme in the state.

❖ The pension shall be given by the **Urban Local Bodies department** for the upkeep of the trees, installing plates, grilles etc.

Oxy Van (Oxygen Forest)

❖ They are identified pieces of land, on which as many as **3 crore trees would be planted**.

❖ The Oxy Vans will **occupy 10 per cent of the 8 lakh hectares of land** across Haryana.

❖ **Oxy Van Panchkula** will be established in Bir Ghaggar over an area of 100 acres to create Mother Nature's green lungs so that residents of Panchkula can breathe in fresh oxygen.

❖ **Oxy Van Karnal** shall come up along the Old Badshahi Canal (also known as Mughal Canal), on an area of 80 acres, covering a total length of 4.2 km.

❖ The park will also have an **information centre and a souvenir shop**, and people will be able to buy plants at subsidized rates related to their Rashi (zodiac sign) to grow in their homesteads.

Different species of trees in Oxy Van

❖ **Chit Van** will contain ornamental and flowering plants like the Orchid Tree (Kachnar), Indian Laburnum (Amaltas), Pride of India, Red silk cotton tree (Semal), Indian Coral, Sita Ashok, Java Cassia, Red Gulmohar, Golden Shower, Passion Flower, etc.

❖ **Pakhi Van** will house plants like Peepal, Banyan, Pilkhan, Neem etc.

❖ **Antriksh Van** will have "luck-boosting" plants like Flame of the Forest (Palash/Dhak), Jackfruit, Cluster Fig (Gullar), Amla, Krishan Neel, Champa, Khair, Bilwa, etc.

❖ **Arogya Van** will have medicinal plants like Tulsi, Ashwagandha, Neem, Aloe Vera, Chebulic Myrobalan (Harad), Baheda, and Amla, etc.

❖ **Sugandh Vatika** will contain fragrant plants like Sugadhraj, Chameli, Night Queen, Day King, Night-blooming Jasmine (Parijaat), Champa, Rose, Honeysuckle, Passiflora etc.

❖ **Panchvati** has cultural, mythological, and environmental significance.

➤ Panchvati literally means five trees which are Banyan/Barh/Bargad, Sacred Fig/Peepal, Stone Apple (Bilwa/Bil), Aonla, and Sita Ashok.

5.5 KERALA'S SMART KITCHEN PROJECT

Recently, the Kerala government's revised budget for the current fiscal has announced the introduction of a **Smart Kitchen project**.

Smart Kitchen Project

- ❖ It would be implemented through the **Kerala State Financial Enterprises (KSFE)** which is a state-run chit fund and lending firm.
- ❖ Under the scheme, KSFE would give **soft loans to women from all walks of life** for purchasing household gadgets or equipment.
- ❖ The **cost of household equipment can be repaid** as instalments within a particular period.
- ❖ The **interest of the loan/cost would be equally shared** among the beneficiary, local self-government body and the state government.

Significance of Smart Kitchen project

- ❖ It is meant to **modernise kitchens and ease the difficulty** faced by homemakers in household chores.
- ❖ The government believes that for **better participation of women in labour**, the burden on household chores has to be reduced.
- ❖ The women participation in labour could be increased by **enhancing mechanisation in kitchens**.

2.4 IMPLICATION OF G7 CORPORATE TAX DEAL ON INDIA

Recently, the advanced economies making up the **G7 grouping** have reached a "**historic**" deal on **taxing multinational companies**.

Highlights

- ❖ The first decision that has been ratified is to **force multinationals to pay taxes** where they operate.
- ❖ The second decision in the agreement commits states to a **global minimum corporate tax**

rate of 15% to avoid countries undercutting each other.

- ❖ The G7 commit to reaching an **equitable solution on the allocation of taxing rights**, with market countries awarded taxing rights on at least 20% of profit exceeding a 10% margin for the largest and most profitable multinational enterprises.
- ❖ The deal will provide for **appropriate coordination between the application of the new international tax rules** and the removal of all Digital Services Taxes.

G7 corporate tax deal

- ❖ The finance ministers meeting in London agreed to **counter tax avoidance** through measures to make companies pay in the countries where they do business.
- ❖ They also agreed in principle to **ratify a global minimum corporate tax rate** to counter the possibility of countries undercutting each other to attract investments.
- ❖ The deal announced involving the **US, the UK, Germany, France, Canada, Italy and Japan**, is likely to be put before a G20 meeting in July.

Reasons for minimum corporate tax rate

- ❖ The decision to **ratify a 15% floor rate follows from a declaration of war on low-tax jurisdictions** around the globe announced by US Treasury Secretary.
 - She had urged the world's 20 advanced nations to move in the direction of adopting a **minimum global corporate income tax**.
- ❖ The move to put a **minimum rate in place attempted to reverse a "30-year race to the bottom"** in which countries have resorted to slashing corporate tax rates to attract multinational corporations.

Concerns associated with G7 corporate tax deal

- ❖ It **impinges on the right of the sovereign** to decide a nation's tax policy apart from the challenges of getting all major nations on the same page.
- ❖ A global minimum rate would essentially **take away a tool that countries use to push policies** that suit them.
- ❖ The IMF and World Bank data suggest that developing countries with **less ability to offer**

mega stimulus packages may experience a longer economic hangover than developed nations.

❖ A lower tax rate is a tool they can use to **alternatively push economic activity** and a global minimum tax rate will **do little to tackle tax evasion**.

India's position on G7 corporate tax deal

❖ In 2019, the finance minister announced a **sharp cut in corporate taxes for domestic companies to 22%** and for new domestic manufacturing companies to 15%.

❖ The **Taxation Laws (Amendment) Act, 2019** resulted in the insertion of a section (115BAA) to the Income-Tax Act, 1961.

➤ It aims to provide for the **concessional tax rate of 22% for existing domestic companies** subject to certain conditions including that they do not avail of any specified incentive or deductions.

The cuts effectively brought **India's headline corporate tax rate broadly** at par with the average 23% rate in Asian countries.

5.6 JAHAN VOTE WAHAN VACCINE CAMPAIGN

Recently, the Chief Minister of Delhi Shri Arvind Kejriwal has launched a COVID-19 Vaccine Campaign 'Jahan Vote, Wahan Vaccine'.

Jahan Vote Wahan Vaccine Campaign

❖ It is a campaign to **vaccinate all above the age of 45** within 4 weeks.

➤ Under the campaign, everyone in this age group will **get at least one dose** of the vaccine.

❖ **Delhi is the first state to announce a mass vaccination drive** to cover a large part of its population by directing people to get their dose at their voting booth.

❖ Under the Jahan Vote Wahan Vaccine Campaign, **people will be able to get vaccinated** in the same place where they go to cast their vote during an election.

❖ There are **280 wards in the city**, and each week, the campaign will be carried out in 70 wards, covering 280 wards in 4 weeks.

- ❖ The **booth-level officers** will be responsible for the campaign.
- ❖ The administration is also making arrangements for **e-rickshaws to help people reach the polling centres** from their homes.

Factors that Drive Successful Large-Scale Vaccine Distribution

Reducing supply variability at each level and prevent “over-buffering”

- ❖ The better flow of information about supply and inventory across the different levels of government builds greater confidence in supply, and reduces “over-buffering”.

Scheduling, pre-registration and other ways to decrease demand variability

- ❖ The appointment scheduling and registration systems are important levers to reduce the variability of demand at the vaccination clinic.

Larger cohorts in each priority tier, and simultaneous start of more than one tier

- ❖ With scarce supplies, prioritisation is important, but if the choice of priority tiers is such that the number of beneficiaries in each tier is large and the rules are simple, then the task of matching supply and demand becomes easier.

Structure and design of distribution

- ❖ A more direct distribution system helps in terms of information flow, better accountability and reduced needs for cold chain points, especially for vaccines requiring ultra-cold chain.

New mass vaccination sites or existing sites only

- ❖ The challenge for mass vaccination sites is operational design, as even small sub-optimality in operational design get amplified and can create highly visible challenges.

The governments may have to adopt a slightly more realistic expectation of the number of people they can vaccinate quickly when they take overall global access into consideration.



7.2 VAN DHAN VIKAS YOJANA IN LADAKH

Recently, the Ministry of Tribal Affairs has called for expanding implementation of the **Van Dhan**

Vikas Yojana in the Union Territory of Ladakh.

❖ The **National Rural Livelihood Mission (NRLM)** is the implementing agency for the UT of Ladakh.

❖ It was agreed to formulate and implement the five-step plan for each **Van Dhan Vikas Kendra Clusters (VDVKCs)**.

➤ **Step 1:** It involves the identification of items for Procurement of MFPS in each VDVKC and strengthening it with a planned development of infrastructure including Procurement Sheds and godowns.

➤ **Step 2:** It entails the appointment of Local NGOs or NRLM Officials as Mentors for each Cluster as per guidelines issued.

✓ It will ensure release of money to each Cluster by Transferring Rs 10 lacs to each cluster account.

➤ **Step 3:** It will require the preparation of a Business Plan for each cluster for taking up Value addition and other formalities including opening of bank account and setting up of signages and Boards for identification of each VDVK Cluster and VDVK.

➤ **Step 4:** It envisages the Planning and facilitating of each Cluster into Production, Branding, Packaging and Sale of its selected products as per the Business Plan.

➤ **Step 5:** The ESDP, SFURTI and TRIFOOD schemes will be converged with respective clusters gradually to expand the scope of programme.

Van Dhan Tribal Startup

❖ It is an **initiative implemented by TRIFED** towards income and livelihood generation of the tribal population.

❖ It is a **programme for value addition, branding & marketing** of Minor Forest Produces.

❖ It aims to **provide remunerative and fair prices to tribal gatherers** of forest produces, almost three times higher than would be available to them from middle men, trebling their incomes.

Van Dhan Vikas Yojana

❖ It is an initiative of the **Ministry of Tribal Affairs**.

- ❖ The **TRIFED (Tribal Cooperative Marketing Development Federation of India)** is the nodal agency at National level.
- ❖ Under the scheme, a large number of tribal community owned **Van Dhan Vikas Kendras (VDVKs)** have been set up in predominantly forested tribal districts.
- ❖ It is a **Mechanism for Marketing of Minor Forest Produce (MFP)** through **Minimum Support Price (MSP)** & Development of Value Chain.

Objectives of Van Dhan Vikas Yojana

- ❖ It aims to tap into **traditional knowledge & skill sets of tribals by adding technology & IT** to upgrade it at each stage and to convert the tribal wisdom into a viable economic activity.
- ❖ It is aimed at the **economic development of tribals** by helping them in optimum utilisation of natural resources.
- ❖ The Van Dhan Vikas Kendras are **providing skill up-gradation and capacity building training**, and set up primary processing and value addition facilities in the tribal regions.

Significance of Van Dhan Vikas Yojana

- ❖ It is an initiative targeting **livelihood generation for tribals** by harnessing the wealth of forest.
- ❖ It has proved to be **successful within a year of its implementation**, with the establishment of 1,205 tribal enterprises.
- ❖ It has provided **employment opportunities to 3.6 lakh tribal gatherers** and 18,000 self-help groups in 22 States.

TRIFED

- ❖ The **Tribal Cooperative Marketing Development Federation of India (TRIFED)** came into existence in 1987.
- ❖ It is a **national-level apex organization** functioning under the administrative control of Ministry of Tribal Affairs.
- ❖ The ultimate objective of TRIFED is **socio-economic development of tribal people** in the country by way of marketing development of the tribal products on which the lives of tribals depends

heavily.

- ❖ It plays the **dual role of both a market developer** and a service provider.
- ❖ It is involved actively in **capacity building of the tribal people** through sensitisation and the formation of Self Help Groups (SHGs).

6.14 NICLOSAMIDE FOR TREATMENT OF COVID-19

Recently, the Council of Scientific and Industrial Research (CSIR) in collaboration with Laxai Life Sciences began the phase-II clinical trials of the **Niclosamide drug** for treatment of Covid-19.

Niclosamide

- ❖ It is an **orally bioavailable chlorinated salicylanilide**, with anthelmintic and potential antineoplastic activity.
- ❖ It is an **antihelminthic** used for the treatment of tapeworm infections.
 - It has been extensively used in past for **treatment of tapeworm's infection in adults as well as children.**
- ❖ It is also used as a **molluscicide** in the control of schistosomiasis.
- ❖ It appears to be **minimally absorbed from the gastrointestinal tract** because neither the drug nor its metabolites have been recovered from the blood or urine.

Tapeworm infection

- ❖ It is caused by **ingesting food or water contaminated with tapeworm eggs or larvae.**
- ❖ If certain tapeworm eggs are ingested, they can **migrate outside intestines and form larval cysts** in body tissues and organs (invasive infection).
- ❖ An adult tapeworm consists of a **head, neck and chain of segments called proglottids.**
- ❖ Intestinal tapeworm infections are usually mild, with only one or two adult tapeworms but **invasive larval infections can cause serious complications.**

5.7 PERFORMANCE GRADING INDEX (PGI) 2019-20

Recently, the Union Minister of Education has released the **Performance Grading Index (PGI) 2019-**

20 for states and union territories.

Performance Grading Index (PGI)

- ❖ It is a **set of 70 parameters** to catalyse transformational change in the field of school education.
- ❖ It was **first published in 2019** with reference year 2017-18.
- ❖ It is designed by **Department of School Education and Literacy (DoSEL)**.

Significance of Performance Grading Index (PGI)

- ❖ It envisages that the index would **propel States and UTs towards undertaking multi-pronged interventions** that will bring about the much-desired optimal education outcomes.
- ❖ It helps the States/UTs to **pinpoint the gaps and accordingly prioritise areas for intervention** to ensure that the school education system is robust at every level.
- ❖ It is expected to act as a **good source of information for best practices** followed by States and UTs which can be shared.

Highlights of Performance Grading Index (PGI) 2019-20

- ❖ Punjab, Chandigarh, Tamil Nadu, Andaman & Nicobar Islands and Kerala occupy the **highest grade (Grade A++)** for 2019-20.
- ❖ Andaman & Nicobar Islands, Arunachal Pradesh, Manipur, Puducherry, Punjab and Tamil Nadu have **improved overall PGI score** by 10%, i.e., 100 or more points.
- ❖ Andaman & Nicobar Islands, Lakshadweep and Punjab have shown **improvement by 10% (8 points) or more** in the PGI domain of 'Access'.
- ❖ As many as thirteen States and UTs have shown **improvement by 10% (15 points) or more** in the PGI domain of 'Infrastructure and Facilities'.
 - Andaman & Nicobar Islands and Odisha have shown improvement by 20% or more.
- ❖ Arunachal Pradesh, Manipur and Odisha have shown more than 10% improvement in the PGI domain of 'Equity'.
- ❖ Nineteen States and UTs have shown improvement by 10% (36 points) or more in the PGI

domain of 'Governance Process'.

❖ Andaman & Nicobar Islands, Andhra Pradesh, Arunachal Pradesh, Manipur, Punjab, Rajasthan and West Bengal have shown **improvement by at least 20% (72 points or more)**.

8.6 Srivilliputhur-Meghamalai Tiger Reserve

Recently, the river experts have said that the **tiger reserve status of Meghamalai and Srivilliputhur** will facilitate rejuvenation of **ancient Vaigai River** in Madurai.

Srivilliputhur-Meghamalai Tiger Reserve

❖ It was jointly declared by the Centre and Tamil Nadu governments as **51st tiger reserve of India** and **5th tiger reserve of Tamil Nadu**.

❖ The **Srivilliputhur Grizzled Giant Squirrel Sanctuary** and **Meghamalai Wildlife Sanctuary** have been combined to create the tiger reserve.

❖ The Grizzled Giant Squirrel Sanctuary has one of the best preserved forests south of **Palghat gap**.

➤ It forms an important landscape for elephant conservation in **Periyar tiger reserve**.

❖ The significant parts of the Meghamalai landscape encompassing **Varushanad hills, Cumbam Valley** and a portion of the northern slopes of the landscape together with the **Madurai forest division** were declared as the Meghamalai wildlife sanctuary.

Vaigai River

❖ It is seminal to **Tamil literature, culture, and civilization**.

❖ It is now almost a **dead river in Madurai**.

❖ The river finds a mention in **Sangam literature** dated to 300 before Common Era.

❖ The **once perennial river** is now completely dry and animals in large numbers graze on its riverbed.

❖ The **Vaigai river basin covers** an area of about 7,009.13 square kilometres.

❖ It once had numerous **tributaries in the Western Ghats region**, and they augmented its flow during the British period.

➤ Its main tributaries are **Suruliyaru, Mullaiyaru, Varaganadhi, Manjalaru, Kottagudi, Kridhumaal and Upparu.**

❖ The British had built a drinking water project named **Vaigai Dam in 1898** and linked it with Mullaperiyar Dam of present Kerala to meet the drinking water and irrigation needs.

2.5 GLOBAL COMPACT CEO WATER MANDATE

Recently, the **National Thermal Power Corporation (NTPC) Limited** has become a signatory to the prestigious **UN Global Compact's CEO Water Mandate.**

Highlights

❖ The NTPC Ltd has already taken a series of measures across its plant locations **onsound water management.**

❖ The NTPC has joined a **select group of business leaders** who recognize the **ever-growing importance of water stewardship** and have been working to conserve this precious natural resource.

❖ It will further imbibe the **3R's (reduce, reuse, recycle) for water conservation and management** while carrying out its core business activity of power generation.

Global Compact CEO Water Mandate

❖ It is a **UN Global Compact initiative** to demonstrate commitment and efforts of companies to better their water and sanitation agendas as part of Sustainable Development Goals.

❖ It was **formed in 2007** to mobilize business leaders to advance **water stewardship, sanitation, and the Sustainable Development Goals**

❖ It is designed to assist companies in the **development, implementation, and disclosure** of comprehensive water strategies and policies.

❖ It also provides a **platform for companies to partner with like-minded businesses**, UN agencies, public authorities, civil society organizations, and other key stakeholders.

❖ It looks to **support SDG6 and its touch point with other water-related SDGs** by working with companies to implement good water stewardship practices.

❖ It develops **tools and resources, convenes stakeholders, and facilitates meaningful**

partnerships and on-the-ground collective actions that improve conditions in at-risk river basins around the world.

❖ It offers a unique platform to **share best and emerging practices and to forge multi-stakeholder partnerships** to address challenges related to water scarcity, water quality, water governance, and access to water and sanitation.

UN Global Compact

❖ It is a **strategic initiative that supports global companies** that are committed to responsible business practices in the areas of human rights, labor, the environment, and corruption.

❖ It was officially launched at UN Headquarters in New York City in 2000.

❖ It promotes activities that **contribute to sustainable development goals** to create a better world.

❖ It is based on **10 principles** that should define a company's value system and approach to doing business:

➤ **Principle 1:** Support and respect the protection of internationally proclaimed human rights.

➤ **Principle 2:** Ensure that business practices are not complicit in human rights abuses.

➤ **Principle 3:** Uphold the freedom of association and the effective recognition of the right to collective bargaining.

➤ **Principle 4:** Eliminate all forms of forced and compulsory labor.

➤ **Principle 5:** Abolish child labor.

➤ **Principle 6:** Eliminate discrimination in employment and occupation.

➤ **Principle 7:** Adopt a precautionary approach to environmental challenges.

➤ **Principle 8:** Conduct environmentally responsible activities.

➤ **Principle 9:** Encourage the development and diffusion of environmentally friendly technologies.

➤ **Principle 10:** Fight corruption in all its forms including extortion and bribery.

❖ It is a **non-binding United Nations pact** to encourage businesses and firms worldwide to

adopt sustainable and socially responsible policies.

- ❖ It is the **world's largest corporate sustainability initiative** with 13000 corporate participants and other stakeholders over 170 countries.
- ❖ It is a founding member of the **United Nations Sustainable Stock Exchanges (SSE) initiative, Principles for Responsible Investment (PRI), the United Nations Environment Programme Finance Initiative (UNEP-FI), and the United Nations Conference on Trade and Development (UNCTAD).**

3.6 INTERPOL's Global Database To Identify Missing Persons

Recently, the **Interpol** has launched a new global database named "**I-Familia**" to identify missing persons through family DNA.

I-Familia Platform

- ❖ The INTERPOL applied **cutting-edge scientific research** and **used the DNA of relatives to identify missing persons or unidentified human** remains around the world.
- ❖ **DNA kinship matching** is used mostly in cases where a direct sample of the missing person is not available.
 - It is the **first global database to automatically control** for such differences without requiring knowledge of the missing person's genetic ancestry.
 - It provides **standardised guidelines** on what constitutes a match.
- ❖ It is a **pioneering new service** that can perform complex DNA kinship calculations on profiles stored in the system.
- ❖ It is **powered by Bonaparte**, a forensic DNA matching software system developed by SMART Research.

Significance of I-Familia Platform

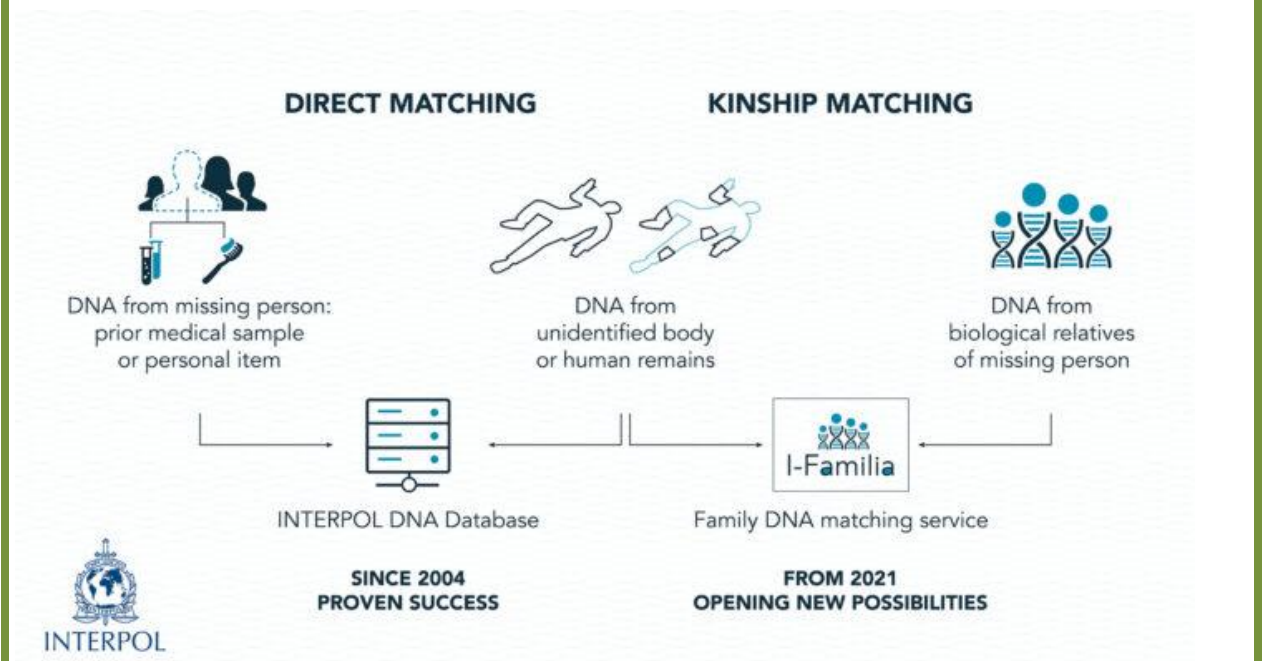
- ❖ It will help the **police solve cold cases** in member countries.
- ❖ It can **perform millions of calculations in a short space of time** which is then interpreted by forensic DNA experts at the INTERPOL General Secretariat.
- ❖ It is the result of scientific research, **state-of-the-art software development** and extensive

validation tests.

- ❖ The driving principle behind I-Familia is humanitarian which aim is to **reunite loved ones or to bring closure to cases** and allow families to rebuild their lives.

Working of I-Familia

- ❖ It has three components:
 - **A dedicated global database** to host the DNA profiles provided by relatives, held separately from any criminal data;
 - **DNA matching software called Bonaparte**, developed by Dutch company Smart Research; and
 - **Interpretation guidelines** developed by Interpol.
- ❖ The Bonaparte technology uses **advanced statistical algorithms** to calculate the probability of a match compared against an interpretation table.



Types of DNA Identification

- ❖ **DNA identification through direct matching**
 - A direct DNA sample from the missing person can be compared to the DNA from an

unidentified body or human remains to see if a match can be found.

❖ **DNA identification through kinship matching**

- Biological relatives share a percentage of their DNA, depending on their relationship.
- In the event that a DNA sample from the missing person cannot be obtained for direct matching, DNA from close family members (parents, children, siblings) can also be compared.

INTERPOL

❖ The **International Criminal Police Organization (INTERPOL)** is an international organization that **facilitates worldwide police cooperation and crime control**.

❖ It is an **inter-governmental organization** with 194 member countries.

❖ In each member country, an **INTERPOL National Central Bureau (NCB)** provides the **central point of contact** for the General Secretariat and other NCBs.

❖ The **Central Bureau of Investigation (CBI)** is designated as the National Central Bureau of India.

❖ The **headquarters in Lyon (France)** coordinates much of the policing expertise and services we provide to member countries.

3.7 EL SALVADOR'S DECISION TO USE BITCOIN AS LEGAL TENDER

Recently, **El Salvador's** populist millennial President Nayib Bukele has said that he would be making the **Bitcoin cryptocurrency legal tender** in the Central American country.

❖ El Salvador has **not had its own monetary policy since 2001**, when a right-wing government made the US dollar the official currency.

❖ Along with **Ecuador and Panama**, **El Salvador** is currently among three nations in Latin America to have a '**dollarized economy**'.

Reasons for declaring Bitcoin as legal tender

❖ El Salvador, with a population of around 64 lakh and an area slightly bigger than Meghalaya, **depends heavily on remittances** sent by Salvadorians from abroad.

- Around a quarter of the country's citizens live in the US, and in 2020 they sent home

more than **\$6 billion in remittances**, making up more than **20% of the GDP**.

- ❖ The amount received by more than a million **low income families will increase in the equivalent of billions of dollars** every year by using Bitcoin.
- ❖ Bitcoin will help **increase financial inclusion in El Salvador**, where 70% of the population does not have a bank account and relies on the informal economy.

Significance of Bitcoin as legal tender

- ❖ In the short term this will **generate jobs and help provide financial inclusion** to thousands outside the formal economy.
- ❖ In the medium and long term we hope that this small decision can help us **push humanity at least a tiny bit into the right direction**.
- ❖ It will provide a way to **grow the country's economy**, providing access to credit, savings, investment and secure transaction.

Reaction of declaring Bitcoin as legal tender

- ❖ The proposal is expected to **sustain Bukele's popularity in El Salvador**, where he is seen as an innovator, as well as improve the appeal for Bitcoin.
- ❖ There are some crypto experts who have criticised the move saying that **El Salvador could have looked at crypto options** that would work better as a currency than Bitcoin.
- ❖ The experts also complain about the **lack of a central regulating authority**, potential for fraud and money laundering, high energy costs and extreme volatility.

Adoption of virtual currencies globally

- ❖ **In Cuba**, the appeal of cryptocurrencies has proliferated ever since its **Communist regime allowed mobile internet in 2018**, as many have used them for circumventing US sanctions and a decades-long trade embargo.
- ❖ **In Mexico**, where also remittances from the US form a huge source of income, the **crypto market has boomed**.
 - Its **Bitso crypto exchange** grew by 342% between September 2019 and May 2020.
- ❖ **In Venezuela**, which is undergoing an economic and humanitarian crisis, many are adopting

crypto money as **spiralling hyperinflation** has harmed the bolivar, the official currency.

8.7 SEA SNOT IN TURKEY

Recently, there has been growing **environmental concern** in Turkey over the accumulation of 'sea snot'.



Highlights

- ❖ It is a **slimy layer of grey or green sludge** in the country's seas, which can cause considerable damage to the marine ecosystem.
- ❖ **Turkey's Sea of Marmara**, that connects the Black Sea to the Aegean Sea, has witnessed the **largest outbreak of 'sea snot'**.
- ❖ The sludge has also been **spotted in the adjoining Black and Aegean seas**.
- ❖ The **thick slimy layer of organic matter**, which looks like a viscous, brown and foamy substance, has spread through the sea south of Istanbul and also blanketed harbours and shorelines.

Sea Snot?

- ❖ It is **marine mucilage** that is formed when algae are **overloaded with nutrients** as a result of water pollution combined with the effects of climate change.
- ❖ The nutrient overload occurs when **algae feast on warm weather** caused by global warming.
 - The phenomenon of **water pollution** adds to the problem.
- ❖ The **overproduction of phytoplankton** caused by climate change and the **uncontrolled dumping of household and industrial waste** into the seas has led to the Sea Snot.
 - The **dumping of sewage** in the sea along with **rising temperatures** is causing the crisis.
- ❖ A 'sea snot' outbreak was **first recorded in the country in 2007** and it was also spotted in the Aegean Sea near Greece.

Impact of Sea Snot in Marine Ecosystem

- ❖ The growth of the mucilage, which floats up on the surface of the sea like a brown phlegm, is posing a **severe threat to the marine ecosystem** of the country.
- ❖ The sea divers have said that it has **caused mass deaths among the fish population**, and also **killed other aquatic organisms such as corals and sponges**.
- ❖ The mucilage is now covering the surface of the sea and has also **spread to 80-100 feet below the surface**.
 - If unchecked, this can **collapse to the bottom and cover the sea floor**, causing major damage to the marine ecosystem.
- ❖ It could end up **poisoning all aquatic life**, including fishes, crabs, oysters, mussels and sea stars.
- ❖ It has also **affected the livelihoods of fishermen** because the sludge is getting collected in their nets, making them so heavy that they break or get lost.
- ❖ The mucilage coating the strings makes the **nets visible to fish and keep them away**.
- ❖ The experts have also warned that the 'sea snot' can cause an **outbreak of water-borne diseases** such as cholera in cities like Istanbul.



Sea of Marmara

- ❖ It is a **small inland sea** that is completely bordered by the **transcontinental nation of Turkey**.
- ❖ It has been named after the **Turkish Island of Marmara**, whose name was derived from the Greek word *Mármaron* which means “marble”.
- ❖ It separates **Asian Turkey from European Turkey**.
- ❖ In the northeast, it is connected to the **Black Sea via the Bosphorus Strait**, whereas in the southwest, it is linked with the **Aegean Sea via the Dardanelles Strait**.

3.8 FOR THE PEOPLE ACT

Recently, Senator Joe Manchin, the Democrat who represents the state of West Virginia has said that he will not vote for the bill which is in question i.e. ‘**For the People Act**’.

For the People Act

- ❖ It was passed by the **House of Representatives** in March 2021.
- ❖ In March 2021, a **Senate version** of this bill was introduced and an **earlier version was passed by the House** in March 2019.
- ❖ It is a “**historic legislation**” that will fulfil the following objectives:
 - Easier to vote in federal elections;
 - End congressional gerrymandering;
 - Overhaul federal campaign finance laws;

- Increase safeguards against foreign interference; and
- Strengthen government ethics rules

Significance of For the People Act for Democrats

- ❖ It aims to **combat a series of bills introduced in Republican controlled states** that aim to make it harder for people to cast their votes.
- ❖ It aims to **limit how local officials can expand** voting rights, set new rules for voting by mail and set new rules for removing people from voter rolls.
- ❖ The Democrats have pushed the legislation as the **antidote to a wave of restrictive state voting laws** sweeping the country.
- ❖ The legislation would restrict partisan gerrymandering of congressional districts, **eliminate hurdles to voting** and **bring transparency to a campaign finance system** that allows wealthy donors to anonymously bankroll political causes.

Criticism of For the People Act

- ❖ The experts claim that it is a **partisan legislation that wants to expand voting rights**.
- ❖ It seeks to **needlessly restrict voting rights of the people** or depict politician's who **ignore the need to secure the elections**.

6.15 ANIMAL CHALLENGE STUDY PLATFORM

Recently, the Ministry of Science & Technology has announced the establishment of **Animal Challenge Study Platform**.

Animal Challenge Study Platform

- ❖ Its foundation stone was laid at the **Institute of Life Sciences (ILS) Bhubaneswar**.
- ❖ It will be **set up inside the campus** with an estimated cost of Rs 12 crore.
- ❖ It will be funded by the **Biotechnology Industry Research Assistance Council (BIRAC)** of the Centre's department of biotechnology (DBT).

Significance of Animal Challenge Study Platform

- ❖ The platform can be used for **animal trial of drugs and vaccines**.
- ❖ The platform will have **biosafety levels-3 (BSL-3) facility for animal study** and it will house animals for this purpose.
- ❖ It is aimed at undertaking **evaluation studies of potential drug and vaccine candidates**.

Need for Animal Challenge Study Platform

- ❖ The scientific and clinical communities are actively engaged to **develop effective preventions and treatments** because COVID-19 is causing a major global pandemic.
- ❖ A key strategy to protect humans from this corona virus pandemic is the **development of effective vaccines and therapeutics**.
- ❖ Animal models that **closely resemble the pathogenesis of SARS-CoV-2-induced disease in humans** are essential for research on disease mechanisms and for the evaluation of potential vaccines and antiviral drugs.

4.11 RENEWABLE ENERGY CERTIFICATE (REC) MECHANISM

Recently, the Ministry of Power has circulated a discussion paper on redesigning the **Renewable Energy Certificate (REC) Mechanism** for comments of stakeholders in power sector.

Salient Features of Renewable Energy Certificate (REC) Mechanism

Validity period of RECs; Floor & Forbearance Price

- ❖ The REC validity period may be removed and the validity of REC would be perpetual i.e. till it is sold.
- ❖ As RECs are perpetually valid then the floor and forbearance prices are not required to be specified as RECs holders would have the complete freedom to decide the timings to sell.
- ❖ CERC will be required to have monitoring and the surveillance mechanism to ensure that there is no hoarding of the RECs and creation of artificial price rise in the REC market.

Period for which the RECs are to be issued to RE generators

- ❖ The RE generator who are eligible for REC, will be eligible for issuance of RECs for 15

years from the date of commissioning of the projects.

- ❖ The existing RE project that are eligible for REC would continue to get RECs for 25 years.

Promotion of new and high cost technologies in RE and the provision of multiplier for issuance of RECs

- ❖ The concept of multiplier can be introduced, under which less mature RE technologies can be promoted over other matured renewable technologies.
- ❖ The concept of negative list and sunset clause may also be considered for various technologies depending upon their maturity level.
- ❖ Any RE technologies which need to be promoted may be identified say 2 years in advance.
- ❖ A technology multiplier can be introduced for promotion of new and high priced RE technologies, which can be allocated in various baskets specific to technologies depending on maturity.

No REC to be issued to the beneficiary of the concessional charges or waiver of any other charges.

- ❖ The role of trader can be enhanced in the REC trading which will bring in **two key advantages** i.e.

- It will give **long-term visibility** to the buyers of the REC and
- They can easily **fulfil the RPO**.

- ❖ The small buyers can bank on the traders for **buying REC as an ease of purchase which will ensure even the small buyers who finds difficulty in trading in REC market** will be able to fulfil his RPO.

Renewable Energy Certificate (REC)

- ❖ It is a **market based instrument** to promote renewable energy and facilitate compliance of renewable purchase obligations (RPO).
- ❖ It is a **tradable, legal mechanism** that represents the environmental benefits associated with

one Megawatt-hour of electricity generated from a renewable energy resource.

- ❖ It is aimed at **addressing the mismatch between availability of RE resources** in state and the requirement of the obligated entities to meet the renewable purchase obligation (RPO).
- ❖ One Renewable Energy Certificate (REC) is treated as **equivalent to 1 MWh**.

Eligibility under Renewable Energy Certificate (REC)

❖ A generating company engaged in **generation of electricity from renewable energy sources** shall be eligible to apply for registration for issuance of and dealing in Certificates if it fulfills the following conditions:

- It has obtained accreditation from the State Agency; and
- It does not have any power purchase agreement for the capacity related to such generation to sell electricity, with the obligated entity for the purpose of meeting its renewable purchase obligation.
- ❖ A distribution licensee shall be eligible to **apply for registration with the Central Agency** for issuance conditions:
 - It has procured renewable energy, in the previous financial year, at a tariff determined under Section 62 or adopted under Section 63 of the Act; and
 - It has obtained a certification from the Appropriate Commission towards procurement of renewable energy.

2.6 BRICS JOINT STATEMENT ON STRENGTHENING AND REFORMING THE MULTILATERAL SYSTEM

Recently, the Foreign Ministers of **Brazil, Russia, India, China and South Africa (BRICS)** have called for reforming and re-invigorating multilateral fora to strengthen their ability to tackle twenty-first century challenges.

- ❖ The BRICS countries have laid out a list of changes that would make these **institutions examples of effective and representative multilateralism**.
- ❖ The ministers stressed upon the need to have **effective multilateralism as essential tool for ensuring successful governance** of matters of everyday life.

- ❖ The BRICS ministers **stressed the need to promote initiatives aimed at ensuring timely, affordable, and equitable access** to, as well as the distribution of diagnostics, therapeutics, medicines and vaccines, and essential health products and technologies.
- ❖ The Ministers reaffirmed the **need to use all relevant measures** during the pandemic to make covid-19 vaccines available to all.
- ❖ They reiterated the **need for sharing of vaccine doses, transfer of technology, development of local production capacities** and supply chains for medical products.
- ❖ They called for exercise of **due restraint in the implementation of measures** that could hinder the flow of vaccines, health products and essential inputs.

BRICS Joint Statement on Strengthening and Reforming the Multilateral System

- ❖ It should make **instruments of global governance more inclusive, representative and participatory** to facilitate greater and more meaningful participation of developing and least developed countries.
- ❖ It should be based on **inclusive consultation and collaboration for the benefit of all**, while respecting sovereign independence, equality, mutual legitimate interests and concerns to make the multilateral organizations more responsive, effective, transparent and credible.
- ❖ It should **make multilateral organizations more responsive, effective, transparent, democratic, objective, action-oriented, solution-oriented and credible**, so as to promote cooperation in building international relations.
 - It should be based on the **norms and principles of international law**, and the spirit of mutual respect, justice, equality, mutual beneficial cooperation and realities of the contemporary world.
- ❖ It should use **innovative and inclusive solutions**, including digital and technological tools to promote sustainable development and facilitate affordable and equitable access to global public goods for all.
- ❖ It should **strengthen capacities of individual States and international organizations** to better respond to new and emerging, traditional and non-traditional challenges, including those emanating from terrorism, money laundering, cyber-realm, infodemic and fake news.
- ❖ It should **promote international and regional peace and security, social and economic development**, and preserve nature's balance with people-centered international cooperation at its

core.

Why BRICS nations are keen on multilateral social security framework?

- ❖ The representatives of BRICS nations have expressed **willingness to have a multilateral social security framework** in order to safeguard workers' rights.
- ❖ The Social Security Agreement will help the **international workers to port their benefit to their home countries** thereby preventing loss of their hard earned money.
- ❖ It would help international workers to **avoid double contributions** in a cluster of such nations.

3.9 QUACQUARELLI SYMONDS (QS) WORLD UNIVERSITY RANKINGS (WUR)

Recently, the London-based **Quacquarelli Symonds (QS)** released the **QS World University Rankings for 2021**.

Global Findings

- ❖ The **Massachusetts Institute of Technology (MIT)** is the top university for the 10th consecutive year.
- ❖ The **University of Oxford** has risen to second rank for the first time since 2006, while **Stanford University and the University of Cambridge** share third spot.
- ❖ **Singapore's National University of Singapore and Nanyang Technological University, and China's Tsinghua University and Peking University**, are the only Asian universities in the global top 20.

Performance of top 3 Indian Universities under QS World University Rankings for 2021

- ❖ **IIT-Bombay, IIT-Delhi and Indian Institute of Science (IISc) in Bengaluru** has remained in top 200 universities around the world.
- ❖ India's tally in the top 200 universities **hasn't shown any change** for the fifth straight year.
- It stated that **no other Indian institution has been able to break** into the top 200 since 2017.
- ❖ **IIT-Bombay** continues to be **India's best higher education institution** for the fourth

consecutive year, holding **177th position** although it fell five places over the last year.

❖ **IIT-Delhi** comes next, **rising from 193 to 185** over the last 12 months, overtaking **IISc**, which ranks **186th**.

❖ The **Indian Institute of Science (IISc) Bangalore** has got a perfect score of **100 out of 100** for the citations per faculty (CPF) metric.

Performance of other Indian Universities under QS World University Rankings for 2021

❖ While **22 Indian universities** are featured among the **top 1,000** this time, there were 21 in QS WUR 2021, 23 in 2020, 24 in 2019, and 20 in 2018.

❖ Among the 22 Indian institutions in the top 1,000, **four (IIT-Bombay, IISc, IIT Roorkee and OP Jindal Global University)** have fallen in rank over the past 12 months.

❖ Seven institutes (**IIT-Delhi, IIT-Madras, IIT-Kanpur, IIT-Kharagpur, IIT-Guwahati, IIT-Hyderabad and Savitribai Phule Pune University**) have risen in position.

❖ Five institutions i.e. **IIT-Madras, IIT-Kanpur, IIT-Kharagpur, IIT-Guwahati and Savitribai Phule Pune University**, have achieved their best rank across five years in the latest edition of the rankings.

❖ Four universities have made their **debut in the rankings** and entered the 1,000 club and they are **Jawaharlal Nehru University (561-570), Pondicherry University (801-100), IIT Bhubaneswar (701-750)** and **Siksha 'O' Anusandhan (801-100)**.

❖ **Aligarh Muslim University, Banaras Hindu University (BHU) and Amrita Vishwa Vidyapeetham** are no longer among the top 1,000, having **dropped** from the 801-1,000 band to 1,001-1,200.

QS World University Rankings

❖ It is an **annual ranking of world universities** by Quacquarelli Symonds Limited.

❖ It is the **only international ranking** to have received International Ranking Expert Group (IREG) approval.

❖ Its **first publication was in 2004** in collaboration with Times Higher Education (THE) but its first independent publishing was in 2010.

It is viewed as one of the three most-widely read university rankings in the world, along

with Academic Ranking of World Universities and Times Higher Education World University Rankings

3.10 OPERATION PANGAEA XIV ON FAKE MEDICINE

Recently, more than 1.10 lakh web links, including websites and online marketplaces, have been taken down under **Operation Pangea XIV** of INTERPOL.

Operation Pangea XIV

- ❖ It was **coordinated by Interpol** alongwith **Central Bureau of Investigation** that is the nodal body for the Interpol in the country.
- ❖ It is supported by the **Pharmaceutical Security Institute**, the **United Nations Office on Drugs and Crime/World Customs Organization's Container Control Programme** and **Europol**.
- ❖ It was launched **against the sale of fake and illicit medicines and medical products**.
- ❖ It involved the **police, customs and health regulatory** authorities of 92 countries.
- ❖ It resulted in **1.13 lakh web links being closed down or removed** which is the largest since the first "Operation Pangea" conducted in 2008.
- ❖ It showed that **criminals are continuing to cash in on the demand for personal protection and hygiene products** generated by the COVID-19 pandemic.

Operation Pangea XIV was needed

- ❖ The **fake and unauthorized COVID-19 testing kits** accounted for more than half of all medical devices seized during the week of action.
- ❖ In Italy, **authorities recovered more than 500,000 fake surgical masks** as well as 35 industrial machines used for production and packaging.
- ❖ The criminals were quick to **target the new customers** as the pandemic forced more people to move their lives online.
- ❖ The **online sale of illicit medicines continues to pose a threat to public safety**, which is why operations such as Pangea remain vital in combating this global health scourge.

Operation Pangea

- ❖ It is a **global operation** which targets the online **sale of counterfeit and illicit medicines and medical device**.
- ❖ The participating agencies carry out **coordinated operational activities against illegal websites** in order to identify the criminal networks behind the trafficking.
- ❖ The main aims are to **remove illicit pharmaceutical products from circulation and raise awareness** of the risks associated with buying medicines from unregulated websites.
- ❖ It has **removed more than 105 million units** (pills, ampoules, sachets, bottles and so on) from circulation and made more than 3,000 arrests **since its launch in 2008**.

Other Pharmaceutical Crime Operations

Operation Rainfall

- ❖ It disrupts the trafficking in pharmaceuticals and medical devices in **Asia**.
- ❖ Seven countries took part in the operation in 2018 i.e. **Cambodia, Laos, Myanmar, Nepal, Pakistan, Philippines and Vietnam**.

Qanoon

- ❖ It is a multi-year initiative targeting illicit medicines and medical products in the **Middle East and North Africa (MENA) region**.
- ❖ It **collects and shares information** in order to identify transnational issues, support investigations and dismantle criminal networks.
- ❖ The countries participating in the initiative are **Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Libya, Lebanon, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Tunisia and United Arab Emirates**.

Heera

- ❖ It is a regional initiative that targets the trafficking of pharmaceutical products in **West Africa**.
- ❖ The countries involved are **Benin, Burkina Faso, Côte d'Ivoire, Guinea, Mali, Mauritania,**

Niger, Nigeria, Senegal and Togo.

3.11 FASTLY INTERNET OUTAGE

Recently, several big **websites around the world went down** for about half an hour because of a major issue with the **content delivery network (CDN)** of American cloud computing services provider 'Fastly'.

Fastly

- ❖ It is a **cloud computing services provider**, which offers CDN, edge computing, cloud storage services.
- ❖ It operates on **content delivery network or CDN**.
- ❖ Its tech is designed to **counter common causes of online outages**, such as distributed denial-of-service attacks which overwhelm a website with a sudden wave of traffic.

Content Delivery Network (CDN)

- ❖ It refers to a **geographically distributed group of servers** that work together to provide fast delivery of Internet content.
- ❖ They are **networks of servers and data centers distributed around the world** that allow for the transfer of assets needed for loading internet content.
- ❖ They house content **close to the telecom service providers' networks**.
- The platforms such as Netflix, Facebook, Amazon (ones with large quantities of data held in global libraries) host their **geographically relevant content closer** to where that content is to be consumed.
- ❖ It ensures the **end customer is able to access** the content faster.
- ❖ It aims to help **protect websites** against traffic spikes, distributed denial of service (DDOS) attacks, etc.

Significance of content delivery network (CDN)

- ❖ It offers an easy way to **increase the speed of a website** while also lowering the latency.
- ❖ It is essential for the **fast, efficient and secure delivery of content** to users around the

world.

❖ It is **uniquely positioned to help businesses** overcome the diverse challenges of media delivery.

6.16 NEW DRUG FOR ALZHEIMER'S DISEASE

Recently, the US Food and Drug Administration (FDA) has approved new drug 'Aduhelm' (aducanumab) for Alzheimer's disease.

Alzheimer's disease

❖ Dementia is an **umbrella term for a range of conditions** that involve a **loss of cognitive functioning**.

❖ **Alzheimer's dementia** is the most common type and involves **plaques and tangles forming in the brain**.

❖ It is an **accelerated ageing of certain neurons** in the brain that are concerned with storage and processing of memory.

❖ **Forgetfulness and memory problems** are often early symptoms.

➤ After prolonged illness, patients tend to become confused, may **lose their way around familiar places, and have difficulties with planning and completing simple tasks**.

❖ It is the **accumulation of the debris** caused by the breakdown of neurons in the brain, leading to plaque formation.

Statistics on Alzheimer's disease

❖ According to World Health Organization (WHO) estimates for 2017, **dementia affects approximately 50 million people worldwide**.

❖ In India, it is estimated that **5.3 million people (1 in 27) above the age of 60** have dementia in 2020.

➤ It is projected to rise to **7.6 million by 2030**.

Aduhelm (aducanumab)

❖ It is a **monoclonal antibody** that is designed to reduce the **presence of amyloid beta**, a

protein that forms plaques in the brain.

- ❖ It aims at **altering the course of the disease** by slowing the deterioration of brain function.
- ❖ The drug is to be given as a **monthly intravenous infusion**.

Efficacy of Aduhelm (aducanumab)

- ❖ The drug was tested in patients at the **earliest stages of Alzheimer's** before the disease had a major impact in their **ability to care for themselves**.
- ❖ It was **not tested in people who had progressed to moderate dementia** i.e. a state in which the patients lose the ability to care for and feed themselves.
- ❖ It is a novel drug that is designed to **slow the progression of Alzheimer's and not a cure**.

4.12 SURAKSHIT HUM SURAKSHIT TUM ABHIYAAN

Recently, **NITI Aayog** has launched **Surakshit Hum Surakshit Tum Abhiyaan**.

Surakshit Hum Surakshit Tum Abhiyaan

- ❖ It is joint initiative of **NITI Aayog** and **Piramal Foundation**.
- ❖ It is launched in **112 Aspirational Districts** to assist district administrations in **providing home-care support to Covid-19 patients**.
- ❖ It is being part of a special initiative called **Aspirational Districts Collaborative**.
 - Under the Aspirational Districts Collaborative, **local leaders, civil societies and volunteers work with district administrations to address emerging problems** across key focus areas of the Aspirational Districts Programme.
- ❖ It will be **led by district magistrates** in partnership with over 1000 local NGOs.
- ❖ It will **enlist and train over 1 lakh volunteers** to connect with patients through inbound/outbound calls.
- ❖ The volunteers will be **trained to support 20 affected families each by educating caretakers** to follow Covid protocols, provide psycho-social support and timely updates about patients to the administration.

Significance of Surakshit Hum Surakshit Tum Abhiyaan

- ❖ It is a significant initiative that **responds to immediate needs**.
- ❖ It will provide **long-term support to India's poorest communities** in the Aspirational Districts by addressing the lasting impact of Covid-19.
- ❖ It is expected to play a **key role in district preparedness for managing nearly 70% of Covid cases at home**, reducing pressure on the health system, and stemming the spread of fear amongst the people.
- ❖ It will **undertake capacity building of citizens for correct usage of Oxygen concentrators** that have been supplied to these districts.
- ❖ It will **mobilize local volunteers to provide home-care support** to those affected, based on the guidelines of the Ministry of Health and Family Welfare.

8.8 AWARENESS CAMPAIGN ON SINGLE USE PLASTICS

Recently, the Ministry of Environment, Forest and Climate Change (MoEFCC) has launched the **awareness campaign on single use plastics**.

- ❖ The Environment Minister emphasized that Government of India has already **banned import of plastic waste** in the country.
- ❖ The MoEFCC for the first time brought out **Plastic Waste Management Rules, 2016**, for handling plastic waste in an environmentally sound manner.
 - Under the rules **plastic carry bags below 50 microns** have been banned.
- ❖ The Ministry has issued a draft notification in 2021 for amending the **Plastic Waste Management Rules, 2016**, with respect to **prohibiting identified 12 single use plastic items**.

Awareness Campaign on Single Use Plastics

- ❖ It is launched by MoEFCC in collaboration with **GIZ, UN Environment Programme (UNEP) and Federation of Indian Chambers of Commerce and Industry (FICCI)**.
- ❖ It will comprise of **four on-line regional events** and a **social media campaign** to spread the message of mitigation plastic pollution to wider audience.
- ❖ The regional events will include **interactive sessions on various themes** related single use

plastics and plastic waste management.

- ❖ It would cover **wide range of stakeholders** from local bodies, pollution control boards, industry, civil society organizations and citizens.
- ❖ It will help finding **suitable alternatives to single-use plastics (SUPs)** and identify new ways of plastic waste management.
- ❖ The campaign will have a series of events on:
 - Reducing plastic waste generation;
 - Recognising the need of effective plastic waste management;
 - Increasing the awareness of suitable alternatives;
 - Sustainable consumption and production; and
 - Extended producer responsibility (EPR)

Need for Awareness Campaign on Single Use Plastics

- ❖ The awareness generation on plastic waste management and reduction in use of single use plastic items is **vital in bringing about behavioural change**.
- ❖ It will **reiterate government's commitment to phase out identified single use plastic items** which have low utility and high adverse environmental impact.
- ❖ India needs to take all steps to ensure that the **country becomes free of single-use plastic by 2022** as envisioned by Prime Minister Narendra Modi.

India Plastic Challenge Hackathon 2021?

- ❖ It is a unique competition **calling upon start-ups /entrepreneurs and students** of Higher Education Institutions (HEIs).
- ❖ It aims to **develop innovative solutions to mitigate plastic pollution** and develop alternatives to single use plastics.
- ❖ It will **deliberate on plastic waste management, its collection and what new products** can be made out of it.

Single Use Plastics (SUPs)

- ❖ The SUPs are **disposable plastics meant for use-and-throw.**
- ❖ They comprise **polythene bags, plastic drinking bottles, plastic bottle caps, food wrappers, plastic sachets, plastic wrappers, straws, stirrers and Styrofoam cups or plates.**
- ❖ They **slowly and gradually break down into smaller pieces** of plastic known as microplastics.
- ❖ They are commonly used for **plastic packaging** and include items intended to be used only once before they are thrown away or recycled.

1.5 NATIONAL FINANCIAL REPORTING AUTHORITY (NFRA)

Recently, the **National Financial Reporting Authority (NFRA)** has set up a **Technical Advisory Committee (TAC)** to provide NFRA with inputs from the perspective of various key stakeholders.

Highlights

- ❖ The TAC has undertaken a **consultative exercise** to review NFRA's engagement with its stakeholders.
- ❖ The committee has recommended **formation of advisory/consulting groups, institution of fellowship programmes, publication of NFRA's Inspection Policy**, and building up of NFRA's Regulatory Capacity.
- ❖ The NFRA considers it appropriate to **seek the comments and suggestions of stakeholders on the TAC recommendations** along with NFRA's preliminary views/proposed actions thereon.

National Financial Reporting Authority (NFRA)

- ❖ It was **established by the Central Government** in October 2018 with the fundamental objective of **driving systemic change** in the Indian Financial Reporting System for PIEs.
- ❖ It has been constituted under **section 132 of the Companies Act, 2013.**

Functions and Duties of NFRA

- ❖ Recommend **accounting and auditing policies and standards** to be adopted by companies for approval by the Central Government;
- ❖ Monitor and enforce **compliance with accounting standards** and auditing standards;

- ❖ Oversee the **quality of service** of the professions associated with ensuring compliance with such standards and suggest measures for improvement in the quality of service;
- ❖ Perform such other functions and duties as may be necessary or incidental to the aforesaid functions and duties.

Companies and Bodies Corporate Governed by NFRA

- ❖ Companies whose **securities are listed** on any stock exchange in India or outside India;
- ❖ Unlisted public companies having **paid-up capital of not less than rupees five hundred crores** or **having annual turnover of not less than rupees one thousand crores** or having, in aggregate, **outstanding loans, debentures and deposits of not less than rupees five hundred crores**;
- ❖ **Insurance companies, banking companies, companies engaged in the generation or supply of electricity, companies governed by any special Act** for the time being in force or bodies corporate incorporated by an Act;
- ❖ **Any body corporate or company or person, or any class of bodies corporate or companies or persons**, on a reference made to the Authority by the Central Government in public interest; and
- ❖ A body corporate **incorporated or registered outside India**, which is a subsidiary or associate company of any company or body corporate incorporated or registered in India

Composition of the NFRA

- ❖ The Companies Act requires the NFRA to have a **chairperson** who will be appointed by the **Central Government** and a maximum of 15 members.
- ❖ The **appointment of such chairperson and members** are subject to the following qualifications:
 - They should be having an expertise in accountancy, auditing, finance or law;
 - They are required to make a declaration to the Central Government that there is no conflict of interest or lack of independence in their appointment; and
 - All the members including the chairperson who are in full-time employment should not be associated with any audit firm (including related consultancy firms) during their term of office

and 2 years after their term.

Powers of NFRA

- ❖ To investigate the matters of **professional or other misconduct committed** by a prescribed class of CA firms or CAs;
- ❖ The **same powers as a Civil Court** under the Code of Criminal Procedure, 1908, in respect of a suit involving the following matters:
 - Discovery and production of books of account and other documents, at such place and time as may be specified by the NFRA;
 - Summoning and enforcing the attendance of persons and examining them under oath;
 - Inspection of any books, registers, and other documents of any person at any place; and
 - Issuing commissions for the examination of witnesses or documents

Technical Advisory Committee (TAC) of NFRA

- ❖ It was set up in 2020 under **Rule 15 of the NFRA Rules, 2018** in order to adequately reflect and express the views and concerns of the users of corporate financial statement.
- ❖ Its objective is to **obtain relevant input that will assist NFRA** in effective performance of its functions, and to advice on matters related to accounting and auditing standards.
- ❖ The **functions of TAC** are:
 - Aid and advise the executive body of NFRA on issues relating to the drafts of accounting and auditing standards;
 - Advise on improvements to the processes followed by the executive body, especially relating to Audit Quality Reviews (AQRs);
 - Provide inputs from the perspectives of users, preparers and auditors of financial statements; and
 - Advise on development of measures of audit quality.

1.6 INDIA POST PAYMENTS BANK (IPPB)

Recently, the **India Post Payments Bank (IPPB)** and Mahindra Rural Housing Finance Limited have announced a strategic partnership for cash management solutions.

Highlights

- ❖ The IPPB will be offering **cash management and collection services** to MRHFL through its access points and postal service providers.
- ❖ The MRHFL customers will be able to **repay their monthly or quarterly loan instalments** with the cash management service.
- ❖ It is a significant partnership in the **financial services sector**, and is aimed at **customer inclusivity** by both the partners.
- ❖ The IPPB with its **robust network and technology platform** can help corporates to manage their receivables safely, securely and seamlessly.

India Post Payment Bank

- ❖ The India Post Payments Bank (IPPB) was setup under the **Department of Post, Ministry of Communication**.
- ❖ The IPPB was launched as a **pilot project in 2017 in Ranchi (Jharkhand) and Raipur (Chhattisgarh)** with the objective of being present across India by the FY 2018-2019.
- ❖ The **100% equity** of the IPPB is owned by **Government of India**.

Importance of India Post Payment Bank

- ❖ The IPPB aims to provide **every household in India an access to efficient banking services** and enable them to become financially secure and empowered.
- ❖ It is a unique bank in the sense that its focus is on **providing doorstep banking services to its customers**, even in the remotest areas of the nation.
- ❖ The IPPB presents banking with a difference which aims to **provide simple, inclusive, convenient and efficient banking system** to the nation.
- ❖ The IPPB's **economic and premium technology setup for payment and settlements** provides the masses with affordable solutions delivered to the last mile.
- ❖ The IPPB offers best in industry compensation and benefits that include **comprehensive**

medical coverage for your family, leased accommodation, bouquet of allowances and necessary reimbursement as per scale.

Services provided by India Post Payment Bank

- ❖ The IPPB will offer a range of products such as **savings and current accounts, money transfer, direct benefit transfer, bill and utility payments, enterprise and merchant payments.**
- ❖ The customers will be able to **access all products and services** across various channels including **over-the-counter services, micro ATM, mobile banking app, text messages, phone calls.**
- ❖ The payments bank will also provide access to third-party financial services such as **insurance, mutual funds, pension, credit products and forex.**

How India Post Payments Bank different from traditional banks?

- ❖ A payments bank is a **differentiated bank**, offering a limited range of products.
- The payment banks can **accept deposits of up to ₹ 1 lakh per customer.**
- ❖ Unlike traditional banks, the payment banks **cannot issue loans and credit cards.**

3.12 ASEAN MEETS CHINA

Recently, **China had hosted foreign ministers from the 10 ASEAN countries** with Beijing pushing for closer economic cooperation and aligning COVID-19 recovery efforts.

Highlights

- ❖ The **crisis in Myanmar was high on the agenda** at a meeting between the foreign ministers of ASEAN and China.
- ❖ The other issues tackled in the meeting, which was part of the **30th anniversary of ASEAN-China Dialogue Relations**, included:

Re-opening of borders during a surge in Covid-19 infections

- ❖ It highlighted the **“very effective” cooperation between ASEAN and China** in battling

Covid-19, pointing to China's provision of essential medical supplies and support for vaccination across the region.

- ❖ It called for **more vaccine cooperation with China**, especially now that both the Sinopharm and Sinovac jabs have been added to the World Health Organisation's emergency-use list.

Tensions in the South China Sea

- ❖ It highlighted that the **countries must jointly maintain stability in the South China Sea** and avoid unilateral actions that may intensify conflicts.

- ❖ **China and the Philippines have clashed** over the presence of Chinese vessels near a disputed reef, while Malaysia alleged the intrusion of 16 Chinese aircraft into its airspace.

China's engagement in ASEAN

- ❖ The meeting comes as Beijing has sought to **step up engagement of South-east Asia**, in part in response to a hardening of the United States' stance against it.

- ❖ It stated that **deepening economic cooperation**, particularly following the signing of the Regional Comprehensive Economic Partnership (RCEP) trade deal, would be China's focus.

China's stand on QUAD Group

- ❖ Chinese officials have in recent weeks stepped up **criticism of the Quad** which is the informal India, Australia, Japan and United States grouping.

- ❖ China's Defence Minister called on **Sri Lanka and Bangladesh to reject "military alliances"** which is a term that some Beijing are using to describe the Quad.

- ❖ China cannot **rule out the possibilities that Quad members will further rope in ASEAN members** to counter China as Southeast Asia is of great significance to the US' Indo-Pacific Strategy.

4.13 NITI AAYOG'S FAST TRACKING FREIGHT IN INDIA

Recently, the NITI Aayog and Rocky Mountain Institute (RMI) India has released a new report titled '**Fast Tracking Freight in India: A Roadmap for Clean and Cost-Effective Goods Transport**'.

- ❖ India has been the **world's fastest-growing major economy** for four of the past five years,

due to rising demand for goods and services.

❖ The logistics sector represents **five percent of India's Gross Domestic Product (GDP)** and **employs 2.2 crore people**.

❖ These goods represent a **variety of domestic industries and products**:

- 22 percent are agricultural goods;
- 39 percent are mining products; and
- 39 percent are manufacturing-related commodities

Key Highlights

Shifting to cost-effective, clean freight transport

❖ **Opportunities for India:** The increasing the share of rail transport, optimising truck use and promoting use of fuel-efficient vehicles and alternative fuels will lead to the following benefits:

- **Reduced logistics costs** – India has set a target of reducing the logistics costs as a share of GDP from 14 percent currently to 10 percent by 2022, which can save up to INR 10 lakh crore.
- **Reduced carbon emissions and improved air quality** – India can save 10 giga tonnes of CO₂, 500 kilo tonnes of particulate matter (PM) and 15 million tonnes of nitrogen oxide (NO_x) caused by freight transport by 2050.
- **Less truck traffic on roads** – Improved mode share and efficient logistics can reduce the vehicular-freight activity by 48 percent in 2050 over a BAU scenario

Enhance rail mode share in India by increasing rail network capacity

❖ There are several factors which suggest that rail could be a cost-effective and efficient alternative for a significant share of India's freight:

- **A commodity mix that has a high share of bulk goods** – suitable for rail's bulk-handling capabilities;
- **Freight travel is often over longer distances** – suitable to rail's economies of scale relative to road transport; and
- **India has a low coast-to-landmass ratio** – between the two low carbon freight modes, rail and coastal, India's geography makes rail more feasible in many areas of the country as

compared to coastal

Optimise truck use by improving transportation and warehousing practices

- ❖ The logistics costs in India are high, accounting for **14 percent of the GDP** and the **transportation and inventory costs** account for more than 90 percent of these costs.
- ❖ These high costs are a result of low logistics efficiency due to a **fragmented market, lack of standardised trucking assets, old vehicles** and **obsolete warehousing technologies**.
- ❖ These factors have resulted in:
 - **Low truck utilisation**
 - **High empty running of trucks**
 - **Overloading of trucks**

Adoption of fuel-efficient, clean and electric vehicles

- ❖ The **internal combustion engine (ICE) vehicles**, mostly powered by diesel, dominate India's road-based freight activity.
- ❖ Three market characteristics contribute to these factors:
 - **Low availability and lack of information** about fuel-saving technologies among fleet operators;
 - **Reluctance to invest** in fuel-saving technologies and EVs due to lack of access to finance; and
 - **High capital cost** of EVs

Recommendations for Fast Tracking Freight in India

Rocky Mountain Institute (RMI)

- ❖ It is an **independent non-profit organisation** founded in 1982.
- ❖ It **transforms global energy systems** through market-driven solutions to align with a 1.5°C future and secure a clean, prosperous, zero-carbon future for all.
- ❖ It aims to **identify and scale energy system interventions** that will cut greenhouse gas

emissions at least 50 percent by 2030.

RMI India

- ❖ It is an **independent think-and-do tank** that works with diverse stakeholders.
- ❖ It takes inspiration from and collaborates with **Rocky Mountain Institute**.
- ❖ Its mission is to **accelerate India's transition** to a clean, prosperous and inclusive energy future.

2.7 INDIA'S RANK ON SUSTAINABLE DEVELOPMENT GOALS

Recently, **India's rank has slipped by two places on the 17 Sustainable Development Goals (SDGs)** adopted as a part of the 2030 agenda by 193 United Nations member states in 2015.

Key Highlights

❖ The **State of India's Environment Report 2021** revealed that **India's rank was 115 last year** and it **dropped to 117** in 2021.

- ❖ The fall in India's ranking is primarily because prevalence of major challenges in India:
 - Ending hunger and achieving food security (**SDG 2**);
 - Achieving gender equality (**SDG 5**); and
 - Building resilient infrastructure and promoting inclusive and sustainable industrialisation and fostering innovation (**SDG 9**)

❖ India **ranks below** four South Asian countries i.e. **Bhutan, Nepal, Sri Lanka and Bangladesh**.

❖ The overall SDG score of India is **61.9 out of 100**.

❖ The report stated that **Jharkhand and Bihar are the least prepared** to meet the SDGs by 2030, which is the target year.

❖ It said the states/UTs with the best overall score which are on the path to achieving the SDGs are **Kerala, Himachal Pradesh and Chandigarh**.

India's score in Environmental Performance Index (EPI)

❖ The report highlighted that that **India ranked 168 out of 180 countries** in terms of Environmental Performance Index (EPI).

- It is **calculated on various indicators**, including environmental health, climate, air

pollution, sanitation and drinking water, ecosystem services, biodiversity, etc.

❖ **India's rank was 172 in the environmental health category**, which is an indicator of how well countries are protecting their populations from environmental health risks.

❖ According to the EPI 2020 report by Yale University, **India ranked 148**, 21 positions behind Pakistan which was at 127th position in the **category of biodiversity and habitat**.

4.14 APPOINTMENT OF ELECTION COMMISSIONER

Recently, Shri Anup Chandra Pandey has assumed charge as the **new Election Commissioner (EC) of India**.

Composition of Election Commission

❖ **Article 324 of the Constitution** has made the following provisions with regard to the composition of election commission:

➤ The Election Commission shall consist of the **chief election commissioner and such number of other election commissioners**, if any, as the president may from time to time fix.

➤ The **appointment** of the chief election commissioner and other election commissioners **shall be made by the president**.

➤ When any other election commissioner is so appointed, the **chief election commissioner shall act as the chairman** of the election commission.

➤ The president may also appoint after **consultation with the election commission such regional commissioners** as he may consider necessary to assist the election commission.

➤ The **conditions of service and tenure of office** of the election commissioners and the regional commissioners shall be **determined by the president**.

Powers and Tenure of Election Commissioners

❖ The chief election commissioner and the two other election commissioners have equal powers and receive **equal salary, allowances and other perquisites**, which are similar to those of a judge of the Supreme Court.

❖ In case of difference of opinion amongst the Chief election commissioner and/or two other

election commissioners, the **matter is decided by the Commission by majority.**

❖ They hold office for a **term of six years or until they attain the age of 65 years**, whichever is earlier.

Independence of Election Commissioners

❖ **Article 324 of the Constitution** has made the following provisions to safeguard and ensure the independent and impartial functioning of the Election Commission:

➤ The chief election commissioner is provided with the **security of tenure.**

➤ He **cannot be removed from his office** except in same manner and on the same grounds as a judge of the Supreme Court.

➤ He can be **removed by the president** on the basis of a resolution passed to that effect by both the Houses of Parliament with special majority, either on the **ground of proved misbehaviour or incapacity.**

➤ The service conditions of the chief election commissioner **cannot be varied** to his disadvantage after his appointment.

➤ Any other election commissioner or a regional commissioner **cannot be removed from office** except on the recommendation of the chief election commissioner.

3.13 NIGERIAN GOVERNMENT JOINS KOO APP

Recently, the **Nigerian government has joined the Koo App** after banning American microblogging site Twitter indefinitely.

Reasons for banning Twitter

❖ Nigeria's decision to suspend Twitter in the country reportedly came as a result of the **US-based social networking platform deleting a tweet by President Muhammadu Buhari** for violating rules.

❖ The Nigerian government had alleged that the **microblogging site was being used to undermine "Nigeria's corporate existence"** through the spreading of fake news that has "violent consequences".

❖ There was a section that opposed the **suspension of Twitter for violation of fundamental**

right to freedom of speech.

Significance for Koo App

- ❖ The Nigerian government's decision to join Koo after banning Twitter **reinforces its position** as an alternative platform to Twitter.
- ❖ The progress of Koo came in the backdrop of the **Indian government's several disagreements with Twitter**.
- ❖ Koo also announced a **\$30-million fundraise from marquee investors including Tiger Global** at a time Indian authorities were turning the heat on Twitter.

Koo App

- ❖ It is a **microblogging site** which was co-founded by entrepreneurs **Aprameya Radhakrishna and Mayank Bidwatka**.
- ❖ Its participation and the subsequent winning of the government's **Atmanirbhar App Innovation Challenge** brought it under the limelight.
- ❖ The app supports **multiple Indian regional languages** such as Hindi, Telugu, Kannada, Bengali, Tamil, Malayalam, Gujarati, Marathi, Punjabi, Oriya and Assamese.
- ❖ It empowers people to **express their thoughts in Indian languages** with a strong knit local Indian community.

4.15 SARDAR SAROVAR NARMADA DAM

Recently, in the ongoing summer, the **Sardar Sarovar Narmada Dam** has released about 1.3 Million Acre Feet (MAF) water for irrigation between April 1 and May 31 in its command area of 21.29 lakh hectares.

Sardar Sarovar Narmada Dam

- ❖ It is built on **Narmada River**.
- ❖ It is located in the **village of Kevadia** in the state of **Gujarat**.
- ❖ It is one of the largest **interstate, multipurpose river valley** infrastructure development projects in the country.

- ❖ It is part of the **Narmada Valley Development Project**, a major plan to generate power and supply water for drinking and irrigation to states of Gujarat, Madhya Pradesh and Maharashtra.
- ❖ The **Sardar Sarovar Narmada Nigam (SSNL)**, a state-owned company, is responsible for implementing and managing the SSP.
- ❖ The dam will be the **third highest concrete dam** (163 meters) in India, the first two being Bhakra (226 metres) in Himachal Pradesh and Lakhwar (192 meters) in Uttar Pradesh.

Features of Sardar Sarovar Narmada Dam

- ❖ It is a **1,210m long concrete gravity dam** with a proposed final height of 163m above the deep foundation.
- ❖ The **Sardar Sarovar reservoir**, built for the main dam, has 0.95 million hectare metre (M.Ha.m) of gross storage capacity and 0.586M.Ha.m of live storage capacity.
- ❖ It occupies an **area of 37,000ha** with an average length of 214km and width of 1.7km.
- ❖ The SSP has **two hydropower generating units:**
 - The **1,200MW underground river bed power house (RBPH)** station has six 200MW units of reversible Francis type turbines.
 - The **250MW surface canal head power house (CHPH)** consists of five 50MW Kaplan turbines.

Benefits of Sardar Sarovar Narmada Dam

- ❖ **Irrigation:** It will provide irrigation facilities to 18.45 lac ha of land, covering 3112 villages of 73 talukas in 15 districts of Gujarat.
 - It will irrigate 246,000 ha of land in the strategic desert districts of Barmer and Jalore in Rajasthan and 37,500 ha in the tribal hilly tract of Maharashtra through lift.
- ❖ **Drinking water supply:** A special allocation of 0.86 MAF of water has been made to provide drinking water to 173 urban centres and 9490 villages within and out-side command in Gujarat.
- ❖ **Power generation:** There are two power houses viz. River Bed Power House and Canal Head Power House with an installed capacity of 1200 MW and 250 MW respectively.
 - The power would be shared by three states i.e. Madhya Pradesh (57%), Maharashtra

(27%) and Gujarat (16%).

- ❖ **Flood Protection:** It will provide flood protection to riverine reaches measuring 30,000 ha covering 210 villages and Bharuch city and a population of 4.0 lac in Gujarat.
- ❖ **Wildlife Protection and Conservation:** Wild life sanctuaries viz. “Shoolpaneshwar wild life sanctuary” on left Bank, Wild Ass Sanctuary in little Rann of Kachchh, Black Buck National Park at Velavadar, Great Indian Bustard Sanctuary in Kachchh, Nal Sarovar Bird Sanctuary and Alia Bet at the mouth of River will be benefited.

Narmada River

- ❖ The origin of the river is a tiny reservoir named as **Narmada Kund**, which is situated on the **Amarkantak Hill** in Anuppur District of East **Madhya Pradesh**.
- ❖ The river moves down from the Amarkantak range at the **Kapildhara waterfalls** on top of a steep rocky formation.
- ❖ It is the **only river in India, which runs in a rift valley** running west amid the Vindhya and Satpura Mountain Ranges
- ❖ It creates the **conventional border** between South India and North India.
- ❖ The **river runs to the west** for a span of 1,312 km (815.2 miles) prior to flowing through the **Gulf of Khambat (Cambey)** into the Arabian Sea.
- ❖ It runs through the states of **Madhya Pradesh, Maharashtra and Gujarat**.
- ❖ Its tributaries are **Shakkar, Sher, Tawa** (longest tributary), **Dudhi, Ganjal, Barna, Hiran, Karam, Choral and Lohar**.

3.14 APPOINTMENT OF UNITED NATIONS (UN) SECRETARY-GENERAL

Recently, the United Nations Security Council has formally **approved Secretary-General Antonio Guterres** for a second term.

How is the UN Secretary-General chosen?

- ❖ The Secretary-General is **appointed by the General Assembly** on the recommendation of the **Security Council**.

- ❖ The Secretary-General's selection is therefore **subject to the veto of any of the five permanent members** of the Security Council.
- ❖ The Secretary-General is **chosen during closed-door sessions** of the Security Council, and approval by the General Assembly is seen more as a formality.
- ❖ The **five permanent members of the 15-nation-strong Security Council** i.e. China, France, Russia, the United Kingdom, and the United States, are the most powerful players in this process.
- ❖ The **10 elected non-permanent members** of the Security Council, of which India is currently a part, **do not have veto power**.
- ❖ The backing of non-permanent members of the Security Council is still crucial as **a candidate requires at least nine out of 15 votes** to be recommended for the top job.

Resolution for choosing UN Secretary-General

- ❖ A **recommendation by any UN member state is essential** for any candidate to have a real chance at being considered for the top post.
- ❖ A resolution adopted by the General Assembly in 2015 made the **selection process more open and transparent**.
- ❖ It will allow **member states for the first time to see basic information** about all candidates, including their resumes, and to question them at open sessions.

Functions of UN Secretary-General

- ❖ The UN Charter refers to the Secretary-General as the body's "**chief administrative officer**".
- ❖ He shall act in that **capacity and perform "such other functions as are entrusted"** to them by the Security Council, General Assembly, Economic and Social Council and other United Nations organs.
- ❖ The **UN website defines** the role as:
 - Equal parts diplomat and advocate, civil servant and CEO;
 - A symbol of United Nations ideals; and
 - A spokesperson for the interests of the world's peoples
- ❖ The Secretary-General's **day-to-day work** includes:
 - Attendance at sessions of United Nations bodies;
 - Consultations with world leaders, government officials, and others; and
 - Worldwide travel intended to keep the Secretary-General in touch with the peoples of the UN member states
- ❖ All Secretaries-General have come from **member states considered to be small- or**

medium-sized neutral powers, and a regional rotation is observed.

4.16 PRADHAN MANTRI AWAS YOJANA-URBAN (PMAY-U)

Recently, the Government has approved 708 proposals for construction of 3.61 lakh houses under Pradhan Mantri Awas Yojana-Urban (PMAY-U).

❖ The '**PMAY-U Awards 2021-100 Days Challenge**' was also launched by the Ministry of Housing & Urban Affairs (MoHUA).

What is Pradhan Mantri Awas Yojana-Urban (PMAY-U)?

❖ It is a **flagship Mission** of Government of India being implemented by **Ministry of Housing and Urban Affairs (MoHUA)**.

❖ It was **launched in 2015**.

❖ The **main stakeholders** are State Level Nodal Agencies (SLNAs), Urban Local Bodies (ULBs)/ Implementing Agencies (IAs), Central Nodal Agencies (CNAs) and Primary Lending Institutions (PLIs)

❖ All houses under **PMAY (U) have basic amenities** like toilet, water supply, electricity and kitchen.

Objectives of Pradhan Mantri Awas Yojana-Urban (PMAY-U)

❖ It is aimed at **providing pucca houses to all eligible beneficiaries** of Urban India by **2022** with the vision of 'Housing for All'.

❖ It **addresses urban housing shortage** among the EWS/LIG and MIG categories including the slum dwellers.

❖ It adopts a **cafeteria approach** to suit the needs of individuals based on the geographical conditions, topography, economic conditions, availability of land, infrastructure etc.

Significance of Pradhan Mantri Awas Yojana-Urban (PMAY-U)

❖ It adopts a **demand driven approach** wherein the Housing shortage is decided based on demand assessment by States/Union Territories.

❖ It covers the **entire urban area** consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities or any such authority under State legislation.

❖ It promotes **women empowerment** by providing the ownership of houses in name of female member or in joint name.

❖ It ensures **dignified living** along with **sense of security and pride** of ownership to the beneficiaries.

PMAY-U Awards 2021-100 Days Challenge

❖ The awards are given to **recognize and celebrate the outstanding contribution and performances** by States, Union Territories (UTs), Urban Local Bodies (ULBs) and beneficiaries.

❖ It aims to **encourage healthy competition** among States/UTs/ULBs and recognize their best performance.

❖ The awards have broadly been classified into **3 major levels**:

➤ State Awards, Municipal Corporations, Municipal Councils and Nagar Panchayats Awards

➤ Special Category Awards

➤ Beneficiary Awards

❖ The **objectives of the PMAY-U** award may be outlined as follows:

➤ To recognize the achievements in the Mission;

➤ To encourage healthy competition among States/UTs/ULBs for achieving the goal of 'Housing for All' within stipulated time;

➤ To disseminate knowledge on effective methods of design and implementation;

➤ To encourage innovations in successful implementation of projects; and

➤ To promote cross learning in resolving problems, mitigating risks and planning for successful implementation of the Mission

Eligibility for Awards

❖ **All States, Municipal Corporations, Municipal Councils and Nagar Panchayats** are

eligible for the Awards.

- ❖ Given the **smaller share in overall housing shortage**, Union Territories (UTs) shall be awarded under Special Category Awards.
- ❖ The **Mission Director/ State Level Nodal Officer of PMAY-U** shall be the focal person for awards in the respective States/UTs.
- ❖ **Municipal Corporations are eligible to apply directly** and the concerned Municipal Commissioner will be the focal person.
- ❖ **Municipal Councils and Nagar Panchayats are eligible to apply** through their respective States where they shall be nominating three best performing ULBs each for these two levels of awards, based on criteria described in forthcoming sections of this document.

2.8 INDO-THAI COORDINATED PATROL (CORPAT)

Recently, the 31st edition of **India-Thailand Coordinated Patrol (Indo-Thai CORPAT)** between the Indian Navy and the Royal Thai Navy is being conducted

About Indo-Thai Coordinated Patrol (CORPAT)

- ❖ The **two navies have been carrying out CORPAT** along their International Maritime Boundary Line twice a year since 2005.
- ❖ The aim of the Indo-Thai CORPAT exercise is to **keep the vital part of the Indian Ocean safe and secure** for commercial shipping and international trade.
- ❖ It builds up the **understanding and interoperability** between navies.
- ❖ It **facilitates institution of measures** to prevent and suppress Illegal Unreported Unregulated (IUU) fishing, drug trafficking, maritime terrorism, armed robbery and piracy.
- ❖ It **enhances the operational synergy** by exchange of information for prevention of smuggling, illegal immigration and for conduct of SAR operations at sea.
- ❖ It will contribute towards Indian Navy's efforts to consolidate **inter-operability and forge strong bonds of friendship** with Royal Thai Navy.
- ❖ The **Indian Naval Ship (INS) Saryu**, and **His Majesty's Thailand Ship (HTMS) Krabi**, along with **Dornier Maritime Patrol Aircraft** from both navies are participating in the CORPAT.

- The other countries with which India conducts CORPAT exercise are **Bangladesh (IN-BN CORPAT)** and **Indonesia (IND-INDO CORPAT)**.

INS Saryu

- ❖ It is an indigenously built **Naval Offshore Patrol Vessel (NOPV)**
- ❖ It is designed and built by **Goa Shipyard Limited**.
- ❖ It is aimed at meeting the **increasing ocean surveillance and patrolling** requirements of the Indian Navy.
- ❖ Its primary role is to undertake **EEZ surveillance, anti-piracy patrols, fleet support operations, provide maritime security to off shore assets** and carry out **escort operations for high value assets**.

3.15 EIU's Global Liveability Index

Recently, the **Economist Intelligence Unit (EIU)** has released the **Global Liveability Index 2021**.

Best Performing Cities

- ❖ The **New Zealand and Australian cities** have dominated the Global Liveability Index 2021.
- **Auckland has been ranked the best** on liveability rankings due to the ability of New Zealand city to contain Covid-19 faster.
- ❖ According to the EIU survey, **six of the top 10 cities are in New Zealand and Australia**, where tighter border controls from the early days of the pandemic allowed residents to live a relatively normal life.
- ❖ It noted a **decline in liveability in many European cities** as they battled the second Covid-19 wave by closing schools and restaurants, and restructuring cultural and sporting events.
- ❖ The **Japanese cities of Osaka and Tokyo** grabbed second and fourth place.
- ❖ The two Swiss cities (**Adelaide, Perth, Melbourne and Brisbane**) made it to the top 10 list, with Melbourne sharing the eighth position with Geneva.
- ❖ **Zurich and Geneva**, were ranked seventh and eighth respectively.

- ❖ Four Australian
- ❖ **Honolulu was the biggest mover** up the ranking in the past six months, moving 46 places to get the 14th rank on the liveability index.

Worst Performing Cities

- ❖ The report mentioned that the **living conditions remained worst** in the Syrian capital Damascus.
- Other cities scraping along the bottom of the rankings are **Lagos, Port Moresby, and Dhaka**.
- ❖ The **Pakistani city of Karachi** also featured in the 10 least liveable cities in the world.

Global Liveability Index

- ❖ It is an **annual assessment** published by the London-based **Economist Intelligence Unit (EIU)**.
- ❖ It **examines 140 cities worldwide** to quantify the challenges presented to an individual's lifestyle in the past year.
- ❖ Each city is assigned a **liveability score for more than 30 qualitative and quantitative factors** across five categories i.e. stability, healthcare, culture and environment, education and infrastructure.

4.17 AUTONOMOUS DISTRICT COUNCIL DEMANDED BY RENGMA NAGAS

Recently, the **Rengma Nagas** in Assam have written to Union Home Minister demanding an **autonomous district council**.

Reasons for Autonomous District Council by Rengma Nagas

- ❖ It was demanded amid a decision by the Central and the State governments to upgrade the **Karbi Anglong Autonomous Council (KAAC)** into a territorial council.
- ❖ The **Rengma Naga Peoples' Council (RNPC)** said in the memorandum that the **Rengmas were the first tribal people** in Assam to have **encountered the British** in 1839.
- ❖ They stated that the **existing Rengma Hills was eliminated from the political map** of the

State and replaced with that of Mikir Hills (now Karbi Anglong) in 1951.

- ❖ The council said that during the **Burmese invasions of Assam in 1816 and 1819**, it was the Rengmas who gave shelter to the Ahom refugees.
- ❖ The petition said that the **Rengma Hills was partitioned in 1963** between Assam and Nagaland at the time of creation of Nagaland State.
- The **Karbis**, who were known as Mikirs till 1976, were the **indigenous tribal people of Mikir Hills**.

Rengma Nagas

People who are presently living in Rengma Hills are from **Assam, Arunachal Pradesh and Meghalaya**.

- ❖ They speak different dialects and **do not know Karbi language** of Karbi Anglong.
- ❖ It is a Naga tribe found in **Nagaland and Assam**.
- ❖ The Census 2011 states that the **Rengma population stands at 62,951**.
- ❖ The Rengma headquarters is located in **Tseminyu**.
- ❖ The traditional Rengma religion is an **animist religion** and **involved spirit worship**.
- ❖ **Ngada** is the harvest festival of the Rengmas.

Autonomous District Councils?

- ❖ The **Sixth Schedule of the Constitution of India** allows creation of Autonomous District Councils (ADCs) in **Assam, Meghalaya, Tripura & Mizoram**.
- ❖ **Article 244 of the Indian Constitution** provides for the creation of ADCs which seeks to safeguard the rights of tribal population.
- ❖ ADCs are bodies **representing a district** to which the Constitution has given varying degrees of autonomy within the state legislature.

Role of Governors in management of Autonomous District Councils

- ❖ They are **empowered to reorganise boundaries** of the tribal areas.

- ❖ They can choose to **include or exclude any area, increase or decrease** the boundaries and unite two or more autonomous districts into one.
- ❖ They can also **alter or change the names** of autonomous regions without a separate legislation.

8.9 BEED MODEL OF CROP INSURANCE

Recently, the Maharashtra Chief Minister has asked the centre for state-wide implementation of the '**Beed model**' of the crop insurance scheme **Pradhan Mantri Fasal Bima Yojana (PMFBY)**.

Working of Insurance under PMFBY

- ❖ The **farmers pay 1.5-2% of the premium** with the rest borne by the state and central governments.
- ❖ It is a **central scheme implemented by state agriculture departments** as per central guidelines.
- ❖ **A premium of Rs 1,300** can insure a hectare of soyabean for Rs 45,000.
- ❖ A total of 422 lakh farmers in the country had **enrolled for the scheme paying a combined premium of Rs 3,018 crore** (farmers' share only) and insuring 328 lakh hectares in 2019-20.

Reasons for changes in insurance model

- ❖ The **delay in claim settlement, failure to recognise localised weather events, and stringent conditions for claims** were among the major concerns of the state government.
- ❖ The scheme turned out to be **non-profitable for insurance companies** given the high payments they had to make because the farmers in Maharashtra predominantly depend of monsoon rains to water their crops.
- ❖ The **payouts were close to or exceeded the premium collected** in some years, leading to losses to insurance companies.
- ❖ The **claims-to-premium ratio is low** with the premium being paid to the company in Maharashtra
- ❖ The **profit of the company is expected to reduce** and the state government would access another source of funds in the Beed Model.

❖ The **reimbursed amount can lead to lower provisioning by the state** for the following year, or help in financing the paying the bridge amount in case of a year of crop loss.

Beed Model of Crop Insurance?

❖ The district of Beed presents a challenge for any insurance company because it is located in the **drought-prone Marathwada region**.

❖ The farmers in the Beed region have **repeatedly lost crops** either to failure of rains or to heavy rains.

❖ The state **Agriculture Department decided to tweak the guidelines** for the district and the state-run Indian Agricultural Insurance Company implemented the scheme.

❖ Under the new guidelines, the **insurance company provided a cover of 110%** of the premium collected, with caveats.

➤ If the **compensation exceeded the cover provided**, the state government would pay the bridge amount.

➤ If the **compensation was less than the premium collected**, the insurance company would keep 20% of the amount as handling charges and reimburse the rest to the state government.

❖ In a normal season where farmers report minimal losses, the **state government is expected to get back money** that can form a corpus to fund the scheme for the following year.

❖ The state government would have to **bear the financial liability** in case of losses due to extreme weather events.

3.16 Brood X Cicadas

Recently, a swarm of **cicadas 'Brood X'** bombarded the plane Air Force One which led to delay of US President Joe Biden's first trip abroad.

Brood X

❖ The term 'brood' refers to a **population of cicadas that is isolated from other populations** because of differences in their year of emergence or locality.

❖ It is the **largest brood of 17-year cicadas**.

❖ It is found in **Pennsylvania, northern Virginia, Indiana and eastern Tennessee**

Cicadas

❖ They are members of the **superfamily Cicadoidea** and are **physically distinguished** by their stout bodies, broad heads, clear-membraned wings, and large compound eyes.

❖ Cicadas live **underground for extended periods of time**, typically 13 or 17 years, and feed on roots of trees both underground and above it.

❖ Among **periodical cicadas**, there are **seven species** and there are also some annual cicadas, which come out every year.

❖ They **do not bite or sting**, but when the males sing, their collective chorus can reach up to **100 decibels**.

❖ The only harm cicadas can cause is **during egg laying when small twigs may be damaged by deep slits cut** by the female when she deposits her rows of eggs.

❖ The **cicada nymphs go through five stages of development** when they are underground.

The **males emerge from underground** once they become adults, which take about 17 years for some periodical cicadas.

2.9 INDIA AND G7 AGENDA FOR 2021

Recently, on the invitation of UK Prime Minister Boris Johnson, **Prime Minister Narendra Modi** will participate in the **Outreach Sessions of the G7 Summit**.

Agenda of G7 for 2021

❖ The G7 comprises the **US, UK, France, Germany, Italy, Canada and Japan**.

❖ The **UK currently holds the presidency of the G7** and has invited **India**, along with **Australia, Republic of Korea and South Africa**, as guest countries.

❖ The theme for the summit is '**Build Back Better**' and the UK has outlined **four priority areas** for its presidency which are:

➤ Leading the global recovery from coronavirus while strengthening resilience against future pandemics;

- Promoting future prosperity by championing free and fair trade;
- Tackling climate change and preserving the planet's biodiversity; and
- Championing shared values and open societies.

India's participation in G7 Summit

- ❖ It is the **second time PM Modi** will be participating in a G7 meeting.
- ❖ India had been invited by the **G7 French Presidency in 2019** to the Biarritz Summit as a "Goodwill Partner".
- ❖ During Prime Minister Manmohan Singh's UPA rule, **India attended the G8 five times**.
- Russia was indefinitely suspended in March 2014 after the **annexation of Crimea**, reducing the count of the G8 to G7.

India's participation in G7 Summit mean

- ❖ India has long called for **reforming global institutions and groupings** to reflect modern-day geopolitical realities.
- ❖ Delhi will be **watching the allocation announced by the US President** very carefully as India faces a massive shortage of vaccines.
- ❖ The US is calling all like-minded countries to partner in dealing with Beijing and called for **expanding G7 to G11**.

G7

- ❖ It stands for "**Group of Seven**" industrialized nations.
- ❖ It used to be known as the **G8 (Group of Eight) until 2014** when Russia was excluded because of its annexation of Crimea from Ukraine.
- ❖ It was created more than four decades ago as an **annual gathering of political leaders** to discuss and exchange ideas on a broad range of issues.
- ❖ **France, Italy, Japan, the United Kingdom, the United States and West Germany** formed the Group of Six in 1975.
- **Canada** joined the following year and **Russia** eventually joined in 1998.

❖ It is an **informal bloc** and takes **no mandatory decisions**, so the leaders' declarations at the end of the summit are **not binding**.

4.18 COMSOL Platform through I-STEM

Recently, the Office of Principal Scientific Advisor to GoI has announced that India will now be able to access the **COMSOL Multiphysics software** suite at no cost through the **I-STEM portal** academic users.

Indian Science Technology and Engineering facilities Map (I-STEM)

❖ It is an initiative of **Office of the Principal Scientific Adviser** to the Govt. of India under the **PM-STIAC mission**.

❖ The **I-STEM National Web Portal** was launched formally in 2020.

❖ It **protects the IP** involved in building the I-STEM Portal.

❖ The **objectives** of I-STEM are:

- Strengthen the R&D ecosystem by connecting researchers with resources;
- Promoting technologies and scientific equipment development indigenously; and
- Providing necessary supplies and supports to researchers

❖ It hosts the **database of facilities across India** so that a researcher desirous of using any of them can search for the same and make a booking online for using it.

❖ It **lists more than 25,000 pieces of equipment** from 850 institutions across the country, and has more than 20,000 Indian researchers.

❖ It features a **Digital Catalogue of indigenously developed technologies and products**, as well as host the platform for the various City Knowledge and Innovation Clusters.

COMSOL Platform

❖ It is developed by the **COMSOL Group**.

❖ It is used worldwide as an **indispensable tool for a variety of computer simulations** for R&D as well as for learning and instruction.

❖ It is a **general-purpose simulation software package** for modelling designs, devices, and

processes in all fields of engineering, manufacturing, and scientific research.

- ❖ It can be used on its own or expanded with functionality from any **combination of add-on modules** for simulating electromagnetics, structural mechanics, acoustics, fluid flow, heat transfer, and chemical engineering.
- ❖ It is hosted on a **secure Azure Cloud** and to be used simultaneously by up to 60 users located anywhere in the country.

PM-STIAC Mission

- ❖ It is an overarching Council that facilitates the Principal Scientific Adviser's Office to **assess the status in specific science and technology domains**.
- ❖ It is **Prime Minister's Science, Technology, and Innovation Advisory Council**.
- ❖ The **Office of the Principal Scientific Adviser (PSA)** to the Government of India coordinates to facilitate and ensure the implementation of significant interventions.
- ❖ The **Secretariat is based at Invest India** and provides support to the Office of the PSA on project management and monitoring.
- ❖ The **9 missions** under PM-STIAC are:
 - **Natural Language Translation:** It aims to make opportunities and progress in science and technology accessible to all in their mother tongue.
 - **Quantum Frontier:** It aims to initiate work in the understanding and control of quantum mechanical systems with a large number of degrees of freedom.
 - **Artificial Intelligence (AI):** It focuses on efforts that will benefit India in addressing societal needs in areas such as healthcare, education, agriculture, smart cities and infrastructure.
 - **National Biodiversity Mission:** It includes comprehensive documentation of India's biodiversity with the potential for cataloguing and mapping all life forms in India.
 - **Electric Vehicle (EVs):** It aims to develop vehicle sub-systems and components specific to Indian requirements.
 - **Bioscience for Human Health:** Its goal is to construct comprehensive reference maps of genomes and to understand the dynamics of how exposure to different environments impacts our bodies.

- **Waste to Wealth:** It aims to leverage global technological capabilities to create socio-economic benefits for more than a billion Indians by addressing the issues of waste disposal, deteriorating air quality and increasing river pollution.
- **Deep Ocean Exploration:** Its goal is to scientifically explore the deep oceans towards improving our understanding of the blue frontier.
- **AGNIi:** aims to support the national efforts to boost the innovation ecosystem in the country by connecting innovators across industry, individuals and the grassroots.

5.8 APPOINTMENT OF CHIEF JUSTICE OF HIGH COURT

Recently, the **President of India** appointed Shri Justice Sanjay Yadav as the **Chief Justice of the Allahabad High Court**.

Organisation of High Court

- ❖ Every high court (whether exclusive or common) consists of a **chief justice and such other judges as the president** may from time to time deem necessary to appoint.
- ❖ The **Constitution does not specify the strength** of a high court and leaves it to the discretion of the president.
- ❖ The President determines the **strength of a high court** from time to time depending upon its workload.

Constitutional Provisions for appointing Chief Justice of High Court

- ❖ The chief justice is **appointed by the President** after consultation with the **chief justice of India** and the **governor of the state** concerned.
- ❖ The judges of a high court are **appointed by the President**.
- ❖ The President, in exercise of the power conferred by **clause (1) of Article 217** of the Constitution of India, can appoint the Chief Justice of a High Court.

Qualification of Judges of High Court

- ❖ A person to be **appointed as a judge of a high court**, should have the following qualifications:

- He should be a citizen of India.
- He should have held a judicial office in the territory of India for ten years; or
- He should have been an advocate of a high court (or high courts in succession) for ten years.
- ❖ It is clear that the **Constitution has not prescribed a minimum age** for appointment as a judge of a high court.

Oath or Affirmation by Judges of High Court

- ❖ A person appointed as a judge of a high court, before entering upon his office, has to make and **subscribe an oath or affirmation before the governor of the state.**

Tenure of Judges of High Court

- ❖ The **Constitution has not fixed the tenure of a judge** of a high court but it makes the following four provisions in this regard:
 - He holds office until he attains the age of 62 years.
 - He can resign his office by writing to the president.
 - He can be removed from his office by the President on the recommendation of the Parliament.
 - He vacates his office when he is appointed as a judge of the Supreme Court or when he is transferred to another high court.

Removal of Judges of High Court

- ❖ A judge of a high court can be removed from his office by an **order of the President.**
- ❖ The President can issue the **removal order only after an address by the Parliament** has been presented to him in the same session for such removal.
- ❖ The address must be supported by a **special majority of each House of Parliament** (i.e., a majority of the total membership of that House and majority of not less than two-thirds of the members of that House present and voting).

It implies that a judge of a high court can be removed in the **same manner and on the same**

grounds as a judge of the Supreme Court.

4.19 eSanjeevani

Recently, the Ministry of Health & Family Welfare has announced that 'eSanjeevani' has crossed another milestone by completing 6 million (60 lakh) consultations through more than 375 online OPDs.

eSanjeevani

- ❖ It is Ministry of Health & Family Welfare's **National Telemedicine Service**.
- ❖ It is operational in **31 States/Union Territories**.
- ❖ It is **first of its kind online OPD service** offered by a country government to its citizens.
- ❖ It is conceptualised as a **doctor to doctor telemedicine platform** in November 2019 for implementation at 155,000 Health and Wellness Centres under Ayushman Bharat Scheme in a Hub & Spokes model.
- ❖ It supports two types of telemedicine services viz. **Doctor-to-Doctor (eSanjeevani)** and **Patient-to-Doctor (eSanjeevani OPD)** Tele-consultations.
- ❖ The **eSanjeevani AB-HWC** is the **doctor to doctor** telemedicine platform.
 - It has been implemented at around 20,000 Health and Wellness Centres as spokes and over 1800 hubs in around 30 States.
- ❖ The **eSanjeevani OPD (Patient-to-Doctor)** was rolled out in 2020 in order to provide free online medical consultation to sick people at their residence.
- ❖ It was developed by the **Centre for Development of Advanced Computing (C-DAC)**.

Centre for Development of Advanced Computing (C-DAC)

- ❖ It is the **premier R&D organization of the Ministry of Electronics and Information Technology (MeitY)** for carrying out R&D in IT & E (Information Technologies and Electronics).
- ❖ It is working on **strengthening national technological capabilities** in the context of global developments in the field.

The **setting up of C-DAC in 1988** itself was to build Supercomputers in context of denial of import of

Supercomputers by USA.

4.20 SHAHEED RAM PRASAD BISMIL

Recently, the Ministry of Culture has paid tribute to **Shaheed Ram Prasad Bismil** on his birth anniversary at Shahjahanpur (UP) as a part of Azadi Ka Amrit Mahotsav.

Shaheed Ram Prasad Bismil

- ❖ He was born on **11th June, 1897** in **Shahjahanpur (Uttar Pradesh)**.
- ❖ He was associated with the **Arya Samaj** from an early age.
- ❖ He **wrote powerful patriotic poems** in Urdu and Hindi under the pen name of names of '**Bismil**', '**Ram**' and '**Agyat**'.
- ❖ The **ideals of freedom and revolution got first ingrained** in his mind after he read the death sentence passed on Bhai Parmanand, an Indian nationalist and Arya Samaj missionary.

Organisations against British Rule

- ❖ He organised **Matrivedi and Shivaji Samiti** along with **Genda Lal Dixit** and youths from Etawah, Mainpuri, Agra and Shahjahanpur districts.
- ❖ He formed the **Hindustan Republican Association** with leaders like Bhagat Singh and Chandrasekhar Azad.
- ❖ He participated in the **Mainpuri conspiracy of 1918** and the **Kakori conspiracy of 1925** with Ashfaq Ullah Khan and Roshan Singh to protest against the British Rule.

Famous writings and poems

- ❖ He gave vent to his anger over death of Bhai Parmanand in the form of his poem '**Mera Janm**'.
- ❖ He published a pamphlet titled '**Deshwasiyon ke Naam**' and distributed it along with his poem 'Mainpuri ki Pratigya' in 1918.

He wrote '**Mera Rang De Basanti Chola**' and '**Sarfroshi Ki Tamanna**' which became the anthem for freedom fighters.

3.17 NEW ATLANTIC CHARTER

Recently, the US President Joe Biden and British Prime Minister Boris Johnson have signed a **new Atlantic Charter**.

Features of Atlantic Charter 2021

- ❖ It is modeled after the **1941 agreement of Atlantic Charter**.
- ❖ It **outlines eight key areas** on which the U.S. and the United Kingdom plan to collaborate.
- ❖ It is a **revamped charter** based on:
 - The commitments and aspirations set out eighty years ago;
 - It affirms the ongoing commitment to sustaining our enduring values and defending them against new and old challenges.
- ❖ It commits to **combating the modern challenges of cyberthreats and climate change** and to bringing the pandemic to an end.

Eight Areas under Atlantic Charter of 2021

- ❖ It resolves to **defend the principles, values, and institutions of democracy and open societies**, which drive their own national strength and alliances.
- ❖ It intends to **strengthen the institutions, laws, and norms** that sustain international co-operation to adapt them to meet the new challenges of the 21st century.
- ❖ It is aimed at remaining united behind the **principles of sovereignty, territorial integrity, and the peaceful resolution of disputes**.
- ❖ It resolves to **harness and protect their innovative edge** in science and technology to support their shared security and deliver jobs at home.
- ❖ It affirms their **shared responsibility for maintaining their collective security and international stability** and resilience against the full spectrum of modern threats, including cyber threats.
- ❖ It commits to continue **building an inclusive, fair, climate-friendly, sustainable**, rules-based global economy for the 21st century.

- ❖ The world has reached a critical point where it must **act urgently and ambitiously** to tackle the climate crisis, protect biodiversity, and sustain nature.
- ❖ It recognises the **catastrophic impact of health crises**, and the global good in strengthening our collective defences against health threats.

Atlantic Charter of 1941

- ❖ It was signed by **President Franklin D. Roosevelt** and **Prime Minister Winston Churchill** in 1941.
- ❖ It outlined their **goals for after World War II**.
- ❖ It stated that the two leaders deem it right to make known **certain common principles** in the national policies of their respective countries.

Features of Atlantic Charter of 1941

- ❖ It agreed **not to seek territorial gains from the war**, and they opposed any territorial changes made against the wishes of the people concerned.
- ❖ The two countries also agreed to **support the restoration of self-government** to those nations who had lost it during the war.
- ❖ It stated that people should have the **right to choose their own form of government**.
- ❖ It included **access for all nations to raw materials** needed for economic prosperity and an easing of trade restrictions.
- ❖ It called for **international cooperation to secure improved living and working conditions** for all, freedom of the seas and for all countries to abandon the use of force.

7.3 All India Survey on Higher Education (AISHE) 2019-20

Recently, the Union Education Minister has announced the release of Report of **All India Survey on Higher Education (AISHE) 2019-20**.

Highlights

- ❖ It stated that there has been a **growth of 11.4% in the student enrolment** in the last five years from 2015-16 to 2019-20.

- The **rise in female enrolment** in higher education during the period is 18.2%.
- ❖ It showed that the continuous focus on **education of girls, women empowerment and empowerment of socially backward classes** increased participation of women, SCs and STs population in Higher Education.
- ❖ **Total Enrolment in Higher Education:** It stands at 3.85 crore in 2019-20 as compared to 3.74 crore in 2018-19, registering a growth of 11.36 lakh (3.04 %).
- ❖ **Gross Enrolment Ratio (GER):** It is the percentage of students belonging to the eligible age group enrolled in Higher Education.
 - In 2019-20, it is 27.1% against 26.3% in 2018-19 and 24.3% in 2014-2015.
- ❖ **Gender Parity Index (GPI):** In 2019-20, it is 1.01 against 1.00 in 2018-19 indicating an improvement in the relative access to higher education for females of eligible age group compared to males.
- ❖ **Pupil Teacher Ratio (PTR):** In 2019-20, the PTR in higher education is 26.
 - In Universities and Colleges, it is 28 if regular mode enrolment is considered whereas PTR for Universities and its Constituent Units is 18 for regular mode.
- ❖ It revealed that the **number of Institutes of National Importance (INIs) have increased** from 75 in 2015 to 135 in 2020.
- ❖ The **number of PhDs has also increased** by 60 per cent in the last five years.
 - The number of students pursuing PhD in 2019-20 is 2.03 lakh against 1.17 lakh in 2014-15.
- ❖ The **Total Number of Teachers** stands at 15,03,156 comprising of 57.5% male and 42.5% female.
- ❖ It highlighted that **3.38 crore Students enrolled** in programmes at under-graduate and post-graduate level.
 - Out of these, nearly **85% of the students (2.85 crore) were enrolled** in the six major disciplines such as Humanities, Science, Commerce, Engineering & Technology, Medical Science and IT & Computer.

All India Survey on Higher Education (AISHE)

- It is an **annual report** released by the **Department of Higher Education**.
- It provides **key performance indicators** on the current status of Higher education in the country.
- It **covers all institutions of Higher Education** in the country, registered with AISHE code in AISHE portal.
- It was **initiated in 2011** during which data for the year 2010-11 was collected.

2.10 ASPIRATIONAL DISTRICTS PROGRAMME LAUDED BY UNDP

Recently, the **United Nations Development Programme (UNDP) India** has lauded the **Aspirational Districts Programme (ADP)** as 'a very successful model of local area development.

Highlights

- ❖ The report analysis across the **5 key sectors of the ADP** i.e. health & nutrition, education, agriculture & water resources, basic infrastructure, and skill development & financial inclusion.
- ❖ The report highlights the **progress in health sector** in aspirational districts such as:
 - 9.6% more home deliveries are attended by a **skilled birth attendant**;
 - 5.8% more pregnant women with **severe anemia are treated**;
 - 4.8% more children **diagnosed with diarrhoea are treated**;
 - 4.5% more pregnant women **register for antenatal care** within their first trimester;and
- 406 and 847 more enrolments and 1580 more accounts opened per 1 lakh population under **health insurance schemes**
- ❖ The programme has **strengthened the technical and administrative capacities** of the districts.
- ❖ The report also **appreciated the delta rankings** provided on the programme's Champions of Change dashboard.
- ❖ **Monitoring real-time data, convergence across government programmes and schemes and receiving the benefits of the Aspirational Districts Programme** by substantial margins have

been credited as the reasons behind the success of the initiative.

Recommendations of UNDP for Aspirational Districts Programme

- ❖ It is necessary to focus more on capacity building, 'including the appointment of dedicated personnel such as **Aspirational District Fellows or Technical Support Units** across all the districts.
- ❖ It recommended implementing '**GoalMart**', an e-commerce portal launched by **Assam's Goal para district administration**.
 - It aims to promote **rural, ethnic and agrarian products** of the district in the national and global markets.
- ❖ There is **need to revise a few indicators that are close to being saturated** or met by most districts, such as 'electrification of households' as an indicator of basic infrastructure.

Aspirational Districts Programme (ADP)

- ❖ It was launched by the Prime Minister in **January 2018**.
- ❖ It aims to **quickly and effectively transform** these districts.
- ❖ The broad contours of the programme are:
 - **Convergence** (of Central & State Schemes);
 - **Collaboration** (of Central, State level 'Prabhari' Officers & District Collectors); and
 - **Competition** among districts driven by a mass Movement
- ❖ It aims to improve the socio-economic status of **117 districts from across 28 states**.
- ❖ The programme focusses on 5 main themes i.e. **Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development**, and **Basic Infrastructure**.

Significance of Aspirational Districts Programme (ADP)

- ❖ It focusses closely on **improving people's ability to participate fully** in the burgeoning economy.
- ❖ It focuses on the **strength of each district, identify low-hanging fruits** for immediate improvement, **measure progress, and rank districts**.
- ❖ It is aimed at **raising the living standards of its citizens** and ensuring inclusive growth for

all – “Sabka Saath Sabka Vikas”.

2.11 HEALTH HAS TO BE ELEVATED AS A HUMAN RIGHT

Recently, the President of the Public Health Foundation of India (PHFI) has said that the ‘**health has to be elevated as a human right, and not a charity to be conferred upon the migrant**’.

Right to Health under World Health Organization (WHO)

- ❖ It implies a **clear set of legal obligations on states** to ensure appropriate conditions for the enjoyment of health for all people without discrimination.
- ❖ It is one of a **set of internationally agreed human rights standards**, and is inseparable or ‘indivisible’ from these other rights.
- ❖ The **right to health**, as with other rights, includes both freedoms and entitlements:
 - **Freedoms** include the right to control one’s health and body (for example, sexual and reproductive rights) and to be free from interference (for example, free from torture and non-consensual medical treatment and experimentation).
 - **Entitlements** include the right to a system of health protection that gives everyone an equal opportunity to enjoy the highest attainable level of health.

Right to Health is significant

- ❖ **Focus on disadvantaged populations:** The disadvantage and marginalization serve to exclude certain populations in societies from enjoying good health.
 - The three of the world’s most fatal communicable diseases i.e. malaria, HIV/AIDS and tuberculosis, disproportionately affect the world’s poorest population.
 - A focus on disadvantage also reveals evidence of those who are exposed to greater rates of ill-health and face significant obstacles to accessing quality and affordable healthcare.
- ❖ **Violations of human rights in health:** The overt or implicit discrimination in the delivery of health services acts as a powerful barrier to health services, and contributes to poor quality care.
 - It not only contributes to and exacerbates poor health, but also presents a risk of heightened exposure to human rights abuses
- ❖ **Human rights-based approaches:** It provides a set of clear principles for setting and

evaluating health policy and service delivery, targeting discriminatory practices and unjust power relations.

Major difficulties faced by migrants w.r.t Right to Health

- ❖ They are generally **inadequately covered by State health systems** and are often unable to afford health insurance.
- ❖ They have **difficulties in accessing information** on health matters and available services.
- ❖ The **undocumented migrants dare not access health care** for fear that health providers may denounce them to immigration authorities.
- ❖ The **female domestic workers are particularly vulnerable** to sexual abuse and violence.

Core elements of a right to health

- ❖ **Progressive realization using maximum available resources:** It requires that governments take immediate steps within their means towards the fulfilment of these rights.
- ❖ **Non-retrogression:** States should not allow the existing protection of economic, social, and cultural rights to deteriorate unless there are strong justifications for a retrogressive measure.
- ❖ **Availability:** It refers to the need for a sufficient quantity of functioning public health and health care facilities, goods and services, as well as programmes for all.
- ❖ **Accessibility:** It requires that health facilities, goods, and services must be accessible to everyone. Accessibility has four overlapping dimensions:
 - Non-discrimination
 - Physical accessibility
 - Economical accessibility (affordability)
 - Information accessibility
- ❖ **Acceptability:** It relates to respect for medical ethics, culturally appropriate, and sensitivity to gender.
 - It requires that health facilities, goods, services and programmes are people-centred and cater for the specific needs of diverse population groups.

7.4 ONLINE MODULE TO TRACK OUT-OF-SCHOOL CHILDREN

Recently, the Ministry of Education has launched an **online module to compile data on out-of-school children** on PRABANDH Portal.

Highlights

- ❖ It will **facilitate age appropriate admissions of children** in the age group of **6-14 years**.
- ❖ It will also facilitate those children belonging to **socially and economically disadvantaged groups**.
- ❖ It aims to provide **financial assistance for out of school children** in the 16-18 years age group.
- ❖ It is aimed at compiling the **data of out-of-school children** identified by each state/UT and their mapping with special training centres (STC) on the **PRABANDH portal**.
- ❖ The **child-wise information of the identified out of school children** and STCs will be uploaded at block level under the supervision of block source coordinator of the certain block research centre (BRC).

PRABANDH Portal

- ❖ It is **PRoject Appraisal, Budgeting, Achievements and Data Handling System** under Samagra Shiksha initiative.
- ❖ It is a significant step towards **leveraging technology to enhance efficiency and manage** the implementation Scheme for School Education, Samagra Shiksha.
- ❖ The **states and UTs may view** the Status of GoI Releases, approved outlays, coverage as per UDISE, school wise list of approvals, school wise gaps, cancellations in approvals etc. under Samagra Shiksha.

Core objectives of PRABANDH Portal

- ❖ To obviate the need for submitting hard copies, except where it is mandated otherwise;
- ❖ To have transparency and accuracy in the System w.r.t Approvals, Releases, Financial Status;
- ❖ To streamline the Financial Management System, to enable more accurate assessment of actual

requirement of funds for implementation; and

- ❖ For efficient decision- making

Samagra Shiksha Abhiyaan (SSA)

- ❖ It is an **overarching programme** for the school education sector extending from **pre-school to class 12**.

- ❖ It subsumes the three erstwhile Schemes of **Sarva Shiksha Abhiyan (SSA)**, **Rashtriya Madhyamik Shiksha Abhiyan (RMSA)** and **Teacher Education (TE)**.

- ❖ It envisages the **'school' as a continuum** from pre-school, primary, upper primary, secondary to Senior Secondary levels.

- ❖ It aims to ensure **inclusive and equitable quality education** from pre-school to senior secondary stage in accordance with the Sustainable Development Goal (SDG) for Education.

- The **SDG-4.1** states that "By 2030, ensure that all boys and girls complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

- The **SDG 4.5** states that "By 2030, eliminate gender disparities in education and ensure equal access to all levels of Education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations".

It is implemented as a **Centrally Sponsored Scheme** by the Department through a single State Implementation Society (SIS) at the State/UT level.

8.10 PROTECTION OF HERITAGE TREES

Recently, the Maharashtra government has decided to make amendments to the **Maharashtra (Urban Areas) Protection and Preservation of Trees Act of 1975**, to introduce provisions for the protection of **'heritage trees'**.

Heritage Trees

- ❖ Under the proposed amendment, a **tree with an estimated age of 50 years or more** shall be defined as a heritage tree.

- ❖ The **heritage tree may belong to specific species**, which will be notified from time to time.
- ❖ The state climate change department should also consider a **tree's rarity, its botanical, historical, religious, mythological and cultural importance** in defining a heritage tree.
- ❖ The **local Tree Authority will have to ensure tree census** to be carried out every five years along with counting of heritage trees.

Amendments proposed by Maharashtra Government

- ❖ The plan includes:
 - Concept of heritage tree and plan of action for conservation;
 - Method to define age of the tree;
 - Rules to be followed before hacking trees;
 - Formation of the Maharashtra Tree Authority;
 - Structure of the local tree authority and their duties; and
 - Tree cess and fine to be charged
- ❖ The **State will bring about amendments** in the Maharashtra (Urban Area) Protection and Preservation of Trees Act.
- ❖ A **State-level Tree Authority** will be formed to protect and preserve heritage trees.
 - The authority will hear **applications seeking permission to cut 200 or more trees** that are five or more years old.
- ❖ The State authority will **issue directions for the use of tree cess** and the fine amount cannot be more than ₹1 lakh per tree in case of violations.

Calculation of age of trees

- ❖ The most common method of **determining the age of the tree is Dendrochronology** or tree-ring dating also called growth rings.
- ❖ The experts provide that each year, roughly a **tree adds to its girth, the new growth is called a tree ring**.
- ❖ The environment department, in consultation with the forest department, will issue guidelines to **determine the age of the tree**.

Reason for defining trees as Heritage Trees

- ❖ A heritage tree will get **special protection**.
- ❖ The tree's age will **determine the number of trees** to be planted as part of the compensatory plantation.
- ❖ As per the amendment, the **number of trees planted will be equal to the age of the**

heritage tree that is cut.

- ❖ The organization planting the compensation trees will also have to ensure the **survival of the plantation for seven years and geo-tag the trees.**
- ❖ The state environment wants to **discourage the cutting of heritage trees** through the introduction of a heritage tree.

Economic Value of Trees

- ❖ The experts say that the amount of oxygen that a tree releases into the environment should **determine its economic value.**
- ❖ An urban forest of **100,000 trees can save \$ 1.5 million per annum** because their shade reduces electricity consumption and saves water.
- ❖ A large tree growing in a school provides the equivalent shade of four shade sails, returning a **value of about \$ 2000 per annum.**
- ❖ Five trees stabilize a steep suburban block which would otherwise **require about \$ 50,000 of engineered piling to secure building insurance.**

The urban forest improving human health outcomes by fostering a 1-2% increase in passive/active recreation can save **\$ 274 million per annum.**



3.18 EnVision mission to Venus

Recently, the **European Space Agency (ESA)** had announced that it has selected **EnVision** as its next orbiter that will visit Venus sometime in the 2030s.

EnVision Mission

- ❖ It is an **European Space Agency (ESA) led mission** with contributions from NASA.
- The earliest launch opportunity for EnVision is **2031, followed by 2032 and 2033.**
- ❖ The spacecraft will take about **15 months to reach Venus** and will take **16 more months to achieve orbit circularisation.**
- ❖ The spacecraft will carry a range of instruments to **study the planet's atmosphere and surface, monitor trace gases in the atmosphere and analyse its surface composition.**
- ❖ A radar provided by NASA will help to **image and map the surface.**
- ❖ It will follow another ESA-led mission to Venus called '**Venus Express**' (2005-2014) that

focused on atmospheric research and pointed to volcanic hotspots on the planet's surface.

Venus

- ❖ It is the **second-brightest object** in the sky after the moon.
- ❖ It appears bright because of its **thick cloud cover that reflects and scatters light**.
- ❖ It is called the **Earth's twin** because of their similar sizes.
- ❖ The planet's thick atmosphere **traps heat** and is the reason that it is the **hottest planet in the solar system**, despite coming after Mercury.
- ❖ The surface temperatures on Venus can go up to **471 degrees Celsius**, which is hot enough to melt lead.
- ❖ It moves **forward on its orbit around the Sun** but **spins backwards around its axis slowly** which implies that on Venus the **Sun rises in the west and sets in the East**.
- ❖ **One day on Venus is equivalent to 243 Earth days** because of its backward spinning, opposite to that of the Earth's and most other planets.
- ❖ Venus also **does not have a moon** and **no rings**.

Significance of studying Venus

- ❖ The core of the ESA's mission is the **question of how Earth and Venus evolved so differently from each other** considering that they are roughly of the same size and composition.
- ❖ Venus is the hottest planet in the solar system because of the **heat that is trapped by its thick cloud cover**.
- ❖ The scientists speculate about the **existence of life on Venus in its distant past** and the possibility that life may exist in the top layers of its clouds where temperatures are less extreme.

6.17 INDIA'S ETHANOL ROADMAP

The central government has released an expert committee report on the **Roadmap for Ethanol Blending in India by 2025**.

- ❖ The roadmap proposes a **gradual rollout of ethanol-blended fuel** to achieve E10 fuel supply by April 2022 and phased rollout of E20 from April 2023 to April 2025.

❖ The **Ministry of Petroleum & Natural Gas (MoP&NG)** had instituted an Expert Group to study the issues such as pricing of ethanol, matching pace of the automobile industry to manufacture vehicles with new engines with the supply of ethanol, pricing of such vehicles, fuel efficiency of different engines etc.

➤ It is one of the principal **biofuels**, which is naturally produced by the fermentation of sugars by yeasts or via petrochemical processes such as ethylene hydration.

➤ The Government of India has **advanced the target for 20% ethanol blending in petrol (also called E20) to 2025** from 2030.

➤ **Currently, 8.5% of ethanol is blended with petrol** in India.

Objectives of Ethanol Blending:

➤ **Energy Security:**

➤ Increased use of ethanol can help **reduce the oil import bill**. India's net import cost stands at USD 551 billion in 2020-21.

➤ The E20 program can **save the country USD 4 billion (Rs 30,000 crore) per annum**.

➤ **Incentives for Farmers:**

➤ The oil companies procure ethanol from farmers that **benefits the sugarcane farmers**.

➤ Further, the government plans to **encourage use of water-saving crops, such as maize**, to produce ethanol, and **production of ethanol from non-food feedstock**.

➤ **Impact on Emission:**

➤ Use of ethanol-blended petrol **decreases emissions such as carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NOx)**.

➤ The **unregulated carbonyl emissions**, such as acetaldehyde emission **were, however, higher with E10 and E20** compared to normal petrol. However, these emissions were relatively lower.

Recommendations:

❖ **Notifying Ethanol Blending Roadmap:** MoP&NG should immediately notify the plan for pan-India availability of E10 fuel by April, 2022 and its continued availability thereafter until 2025 for older vehicles, and launch of E20 in the country in phases from April, 2023 onwards so as to make E20 available by April, 2025.

❖ **Augmenting Infrastructure for Oil Marketing Companies:** OMCs will need to prepare for the projected requirement of ethanol storage, handling, blending and dispensing infrastructure.

❖ **Expediting Regulatory Clearances:** Currently, ethanol production plants/distilleries fall under the “Red category” and require environmental clearance under the Air and Water Acts for new and expansion projects.

➤ This often takes a long time leading to delays.

➤ While several steps have been taken to expedite Environment Clearances (EC) under the **Environment Protection Act** there are few areas of concern which if addressed, will facilitate early setting up of ethanol distillation capacities in the country.

❖ **Incentivising Ethanol Blended Vehicle:** Globally, vehicles compliant with higher ethanol blends are provided with tax benefits.

➤ A similar approach may be followed so that the cost increase due to E20 compatible design may be absorbed to a certain extent, as is being done in some states for promoting **Electric Vehicles**.

❖ **Pricing of Ethanol Blended Gasoline:** For better acceptability of higher ethanol blends in the country, retail price of such fuels **should be lower than normal petrol** to compensate for the reduction in calorific value and incentivize switching to the blended fuel.

➤ Tax breaks on ethanol as a fuel may be considered by the government.

Initiatives Already Taken

❖ The **National Policy on Biofuels–2018**, provides an indicative target of 20% ethanol blending under the Ethanol Blended Petrol (EBP) Programme by 2030.

❖ The **Union Ministry of Road Transport and Highways** has **mandated stickers on vehicles mentioning their E20, E85 or E100 compatibility**.

➤ This will pave the way for flex fuel vehicles.

- Flex fuel engines can run any ratio of blended petrol from E20 to E100.
- ❖ **E100 pilot project:** It has been inaugurated in Pune.
- TVS Apache two-wheelers are designed to run on E80 or pure ethanol (E100).
- ❖ **Pradhan Mantri JI-VAN Yojana, 2019:** The scheme aims to create an ecosystem for setting up commercial projects and boost Research and Development in the 2G Ethanol sector.
- ❖ **GOBAR (Galvanizing Organic Bio-Agro Resources) DHAN Scheme, 2018:** The scheme aims to positively impact village cleanliness and **generate wealth and energy** from cattle and organic waste.
- It also aims at creating new rural livelihood opportunities and enhancing income for farmers and other rural people.
- ❖ **Repurpose Used Cooking Oil (RUCO):** The Food Safety and Standards Authority of India (FSSAI) has launched this initiative that will enable collection and conversion of used cooking oil to biodiesel.

6.18 FAST RADIO BURSTS

Recently, researchers from the **Pune-based Tata Institute for Fundamental Research (TIFR)** and the **National Centre for Radio Astrophysics (NCRA)**, have assembled the largest collection of **Fast Radio Bursts (FRBs)** catalogue.

- ❖ The data is from **Canadian Hydrogen Intensity Mapping Experiment (CHIME)**.
- ❖ In 2020, the **National Aeronautics and Space Administration (NASA)** spotted **FRB for the first time in the Milky Way**.
- ❖ **Fast Radio Bursts:**
 - FRB are **bright bursts of radio waves** (radio waves can be produced by astronomical objects with changing magnetic fields) whose **durations lie in the millisecond-scale**, because of which it is difficult to detect them and determine their position in the sky.
 - It was first **discovered in 2007**.
 - A defining property of these bursts is their **dispersion** (scattering or separation), the bursts **produce a spectrum of radio waves**, and as the waves travel through matter, they spread out or disperse with bursts at higher radio frequencies arriving at telescopes earlier than those at lower frequencies.

➤ **Dispersion** can result in **signal degradation** in many applications, especially over large distances.

➤ This dispersion allows researchers to learn about two important things:

➤ They can measure this dispersion to **learn about the stuff that radio bursts pass through as they travel toward Earth**

➤ They can indirectly **determine how far apart things are.**

❖ **FRBs Catalogue & Findings:**

➤ The new catalogue significantly **expands the current library of known FRBs**, and is already **yielding clues as to their properties.**

➤ For instance, the newly discovered bursts appear to fall in **two distinct classes: those that repeat, and those that don't.**

➤ The **repeaters looked different**, with each burst lasting **slightly longer** and emitting more focused radio frequencies than bursts from single, non-repeating FRBs.

➤ These differences strongly suggest that emission from repeaters and non-repeaters is generated either by different physical mechanisms or in different astrophysical environments

➤ The bursts were **evenly distributed in space, seeming to arise from any and all parts of the sky.**

➤ Bright FRBs occur at a rate of about **800 per day** across the entire sky – the most precise estimate of FRBs overall rate to date.

❖ **Origin of FRBs:**

➤ FRBs have been spotted in various and distant parts of the universe, as well as in our own galaxy. Their **origins are unknown and their appearance is highly unpredictable.**

➤ The **CHIME** project has nearly quadrupled the number of fast radio bursts discovered to date.

➤ The telescope has detected **535 new FRBs** in its first year of operation itself, **between 2018 and 2019.**

➤ With more observations, astronomers hope soon to **find the origins of the FRBs.**

❖ **Chime:**

➤ It is a **novel radio telescope that has no moving parts.** Originally **conceived to map the most abundant element in the universe – hydrogen** – over a good fraction of the observable universe, this unusual telescope is **optimized to have a high mapping speed.**

➤ It is located at the **Dominion Radio Astrophysical Observatory**, operated by the **National Research Council of Canada in British Columbia, Canada.**

➤ The telescope receives radio signals each day from half of the sky as the Earth rotates.

❖ **Significance of Studying FRBs:**

➤ The unique properties of fast radio bursts and their host galaxies combined with recent technological advancements have given researchers **hope that these phenomena can be used to answer some long-standing questions** about the universe.

➤ It can be **used to understand the three-dimensional structure of matter** in the universe and to learn about **poorly understood early moments in the evolution of the universe**.



8.11 RESCUING GHARIALS: MAHANADI RIVER

Recently, **Odisha announced a cash award of Rs. 1,000 to conserve gharials in Mahanadi River Basin.**

❖ Gharials, sometimes **called gavials, are a type of Asian crocodylian distinguished by their long, thin snouts. Crocodylians are a group of reptiles that includes crocodiles, alligators, caimans, and more.**

❖ **India has three species of Crocodylians namely:**

➤ **Gharial (Gavialis gangeticus): IUCN Red List– Critically Endangered**

➤ **Mugger crocodile (Crocodylus palustris): IUCN- Vulnerable.**

➤ **Saltwater crocodile (Crocodylus porosus): IUCN- Least Concern.**

❖ All the three are listed on **Appendix I of CITES and Schedule I of the Wild Life (Protection) Act, 1972.**

❖ **Exception: Saltwater Crocodile populations of Australia, Indonesia and Papua New Guinea are included in Appendix II of CITES.**

❖ **Habitat of Gharials:**

➤ **Natural Habitat:** Fresh waters of the northern part of India.

➤ **Primary Habitat:** **Chambal river** (a tributary of Yamuna).

➤ **Secondary Habitat:** **Ghagra, Gandak river, Girwa river** (Uttar Pradesh), the

Ramganga river (Uttarakhand) and the Sone river (Bihar).

❖ **Significance:** Population of Gharials are a **good indicator of clean river water.**

❖ **Conservation Efforts:**

➤ Breeding Centres of **Kukrail Gharial Rehabilitation Centre in Lucknow, Uttar Pradesh, National Chambal Sanctuary (Gharial Eco Park, Madhya Pradesh).**

❖ **Threats:**

➤ Increased river pollution, dam construction, massive-scale fishing operations and floods.

➤ Illegal sand mining and poaching.

Mahanadi River:

❖ The Mahanadi River system is the **third largest of peninsular India after Godavari and Krishna, and the largest river of Odisha state.**

❖ The **catchment area** of the river extends to **Chhattisgarh, Madhya Pradesh, Odisha, Jharkhand and Maharashtra.**

❖ Its **basin is bounded by** the Central India hills on the north, by the Eastern Ghats on the south and east and by the Maikala range on the west.

❖ **Source:**

➤ It rises from a place near **Sihawa in Bastar hills in the state of Chhattisgarh** to the south of Amarkantak.

❖ **Major Tributaries:** Seonath River, Hasdeo river, Mand river, Ib river, Jonking river, Tel river

❖ **Mahanadi River Dispute:** The Central Government constituted **Mahanadi Water Disputes Tribunal** in 2018.

❖ **Major Dams/Projects on Mahanadi:**

➤ **Hirakud Dam:** This is the longest dam of India.

➤ Ravishankar Sagar, Dudhawa Reservoir, Sondur Reservoir, Hasdeo Bango and

Tandula are other major projects.

4.21 PADMA AWARDS

Online nominations/recommendations for the **Padma Awards** to be announced on the occasion of **Republic Day, 2022** are open.

❖ In 2021, a total of 119 Padma awards were conferred, including 7 padma vibhushan, 10 padma bhushan and 102 padma shri.

- The Padma Awards are announced **annually on Republic Day (26th January)**.
- **Instituted in 1954**, it is one of the **highest civilian honours** of India.

Objective:

- To **recognize achievements in all fields** of activities or disciplines where an **element of public service is involved**.

Categories:

- The Awards are given in **three categories**:
 - ✓ **Padma Vibhushan** (for exceptional and distinguished service),
 - ✓ **Padma Bhushan** (distinguished service of higher-order) and
 - ✓ **Padma Shri** (distinguished service).
- **Padma Vibhushan is highest in the hierarchy** of Padma Awards followed by Padma Bhushan and Padma Shri.

Disciplines:

- The Awards are given in **various disciplines/ fields of activities**, viz.- art, social work, public affairs, science and engineering, trade and industry, medicine, literature and education, sports, civil service etc.

Eligibility:

➤ **All persons without distinction of race, occupation, position or sex** are eligible for these Awards.

Selection Process:

➤ **Padma Awards Committee:**

✓ The Awards are conferred on the recommendations made by the Padma Awards Committee, which is **constituted by the Prime Minister every year.**

➤ **Awarded by President:**

✓ The awards are **presented by the President** of India usually in the month of March/April every year.

Bharat Ratna

❖ It is the **highest civilian award of the country.** It is awarded in recognition of **exceptional service/performance** of the highest order in any field of human endeavour.

❖ It is treated on a different footing from Padma Award. The **recommendations for Bharat Ratna are made by the Prime Minister** to the President of India.

The number of Bharat Ratna Awards is restricted to a **maximum of three in a particular year.**

2.12 GLOBAL ECONOMIC PROSPECTS: WORLD BANK

Recently, the **World Bank** has released its **June 2021 Global Economic Prospects** where it has **forecast India's GDP growth to be 8.3% for the year 2021-22.**

Key Points

GDP Estimate For India:

➤ India's economy is expected to grow at **8.3%** for Fiscal Year **2021-22**, **7.5%** for **2022-23** and **6.5%** for **2023-24.**

For World:

➤ The world economy is expected to expand 5.6%, the **fastest post-recession growth rate in eighty years.**

➤ However, **global output will still be 2% below pre-pandemic projections** by year-end.

Cause For FY 2020-21:

➤ The projected growth **compares to the worst ever contraction of 7.3% in FY 2020-21 and 4% expansion in 2019-20.**

➤ India's recovery is **being hampered by the largest outbreak of any country** since the beginning of the pandemic.

For FY 2021-22:

➤ The forecast for FY22 (8.3%) factors in **expected economic damage from an enormous second Covid-19 wave** and localised mobility restrictions since March 2021.

For FY 2022-23:

➤ **Growth is expected to slow to 7.5%** as a result of the pandemic's **lingering effects** on the financial position of households, companies and banks and possibly low levels of consumer confidence and heightened uncertainty around job and incomes.

Steps Taken by India:

➤ The **Reserve Bank of India (RBI)** announced **measures** to provide liquidity to Micro, Small and Medium firms (MSMEs), and loosened regulatory requirements on the provisioning for non-performing assets.

➤ **Fiscal policy** shifted in the **FY 2021/22 budget** toward higher expenditure targeted at healthcare and infrastructure to boost the post-pandemic recovery.

Suggestions:

➤ Globally **coordinated efforts are essential** to accelerate **vaccine distribution and**

debt relief, particularly for low-income countries.

➤ As the health crisis eases, policymakers will **need to address the pandemic's lasting effects** and take steps to **spur green, resilient, and inclusive growth** while safeguarding **macroeconomic stability**.

➤ For low-income countries, **policies focusing on scaling up social safety net programs, improving logistics and climate resilience of local food supply** would be more helpful.

Key Terms

Gross Domestic Product

➤ GDP is a **measure of economic activity** in a country. It is the total value of a country's annual output of goods and services. It gives the economic output from the **consumers' side**.

➤ $GDP = \text{Private consumption} + \text{Gross investment} + \text{Government investment} + \text{Government spending} + (\text{exports} - \text{imports})$.

Recession and Depression

➤ **Recession:** It is a macroeconomic term that refers to a **slowdown or a massive contraction** in economic activities for a long enough period, or it can be said that when a recession sustains for long enough, it is called a recession.

➤ **Depression:** It is a deep and long-lasting period of **negative economic growth**, with output falling for at **least 12 months** and GDP falling by **over 10%** or it can be referred to as a **severe and prolonged recession**.

Fiscal Policy

➤ Fiscal policy refers to the **use of government spending and tax policies to influence economic conditions**.

➤ During a recession, the government may employ **expansionary fiscal policy** by lowering **tax rates** to increase aggregate demand and **fuel economic growth**.

➤ In the face of mounting **inflation** and other **expansionary symptoms**, a government

may pursue **contractionary fiscal policy**.

World Bank

➤ The **Bretton Woods Conference held in 1944**, created the International Bank for Reconstruction and Development (IBRD) along with the **International Monetary Fund (IMF)**.

➤ The **IBRD later became the World Bank**.

➤ The World Bank Group is a **unique global partnership of five institutions** working for sustainable solutions that reduce poverty and build shared prosperity in developing countries.

Members:

➤ It has **189 member countries**. **India is also a member** country.

Major Reports:

➤ **Ease of Doing Business.**

➤ **Human Capital Index.**

➤ **World Development Report.**

➤ **Migration and Development Brief.**

➤ **Global Economic Prospects.**

Its Five Development Institutions:

➤ **International Bank for Reconstruction and Development (IBRD):** Provides loans, credits, and grants.

➤ **International Development Association (IDA):** Provides low- or no-interest loans to low-income countries.

➤ **International Finance Corporation (IFC):** Provides investment, advice, and asset management to companies and governments.

➤ **Multilateral Guarantee Agency (MIGA):** Insures lenders and investors against

political risk such as war.

➤ **International Centre for the Settlement of Investment Disputes (ICSID):** Settles investment-disputes between investors and countries.

➤ India is **not a member of ICSID.**

2.13 HINDU KUSH HIMALAYAN MOUNTAINS

According to UNDP (United Nations Development Programme), the Hindu Kush Himalayan (HKH) mountain ranges could lose up to two-third of its ice by 2100.

❖ About 2 billion people may face food, water shortages by 2100.

HKH Region:

❖ It is often referred to as the 'Third Pole', on earth, is spread over 3,500 square kms across eight countries including India, Nepal and China.

❖ It contains the world's third-largest storage of frozen water after Antarctica and the Arctic.

❖ Over 240 million people live in the region's mountains. 1.7 billion live in the river basins downstream, while food grown in these basins reaches three billion people.

❖ The glaciers feed at least 10 major river systems, which have bearings on agricultural activities, drinking water and hydroelectricity production in the region.

Challenges:

❖ According to ICIMOD's (International Centre for Integrated Mountain Development) 2019 assessment, the HKH region will continue to warm through the 21st century even if the world is able to limit global warming at the agreed 1.5 degrees Celsius.

❖ The Paris agreement aims to substantially reduce global greenhouse gas emissions in an effort to limit the global temperature increase in this century to 2 degrees Celsius above pre industrial levels, while pursuing the means to limit the increase to 1.5 degrees.

❖ In the future, even if global warming is kept to 1.5 degrees C above the pre-industrialisation levels, warming in the HKH region is likely to be at least 0.3 degrees C higher, and in the northwest Himalaya and Karakoram at least 0.7 degrees C higher.

Threat:

❖ High Mountain Asia (the Asian mountain ranges surrounding the Tibetan Plateau) **will lose a substantial part of its cryosphere** in the next decades and thus a substantial part of its water storage abilities. This will lead to **increased water stress** in high mountain areas.

❖ A **cryosphere** comprises portions of Earth's surface where **water is in solid form**, including sea ice, lake ice, river ice, snow cover, glaciers, ice caps, ice sheets, etc.

Causes for the Melting of Glaciers:

❖ The melting is driven by larger **anthropogenic modifications** (i.e. influenced by humans) of the atmosphere.

❖ The HKH region lies **downwind** from some of the most **heavily polluted places** on Earth. This threatens agriculture, climate as well as monsoon patterns.

Recommendations:

❖ It is recommended to **shift away from** fossil fuel use in energy, transport, and other sectors, while changing diets and agricultural practices to move to net-zero emissions of greenhouse gases.

❖ The countries in the region **need to reduce emissions** of **black carbon** and other air pollutants as well.

Suggested Policies and Actions to Mitigate the Problem:

❖ Farmers will need support to **design and invest in locally-appropriate water storage solutions**, or to shift to agricultural practices that consume less water.

❖ **Designs of new hydropower plants and grids** will need to take into account the changing climate and water availability.

❖ **Data and information, capacity-building and early warning systems and infrastructure design** will need to be improved. This calls for sufficient funding and large-scale coordination.

Related Initiative Taken by India:

❖ **National Mission on Sustaining Himalayan Ecosystem (NMSHE)** is one of the eight missions under the **National Action Plan on Climate Change (NAPCC)**.

❖ The mandate is to evolve measures to sustain and safeguard the Himalayan glaciers, mountain ecosystems, biodiversity and wildlife conservation & protection.

The International Centre for Integrated Mountain Development

❖ ICIMOD is an **intergovernmental knowledge and learning centre** working for the people of the Hindu Kush Himalaya (HKH).

❖ It is **based in Kathmandu, Nepal** and works in and for **eight regional member countries** – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.

2.14 Dehing Patkai and Raimona National Parks: Assam

Recently, the Assam government notified **Dehing Patkai** as the **7th National Park** of the state.

❖ It was **created shortly after Raimona reserve forest in western Assam's Kokrajhar district was upgraded to a national park (6th)** on the occasion of **World Environment Day (5th June)**.

National Park

❖ An area, whether within a sanctuary or not, can be notified by the state government to be constituted as a National Park, by reason of its ecological, faunal, floral, or zoological association or importance, needed to for the purpose of protecting & propagating or developing wildlife therein or its environment.

❖ No human activity is permitted inside the national park except for the ones permitted by the Chief Wildlife Warden of the state under the conditions given in **WPA (Wildlife Protection Act) 1972**.

❖ Some human activities can be allowed inside a wildlife sanctuary, but no human activity is allowed in a national park.

Dehing Patkai National Park:

❖ It is located within the larger **Dehing Patkai Elephant Reserve**, which

spreads across the **coal- and oil-rich** districts of **Upper Assam** (Dibrugarh and Tinsukia districts).

❖ The **oldest refinery of Asia in Digboi** and **'open cast' coal mining at Lido** are located near the sanctuary.

❖ The Dehing Patkai Wildlife Sanctuary is **also known as the Jeypore Rainforest**.

❖ **Dehing** is the name of the river that flows through this forest and **Patkai** is the hill at the foot of which the sanctuary lies.

❖ It is **believed to be the last remaining contiguous patch of lowland rainforest area** in Assam.

❖ Rare fauna found in the region include **Chinese pangolin**, flying fox, wild pig, sambar, barking deer, **gaur**, **serow** and **Malayan giant squirrels**.

❖ It is the **only sanctuary in India which is home to seven different species of wild cats – tiger, leopard, clouded leopard, leopard cat, golden cat, jungle cat and marbled cat**.

❖ **Assamese macaque**, a primate found in the forest, is in the **red list of Near Threatened species**.

❖ It has the **highest concentration of the rare endangered White Winged Wood Duck**.

Raimona National Park:

❖ The Raimona National Park is **within the Bodoland Territorial Region**.

❖ The area of the park **includes the northern part of the notified Ripu Reserve Forest**, which forms the **western-most buffer to the Manas National Park** that straddles the India-Bhutan border.

❖ It is **bounded on the west by the Sonkosh river** and the **Saralbhanga river on the east**.

❖ Both the rivers are **tributaries of Brahmaputra**.

❖ The **Pekua river** defines Raimona's **southern boundary**.

Transboundary Conservation Landscape:

❖ It shares contiguous forest patches of **Phipsoo Wildlife Sanctuary and Jigme Singye Wangchuck National Park of Bhutan** creating a transboundary conservation landscape of more than 2,400 sq km.

Flora and Fauna:

❖ It is **famous for Golden Langur**, an endemic species which has been named

as the mascot of Bodoland region.

❖ It also has Asian elephant, Royal Bengal tiger, Clouded leopard, Indian gaur, Wild water buffalo, Spotted deer, Hornbill, more than 150 species of butterflies, 170 species of birds, 380 varieties of plants and orchids.

National Parks in Assam:

❖ Assam now has the **third most** National Parks after the 12 in **Madhya Pradesh** and **nine in the Andaman and Nicobar Islands**.

❖ The **seven National Parks** in the State are **Dehing Patkai, Raimona, Kaziranga, Manas, Nameri, Orang, and Dibru-Saikhowa**.

❖ **Kaziranga and Manas** are **UNESCO World Heritage Sites**. They are also tiger reserves along with Nameri and Orang.

2.15 JOINT STATEMENT ON MULTILATERALISM: BRICS

The **BRICS** Foreign Ministers, in a recent meet, put out a joint statement on **multilateralism**.

❖ **BRICS** is an acronym for the **grouping of** the world's leading emerging economies, namely **Brazil, Russia, India, China and South Africa**.

Multilateralism:

❖ It is the **process of organizing relations** between **groups of three or more states**.

❖ It **generally comprises certain qualitative elements or principles that shape the character of the arrangement** or institution. These principles are:

- **Indivisibility of interests** among participants.
- Commitment to **diffuse reciprocity**, i.e. mutual exchange.
- System of **dispute settlement** intended to enforce a particular mode of behaviour.

Significance:

❖ Multilateral institutions have played a significant role in **post-war global governance** and are arguably **more stable** than other forms of organization because the **principles** underlying them appear to be more **durable and more able to adapt** to external changes.

❖ **Increasing Incidences of Lawfare:**

❖ It means the misuse of **existing International and national**

laws by several countries (via forced technology requirements, intellectual property rights violations, and subsidies), to gain an unfair advantage over other countries.

❖ The imposition of **extraterritorial sanction (under CAATSA) by the US** has affected development in developing economies like India and China.

❖ Paralysis of the **World Trade Organization (WTO)**, due to the tussle between the developed and developing world.

Dual Use of Global Supply Chain:

❖ Some of the developed countries have **jurisdiction and control over global supply chains**. Due to growing convergence between commercial interests and strategic goals, these supply chains enable them to have **vast extraterritorial influence** and have created **new power asymmetries**.

❖ **China through BRI** (Belt and Road Initiative) is enhancing its role in global economic governance.

❖ There are fears pertaining to dual-use (commercial viability and military application) of **Industrial Revolution 4.0**.

Lack of Global Framework:

❖ The global community has not been able to come on a single platform or frame a **Global Agenda** on issues related to **terrorism, Climate Change, cybersecurity etc.**

❖ Also, due to the lack of any global public health framework, **Covid-19** has spread into a pandemic.

Six Principles laid out by BRICS for the task of Strengthening and Reforming the Multilateral System:

❖ First, it should make **global governance** more inclusive, representative and participatory to facilitate greater and more meaningful participation of developing and least developed countries.

❖ Second, it should be **based on inclusive consultation and collaboration** for the benefit of all.

❖ Third, it should make **multilateral organisations more responsive, action-oriented and solution-oriented** based on the norms and principles of international law and the spirit of mutual respect, justice, equality, and mutually beneficial cooperation.

❖ Fourth, it should use **innovative and inclusive solutions**, including digital and technological tools.

❖ Fifth, it should **strengthen the capacities of individual States and international organizations.**

❖ Sixth, it should promote **people-centered international cooperation** at the core. .

BRICS

❖ BRICS is an acronym for the grouping of the world's leading emerging economies, namely **Brazil, Russia, India, China and South Africa.**

❖ In **2001**, the **British Economist Jim O'Neill** coined the term BRIC to describe the four emerging economies of Brazil, Russia, India, and China.

❖ The grouping was **formalised** during the first meeting of BRIC Foreign Ministers' in **2006**.

❖ **South Africa** was invited to **join BRIC in December 2010**, after which the group adopted the acronym **BRICS**.

❖ **India** has assumed the **BRICS Presidency from January 2021**.

Structure

❖ BRICS **does not exist in the form of organization**, but it is an **annual summit** between the **supreme leaders of five nations**.

The **Chairmanship** of the forum is **rotated annually** among the members, in accordance with the acronym B-R-I-C-S.

8.12 REPORT ON COSTS OF CLIMATE CHANGE IN INDIA

Recently, the London-based global think tank **Overseas Development Institute** has released a report titled '**The Costs of Climate Change in India**'.

Economic Costs

❖ It highlighted that **India may lose anywhere around 3 to 10 per cent of its GDP** annually by 2100.

❖ The districts that have **warmed the fastest have seen gross domestic product grow on average 56 per cent less** than those that have warmed the slowest.

❖ The rising average temperatures may actually **reverse the development gains of recent decades** without rapid global action to reduce greenhouse gas emissions.

❖ If the temperatures are contained to **two degrees Celsius, India will lose 2.6 percent GDP**

annually, and in case the global temperatures were to increase to **3 degrees Celsius**, the loss will magnify to **13.4 per cent annually**.

Social Costs

- ❖ The report stated that **India's poverty rate may rise by 3.5 per cent in 2040** due to climate change.
- ❖ The climate change is already **slowing the pace of poverty reduction and increasing inequality** in India.
- ❖ The climate change may also **affect labour productivity** through additional channels such as increased incidence of endemic vector-borne diseases.
- ❖ The **income and wealth levels, gender relations and caste dynamics** will likely intersect with climate change to **perpetuate and exacerbate inequalities**.
- ❖ The combination of **rising cereal prices, declining wages in the agricultural sector and the slower rate of economic growth** could increase India's national poverty rate by 3.5 per cent in 2040.
- ❖ The sustained high temperatures take a **disproportionate toll on those who depend on manual outdoor work** or live in crowded, poorly ventilated homes.
- ❖ Floods, storm surge and cyclones wreak the most **havoc on densely settled, low-income communities not served by risk-reducing infrastructure**.

Environmental Costs

- ❖ India is already experiencing the **consequences of 1°C of global warming** such as **Extreme heatwaves, heavy rainfall, severe flooding, catastrophic storms and rising sea levels**.
 - ❖ An analysis of the **Ganges-Brahmaputra-Meghna and Mahanadi deltas** shows the climate induced disappearance of this activity will lead to an economic loss of 18-32 per cent of GDP.
 - ❖ The combination of **higher air and ocean temperatures** is therefore causing **more frequent episodes of heavy rainfall** across the subcontinent.
 - ❖ **Collapse of the summer monsoon:** The temperature and pressure gradients across the Asian highlands and Indian Ocean carry moist air over India.
- As the ocean warms and albedo (reflection of solar energy) increases, the pressure

gradient will fall.

❖ **Dissolution of coral reefs in the Indian Ocean:** Coral reefs in the Indian Ocean are already in decline due to pollution, habitat destruction and eutrophication.

➤ They face an additional threat from ocean acidification, caused by the absorption of carbon dioxide.

➤ India faces the precipitous disappearance of coral reefs that provide important fish breeding grounds, buffers against storm surge and tourist attractions.

❖ **Loss of Greater Himalayan ice and snow:** Glaciers and snow cover are retreating rapidly across the Greater Himalayan region and when they either disappear or find new equilibria, Indians who depend on rivers such as the Indus and Brahmaputra will face severe water shortages.

India's current climate policies

❖ India's climate commitment in 2030 is considered to represent a **fair share of global effort** based on its historic responsibility and current capability.

❖ **India's NDC includes a target of 40% of total installed power-generation capacity** coming from clean energy, and a 33–35% reduction in emission intensity of GDP by 2030.

❖ India has allocated at least **\$35.37 billion of its fiscal stimulus package to clean energy**, including renewables (especially solar power) and energy efficiency.

Recommendations to reduce costs of climate change

❖ The **lower-carbon options are more efficient and less polluting**, producing immediate benefits such as cleaner air, greater energy security and rapid job creation.

❖ The **gradual ending of public support for coal and improving the performance of electricity** distribution systems would free up fiscal space at a moment when public debt is rising rapidly.

❖ **Supporting clean electricity generation** could tackle the scourge of air pollution while creating hundreds of thousands of jobs.

❖ **Constructing and extending mass transit systems** could also offer substantial new employment opportunities, while stimulating economic growth in the future through agglomeration economies.

❖ **Conserving and enhancing carbon-rich ecosystems** such as forests and wetlands could boost agricultural productivity and enhance resilience to environmental shocks.

6.19 PYROSTRIA LALJII

Recently, the researchers from the **Botanical Survey of India, Sri Krishnadevaraya University, Anantapuram**, and **University of the East, Manila**, Philippines, published the details of the discovery of **Pyrostria Laljii**.

Pyrostria Laljii

- ❖ It is a **15-metre tall tree** that belongs to the genus of the coffee family.
- ❖ It has been **discovered from the Andaman Islands** by a team of researchers from India and the Philippines.
 - The Plants belonging to **genus Pyrostria** are usually found in **Madagascar**.
- ❖ It is also the **first record of the genus Pyrostria** in India.
- ❖ It is distinguished by a **long stem with a whitish coating on the trunk and oblongobovate leaves** with a cuneate base.
- ❖ It has been assessed as **'Critically Endangered'** based on the International Union for Conservation of Nature's (IUCN) Red List criteria.
- ❖ It has been named **Pyrostria laljii** after **Lal Ji Singh**, Joint Director and Head of Office, Andaman and Nicobar Regional Centre, Botanical Survey of India.

3.19 NEW SHEPHARD ROCKET SYSTEM

Recently, the **Amazon founder and billionaire Jeff Bezos's** space company called Blue Origin concluded the online auction for the first seat on **New Shephard**.

- In 2018, Blue Origin was one of the **ten companies selected by NASA to conduct studies and advance technologies** to collect, process and use space-based resources for missions to the Moon and Mars.
- In 2019, both signed an agreement that gives **Blue Origin permission to use NASA's historic test stand**, as a part of a growing number of partnerships between the space agency and the

commercial space industry.

New Shephard Rocket System

- It is a **rocket system** meant to take tourists to space developed by **Blue Origin Company**.
- New Shephard has been named after **astronaut Alan Shephard** (the first American to go to space).
- It **offers flights to space over 100 km above the Earth** and accommodation for payloads.
- It is a rocket system that has been **designed to take astronauts and research payloads** past the **'Karman line'**.
- It is the internationally recognized **boundary of space**.

Importance of New Shephard Rocket System

- Its aim is to provide **easier and more cost-effective access to space** meant for purposes such as academic research, corporate technology development and entrepreneurial ventures among others.
- It will also **allow space tourists to experience microgravity** by taking them 100 km above the Earth.
- The Space tourism seeks to give laypeople the **ability to go to space for recreational, leisure or business purposes**.
- Its idea is to **make space more accessible to those individuals who are not astronauts** and want to go to space for non-scientific purposes.

Working of New Shephard Rocket System

- The rocket system **consists of two parts**, the **cabin or capsule** and the **rocket or the booster**.
- The cabin can accommodate experiments from **small Mini Payloads up to 100 kg**.
- The Mini Payloads provide **easier space access to students**, who are part of educational institutions that are developing their own space program.
- The cabin is **designed for six people and sits atop a 60 feet tall rocket** and separates from

it before crossing the Karman line.

- The system is a **fully reusable, vertical takeoff and vertical landing space vehicle** that accelerates for about 2.5 minutes before the engine cuts off.
- The capsule free falls in space after **separating from the booster and the booster performs an autonomously controlled vertical landing** back to Earth.
- The capsule lands back with the help of **parachutes**.

6.20 PASIPHAE MISSION

Recently, the Scientists from the **University of Crete, Greece, Caltech, USA, Inter-University Centre for Astronomy and Astrophysics (IUCAA), India, the South African Astronomical Observatory** and the **University of Oslo, Norway**, are involved in **PASIPHAE Mission**.

PASIPHAE Mission

- ❖ It is **Polar-Areas Stellar-Imaging in Polarisation High-Accuracy Experiment**.
- ❖ It is an international collaborative **sky surveying project**.
- ❖ Its name is inspired from Pasiphae, the **daughter of Greek Sun God Helios**, who was married to King Minos.
- ❖ Infosys Foundation, India, Stavros Niarchos Foundation, Greece and USA's National Science Foundation have **each provided a grant of \$1 million for the project**.

Features of PASIPHAE Mission

- ❖ It will use **two high-tech optical polarimeters** to observe the northern and southern skies, simultaneously.
- ❖ It will focus on **capturing starlight polarisation of very faint stars** that are so far away that polarisation signals from there have not been systematically studied.
- ❖ The astronomers will **perform a maiden magnetic field tomography mapping** of the interstellar medium of very large areas of the sky using a novel polarimeter instrument known as **WALOP (Wide Area Linear Optical Polarimeter)**.

Significance of PASIPHAE Mission

- ❖ The universe has been **constantly expanding**, as evidenced by the presence of **Cosmic Microwave Background (CMB) radiation** which fills the universe.
- ❖ A definitive consequence of the inflationary phase is that a **tiny fraction of the CMB radiation should have its imprints** in the form of a specific kind of polarisation.
- ❖ The previous attempts to detect this signal met with failure mainly due to the **difficulty posed by our galaxy**, the Milky Way, which emits copious amounts of polarised radiation.
- ❖ It will measure **starlight polarisation over large areas** of the sky.
- ❖ The data along with Global Astrometric Interferometer for Astrophysics (GAIA) distances to the stars will help **create a 3-Dimensional model of the distribution of the dust and magnetic field structure** of the galaxy.
- ❖ It can help **remove the galactic polarised foreground light** and enable astronomers to look for the elusive B-mode signal.

WALOP (Wide Area Linear Optical Polarimeter)

- ❖ It is an instrument, when **mounted on two small optical telescopes** that will be used to **detect polarised light signals** emerging from the stars along high galactic latitudes.
- ❖ A WALOP each will be mounted on the **1.3-metre Skinakas Observatory, Crete**, and on the **1-metre telescope of the South African Astronomical Observatory** located in Sutherland.
- ❖ They will be unique instruments **offering the widest ever field of view of the sky** in polarimetry.
- ❖ It will be capable of capturing images within $\frac{1}{2}^\circ$ by $\frac{1}{2}^\circ$ **area of the sky** during every exposure.
- ❖ It will operate on the principle that at any given time, the data from a portion of the sky under observation will be **split into four different channels**.

2.16 INDIA AND PAKISTAN'S BATTLE OVER BASMATI

Recently, India has applied to the European Union for **protected geographical indication (PGI) status** of basmati rice.

➤ India's attempts to **protect the basmati title can be traced** all the way back to a bitter dispute

between the Indian government and the US Company RiceTec in the late '90s.

- The latter had sought a patent for certain rice varieties that it had bred from basmati strains, with names like Kasmati, Texmati and Jasmati.
- The patent was granted in 1997, much to the chagrin of the Indian government and the public, which argued that this would result in Indian-grown basmati being edged out of the US market.

Reasons for rift between India and Pakistan over Basmati

- Pakistan has opposed the India's application to the European Union for protected geographical indication (PGI) status of basmati rice.
- The approval of PGI would give India sole ownership of the basmati title in the EU and Pakistan is opposing this move.
- Pakistan, which is the only other basmati rice exporter in the world, has opposed because it would adversely impact its own exports, especially as the EU is a major market for its basmati.

Growing regions for Basmati Rice

- In India, historically, the long-grained, aromatic rice has been cultivated in Indo-Gangetic plains at the foothills of the Himalayas.
- In modern India, this region is spread over Himachal Pradesh, Punjab, Haryana, Uttarakhand, Uttar Pradesh, Delhi and Jammu & Kashmir.
- Basmati has also been grown for centuries in the Kalar tract, which lies between the Ravi and Chenab rivers in Pakistan's Punjab province.

Why does the basmati title need protection?

- There have been frequent disputes over granting the protected status to rice that may have been bred from basmati varieties but isn't grown in the historical basmati-growing belt.
- The Agricultural and Processed Food Products Export Development Authority (APEDA) itself had stated that GI status is strongly linked to a particular geographical region.
- The All India Rice Exporters' Association (AIREA) has argued that granting MP's request would open the door to other regions within India as well as rival rice exporters like China and Pakistan to grow basmati varieties anywhere in their territories, thus diluting the power of the basmati brand.

What is Protected Geographical Indication (PGI) status?

- The PGI status identify an agricultural product, raw or processed whose quality,

reputation or other characteristics are linked to its geographical origin.

- It applies to **agricultural, agro-food and wine sectors**.
- It confers **protection on an existing production**, thereby giving protection not only at national, but also at international level.

It can be based on the reputation of the product, which means, the **sense of a strong recognition by the public** at any given time, and which must be associated with a skill or a specific quality attributable to the geographical origin.

7.5 PENCIL PORTAL

Recently, the Union Minister of Women & Child Development has appealed to Citizens to **report the instances of Child Labour on PENCIL Portal** or by calling on Childline-1098.

- It is the **Platform for Effective Enforcement for No Child Labour (PENCiL)**.
- It was launched by the **Ministry of Labour and Employment** to rehabilitate child labour in the country.
- It is an online platform that aims at **engaging the Central Government, State Government, District, civil society and the public** in eradicating child labour.

Features of PENCiL Portal

- It is an **integrated application system** that is based on the technology which primarily aims at the submission of complaints by any citizens of the country from anywhere and anytime basis.
- It mandates the **uniform and systematic approach** towards the monitoring of the process by adopting a general classification and standardisation of filing complaints.
- It facilitates the **online lodging of complaints** that are registered by the general citizens to the concerned Departments, Ministries and Organizations which can be linked to their official portal.
- It facilitates the user with the **generation of automated notifications** such as Acknowledgement and replies for the official correspondence with the complainants.

Significance of PENCIL Portal

- It aims to achieve the target of **child labour free society**.
- It enables the citizens to **raise a complaint and report incidents of child labour** through

effective tracking and monitoring mechanism.

- It is to build a **strong authentication mechanism** for implementing and monitoring both the enforcement of the legislative provisions and effective implementation of the National Child Labour Project (NCLP).
- It aims to facilitate **convergence and provides better coordination** between the Governments departments and the general public.

Implementation of PENCiL Portal

- All complaints filed will be received by the **District Nodal Officers (DNOs)** who are nominated by the Districts.
- After receiving the complaints, the **rescue measures will be taken within the time frame of 48 hours** in coordination with the police department.

National Child Labour Project (NCLP) Scheme

- It is launched by the central government to **rehabilitate child labour** in the country.
- It focuses on **rehabilitation of children** working in hazardous occupations and processes.
- A survey is conducted of child workers and employment of adolescent workers and put them into **NCLP Special Training Centres (STCs)** to provide a formal system of education.

Objectives of the Scheme

- To eliminate all forms of child labour;
- To identify and withdraw of all child and adolescent workers in the project area from child labour;
- To contribute to the withdrawal of all young workers from occupation and facilitating them with vocational training opportunities for such adolescents through the existing scheme of skill developments;
- To create awareness amongst stakeholders, target communities, the orientation of NCLP and other functionaries on the issues of child labour; and
- To create monitoring, tracking and reporting system in Child Labour

Applicability of the Scheme

- It applies to **all child workers below 14 years of age** in the identified target area.
- **Adolescent workers below 18 years of age** in the target area engaged in hazardous works
- **Families of Child workers** in the recognised target area.

7.6 PROJECT O2 FOR INDIA

Amid the second wave of COVID-19, the Office of Principal Scientific Adviser (Government of India) has launched **‘Project O2 for India’**.

Project O2 for India

- ❖ Under this project, a **National Consortium of Oxygen (NCO)** is enabling the national level supply of critical raw materials such as zeolites, setting up of small oxygen plants, manufacturing compressors, final products, i.e. oxygen plants, concentrators, and ventilators.
- ❖ The consortium has started to **secure CSR/philanthropic grants** from organisations like USAID, Edwards Life sciences Foundation, Climate Works Foundation, etc.
- ❖ Hope Foundation, American Indian Foundation, Walmart, Hitachi, BNP Paribas, and eInfoChips are **procuring oxygen concentrators and VPSA/PSA plants** as part of their CSR efforts to aid the consortium’s work.
- ❖ Under the Project O2, the NMDC Ltd has agreed to **fund the procurement of raw materials** like zeolite for the manufacturers in the consortium.
- ❖ The Office of the Principal Scientific Adviser **invited private sector companies, donor organizations, and individuals** to support various projects of national importance.

Significance of Project O2 for India

- ❖ It aims to enable stakeholders working to **augment the country’s ability to meet this rise in demand** for medical oxygen.
- ❖ The NCO is not only looking forward to **providing immediate to short-term relief** but also working to **strengthen the manufacturing ecosystem** for long-term preparedness.
- ❖ It caters to **meeting the rising demand for medical oxygen by supporting government hospitals** to procure oxygen and related high priority equipment from approved manufacturers and

start-ups.

4.22 INNOVATIONS FOR DEFENCE EXCELLENCE (iDEX)

Recently, the Ministry of Defence has approved the budgetary support of Rs 498.8 crore to **Innovations for Defence Excellence (iDEX) – Defence Innovation Organisation (DIO)** for the next five years.

Innovations for Defence Excellence (iDEX)

- ❖ It was launched by the **Hon'ble Prime Minister** in April 2018.
- ❖ It will be funded and managed by a **Defence Innovation Organization (DIO)**.
- ❖ It will function as the **executive arm of DIO**, carrying out all the required activities while DIO will provide high level policy guidance to iDEX.
- ❖ It aims at creation of an ecosystem to **foster innovation and technology development** in Defence and Aerospace.
- ❖ The **objectives** of iDEX are:
 - **Facilitate** rapid development of new, indigenized, and innovative technologies for the Indian defence and aerospace sector, to meet needs for these sectors in shorter timelines;
 - **Create** a culture of engagement with innovative startups, to encourage co-creation for defence and aerospace sectors; and
 - **Empower** a culture of technology co-creation and co-innovation within the defence and aerospace sectors

Defence Innovation Organisation (DIO)

- ❖ It is formed as a **“not for profit” company** as per Section 8 of the Companies Act 2013.
- ❖ Its primary objective is to **fund and manage** the Innovations for Defence Excellence (iDEX).
- ❖ It will provide **high level policy guidance** to iDEX.
- ❖ The CEO of iDEX will be **selected and recruited by the DIO** and will be a professional person of sound technical, scientific and engineering background.
- ❖ The CEO of iDEX would also be CEO of DIO thereby providing the **linkage between the**

high level policy guidance given by DIO and its implementation in a professional manner through iDEX.

Significance of budgetary support to iDEX-DIO

- ❖ It will provide a big boost to the '**Aatmanirbhar Bharat Abhiyan**' as iDEX-DIO has the primary objective of self-reliance and indigenisation in defence & aerospace sector of the country.
- ❖ It is aimed at **providing financial support to nearly 300 start-ups/MSMEs/individual innovators and 20 partner incubators** under the DIO framework.
- ❖ It will support **increased awareness in the Indian innovation ecosystem** about defence needs.
- ❖ It will support **increased awareness in the Indian Defence establishment** about the potential of the Indian innovation eco-system to deliver innovative solutions to meet their needs.

2.17 HIGH-LEVEL DIALOGUE ON DESERTIFICATION, LAND DEGRADATION AND DROUGHT

Recently, the Prime Minister Shri Narendra Modi gave a keynote address at the UN '**High-Level Dialogue on Desertification, Land degradation and Drought**'.

Initiatives adopted by India to check land degradation

- ❖ The Prime Minister acknowledged that India has taken the **lead to highlight land degradation** issues at international forums.
- ❖ The **Delhi Declaration of 2019** called for better access and stewardship over land, and emphasised gender-sensitive transformative projects.
- ❖ India has **enhanced the combined forest cover to almost one-fourth** of the country's total area by adding 3 million hectares of forest cover over the last decade.
 - India is on track to **achieve its national commitment** of Land degradation neutrality.
- ❖ India is also working towards **restoring 26 million hectares of degraded land by 2030** which would contribute to India's commitment to achieve an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent.

❖ India is **assisting fellow developing countries** to develop land restoration strategies in the spirit of South-South cooperation.

➤ A **Centre of Excellence is being set up in India** to promote a scientific approach towards land degradation issues.

Mandate and Objective of High-level Dialogue on DLDD

❖ **Bring attention to recovery opportunities** during and after the COVID-19 pandemic that can be aligned with action to address DLDD through job-creating projects.

❖ **Elevate the discourse on DLDD issues'** global significance for the entire SDG agenda and for climate, biodiversity and disaster risk reduction.

❖ **Build upon the commitments and initiatives** from Member States and stakeholders made during the Summits on Biodiversity and Climate Change.

❖ **Encourage all UN Member States** to adopt and implement Land Degradation Neutrality targets and National Drought Plans, in line with implementing the Sendai Framework on Disaster Risk Reduction.

❖ **Call for countries to support** the Land Degradation Neutrality Fund and other funding mechanisms to scale up land restoration by all sectors of society.

❖ **Share experiences and best practices**, cutting-edge technologies and innovative business models that advance green, resilient and inclusive recovery strategies.

Implications of Desertification, Land degradation and Drought

❖ **Land use, biodiversity loss and climate change:** Land degradation currently undermines well-being of 3.2 billion people i.e. more than 40 per cent of the entire world population.

➤ The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) estimates that over 70 per cent of all natural, ice-free land has been transformed by human activity, devastating global biodiversity.

❖ **Water scarcity, drought, wildfires and migration:** The climate change is worsened by unsustainable land use, with many regions suffering more frequent and prolonged droughts.

➤ The droughts and climate change are intensifying the incidence of wildfires that devastated roughly 30 million acres of land in the global north and south from 2018-2020 alone.

➤ By 2025, two-thirds of the world could be living under water-stressed conditions, with 1.8 billion people experiencing absolute water scarcity.

❖ **Land use, zoonoses and building back better:** Unsustainable land-use change, including deforestation, has been identified as the primary driver of emerging infectious diseases.

➤ Combating desertification, land degradation and drought, and achieving land degradation neutrality, are key to accelerate achieving the Sustainable Development Goals.

United Nations Convention to Combat Desertification

❖ It is the **sole legally binding international agreement** linking **environment and development** to sustainable land management.

❖ It was **established in 1994**.

❖ It addresses specifically the **arid, semi-arid and dry sub-humid areas**, known as the drylands.

❖ India is a **signatory** to the United Nations Convention for Combating Desertification (UNCCD).

❖ The **Ministry of Environment, Forest and Climate Change (MoEFCC)** is the nodal Ministry of Government of India that oversees implementation of the Convention in the country.

7.7 NFSA BENEFICIARIES BROUGHT UNDER ONE NATION ONE RATION CARD (ONORC) PLAN

Recently, the government has stated that **69 crore, or 86% of the total beneficiaries** under the **National Food Security Act (NFSA)**, were “swiftly brought under” the **One Nation One Ration Card (ONORC)** plan in 32 states and Union territories.

One Nation One Ration Card (ONORC)

❖ The scheme was launched on a **pilot basis in four states** in 2019.

❖ The government decided a **nation-wide rollout of the scheme** in all states and Union Territories by March 2021.

❖ The **Ministry of Consumer Affairs, Food & Public Distribution** in association with **State/UT Governments** is implementing ‘One Nation One Ration Card’ (ONORC) plan.

- ❖ It is aimed at **nation-wide portability of ration cards** under the National Food Security Act, 2013 (NFSA).
- ❖ Under ONORC, the beneficiaries can **lift their entitled foodgrains from any ePoS** (electronic Point of Sale device) enabled Fair Price Shop (FPS) of their choice by using their same/existing ration cards with biometric authentication on the ePoS device.
- ❖ The **identification of eligible beneficiaries and issuance of ration cards** to them for distribution of foodgrains under NFSA lies with the **concerned State/UT Government**.

Eligibility under One Nation One Ration Card (ONORC)

- ❖ Any citizen, who is declared under **Below Poverty Line (BPL) category**, will be eligible to get the benefit of this scheme across the country.
- ❖ The directions under Section-38 of the NFSA have been issued to all States/UTs to cover **all eligible disabled persons under the NFSA**.
- ❖ All States/UTs have also been advised to **identify needy persons from the weaker sections** of the society including disabled persons and issue NFSA ration cards to all eligible persons/households.
- ❖ The beneficiaries will be identified on the basis of their **Aadhaar based identification** through the electronic point of sale (PoS) device.

Purpose of the One Nation One Ration Card

- ❖ Around 80 crore beneficiaries are entitled to **receive subsidised food and grain under the National Food Security Act 2013** but only 23 crore ration cards have been issued in all the states and Union Territories of the country.
- ❖ A beneficiary with ration card could only **purchase subsidised food and grain from the PDS (Public Distribution System)** which was assigned to them in their locality.

Significance of One Nation One Ration Card (ONORC)

- ❖ The scheme aims to **ensure all beneficiaries**, especially migrants get ration (wheat, rice and other food grains) across the nation from any Public Distribution System (PDS) shop of their own choice.
- ❖ The scheme is launched with the purpose that **no poor person should be deprived of**

getting subsidised food grains under the food security scheme when they shift from one place to another.

- ❖ It aims to **reduce instances of corruption by middlemen and fraudulence** in ration cards to avail benefits from different states.
- ❖ The scheme is also aimed at **reducing the incidents of hunger deaths** in the country, to further improve rankings in the Global Hunger Index.

1.7 RETAIL INFLATION BREACHES COMFORT ZONE OF RBI

Recently, the **Wholesale Price Index-based inflation** scaled to a record high of 12.94 per cent in May which translated into a **higher retail inflation** of 6.30 per cent.

Retail Inflation

- ❖ The **change in the consumer price index over a period of time** is referred to as CPI-based inflation, or retail inflation.
- ❖ The CPI is an **index measuring retail inflation in the economy** by collecting the change in prices of most common goods and services used by consumers.
- ❖ The CPI is **calculated for a fixed list of items** including food, housing, apparel, transportation, electronics, medical care, education, etc.
- ❖ The CPI specifically **identifies periods of deflation or inflation** for consumers in their day-to-day living expenses.
- ❖ The CPI is used as a:
 - Macroeconomic indicator of inflation;
 - Tool by the central bank and government for inflation targeting and for inspecting price stability; and
 - Deflator in the national accounts

What does high retail inflation mean for markets?

- ❖ The **domestic investor sentiment will likely take a hit**, given concerns about rising inflation and contracting industrial production.

- ❖ The **steep increase in commodity costs**, especially oil prices, has started to gradually worry markets about the likely impact on corporate earnings.
- ❖ It might lead to concerns that the **central bank will be compelled to normalise liquidity** by revising interest rates sooner than anticipated.
- ❖ The excess liquidity in the system combined with volatility in fuel prices can pose **upward risk to inflation**.

Who maintains Consumer Price Index in India?

- ❖ In India, there are **four consumer price index numbers**, which are calculated, and these are as follows:
 - CPI for Industrial Workers (IW)
 - CPI for Agricultural Labourers (AL)
 - CPI for Rural Labourers (RL) and
 - CPI for Urban Non-Manual Employees (UNME)
- ❖ The **Ministry of Statistics and Program Implementation** collects **CPI (UNME) data** and compiles it but the remaining three are collected by the **Labour Bureau** in the Ministry of Labour.

Reasons for Retail Inflation breaching comfort zone of RBI

- ❖ The wholesale inflation has been rising for five months, and is expected to rise further as the **impact of high crude prices** and **surging commodity prices feeds in**.
 - It would cause the **retail inflation to rise as well**, putting the central bank on a tightrope walk in balancing the growth-inflation dynamics.
- ❖ The **food inflation component for retail inflation** rose significantly higher to 5.01 per cent in May from 1.96 per cent in the preceding month.
- ❖ The items that pushed retail inflation were **fuel** which recorded an inflation of 11.6 per cent, **transport and communication** at 12.6 per cent, **edible oil** at 30.8 per and **pulses** at 9.3 per cent.
- ❖ The high rate of inflation in May 2021 is primarily due to **low base effect and rise in prices of crude petroleum, mineral oils** viz. petrol, diesel, naphtha, furnace oil etc. and **manufactured**

products.

❖ The continued rise in **global crude oil prices, a weaker rupee and the upward revision in domestic fuel prices** remain risk factors for the upcoming WPI print.

4.23 SIGNIFICANCE OF TULU LANGUAGE IN INDIA

Recently, various organisations initiated a Twitter campaign demanding **official language status to Tulu in Karnataka and Kerala** and received an overwhelming response.

History of Tulu Language in India

❖ The scholars have suggested that Tulu is among the **earliest Dravidian languages** with a history of 2000 years.

❖ Robert Caldwell (1814-1891), in his book '**A Comparative Grammar of the Dravidian or South-Indian Family of Languages**' had called Tulu as one of the **most highly developed languages** of the Dravidian family.

❖ In between 14th to 15th century the **oldest inscriptions were available in Tulu.**

➤ These inscriptions are in **Tigalari script** and it is found in **Barkur (capital of Tulu nadu)** during Vijaynagar period.

Tulu Language

❖ Tulu is a **Dravidian language.**

❖ It is spoken mainly in two coastal districts **Dakshina Kannada and Udupi of Karnataka and Kasaragod district of Kerala.**

❖ As per the 2011 Census report, there are **18,46,427 Tulu-speaking people** in India.

❖ It has a **rich oral literature tradition** with folk-song forms like **paddana**, and traditional folk theatre **yakshagana.**

❖ It has an **active tradition of cinema** with around 5 to 7 Tulu language movies produced a year.

Demand of Tulu Speakers

❖ The Tulu speakers, mainly in Karnataka and Kerala, have been requesting the governments

to give it **official language status** and include it in the eighth schedule to the Constitution.

❖ The official languages mentioned under eighth schedule are **Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili** and **Dogri**.

Present status of Tulu language

❖ According to Karnataka Tulu Sahitya Academy president Dayananda G Kathalsar, **people who speak Tulu are confined** to the above-mentioned regions of Karnataka and Kerala.

➤ They are informally known as **Tulu Nadu**.

❖ Tulu is **not an official language** in the country.

➤ If included in the eighth schedule, Tulu would get **recognition from the Sahitya Akademi**.

Use of Tulu language in education

❖ The Karnataka government introduced **Tulu as a language in schools** a few years ago.

❖ In the year 2020, a total of **956 children from Dakshina Kannada and Udupi districts wrote Tulu** as the third optional language in SSLC (Class 10) examination.

❖ In 2020, '**Jai Tulunad**' conducted an online campaign demanding to include **Tulu in the new National Education Policy (NEP)**.

7.8 IMPLICATIONS OF SUPREME COURT MOVE TO QUASH OBC QUOTA REVIEW

Recently, the Supreme Court has quashed Maharashtra's review petition challenging its earlier verdict that **scrapped a quota for OBCs** in the state's local bodies.

OBC Reservation in local bodies in Maharashtra

❖ The Maharashtra government set up a **27 per cent quota in local bodies for OBCs** in 1994.

❖ The 27 per cent reservation was **applicable to all urban** (Municipal Corporations, Councils and Nagar Panchayat) and **rural bodies** (Zilla Parishad, Panchayat Samiti and Gram Panchayat) **across the state**.

❖ In Maharashtra, the OBCs include the **Denotified Tribes (Vimukta Jatis), Nomadic Tribes,**

Other Backward Classes and Special Backward Category.

- The quota for OBCs **increased their representation** in rural and urban local bodies.

Historical Background of OBC Reservation in Maharashtra

- ❖ As per the Mandal Commission report, the **last caste-wise census was conducted in 1931** and it was later discontinued.
- ❖ The Mandal commission worked out the **OBC population to be 52 per cent and recommended a 27 per cent reservation for OBCs** in view of the SC judgment limiting reservation up to 50 per cent.
- ❖ There was already a **22.5 per cent reservation for SC and ST categories** and the **Mandal Commission report recommended 27 per cent reservation** in government jobs and promotions along with others.
- ❖ The Mandal Commission report gave **momentum to OBC leaders and the community's demand** for a caste-wise census of OBC.

Viewpoint of Supreme Court on OBC Reservation in Maharashtra

- ❖ The SC stated that the **section 12(2)(c) of the Maharashtra Zilla Parishads and Panchayat Samitis Act, 1961** may be invoked only upon complying with the triple conditions before notifying the seats reserved for OBC category in the concerned local bodies.
- ❖ The Section 12(2)(c) deals with reserving the **27 per cent seats in Zilla Parishads for OBCs**.
- ❖ The **triple conditions** included:
 - **Setting up a dedicated Commission** to conduct contemporaneous rigorous empirical inquiry into the nature and implications of the backwardness qua local bodies;
 - **Specify the proportion of reservation required** to be provisioned local body-wise in light of recommendations of the commission.
 - Such reservation, in any case, **shall not exceed the aggregate of 50 per cent** of the total seats reserved in favour of SCs, STs and OBCs taken together.
- ❖ The apex court observed the **reservation for OBCs is only "statutory"**, to be provided by the state legislations, unlike the "constitutional" reservation regarding SCs/STs which is linked to the proportion of the population.

3.20 TIGRAY CRISIS

Recently, the **conflict that began between Ethiopia's federal government and the ruling party in the Tigray region** in the country's north has since blown up into a full scale crisis in the Horn of Africa.



Crisis in Tigray Region

- ❖ In November, local government officials in Tigray had told Reuters that some **2.2 million people had been displaced by the fighting** and **many forced to flee to neighbouring countries**.
- ❖ Ethiopia's federal **National Disaster Risk Management Commission** disputed the number of displaced people.
- ❖ In April, the UN said investigations by news organisations and independent observers had revealed that **sexual violence was being used as a "weapon of war"**.
 - The UN emergency relief coordinator Mark Lowcock said **Tigray was now also witnessing widespread famine**.
- ❖ The term '**famine**' was used after the release of an **Integrated Food Security Phase Classification (IPC)** analysis update.
 - It uses a standardised scale originally developed by the UN, integrating "**food security, nutrition, and livelihood information into a statement about the nature and severity**"

of a crisis”.

The Eritrea-Ethiopia Frontier

Despite a peace deal between the two countries, arms and violence continue to flow across their mutual border, especially in the Tigray region.



Famine conditions in Tigray Region

- ❖ According to the IPC analysis, **famine conditions in Tigray are in phase 5** which starts with a catastrophe warning and rises to a declaration of famine in a region.
- ❖ According to the IPC analysis, **approximately 350,000 people** out of Tigray’s 6 million population are **experiencing famine**.
- ❖ The Eritrean forces were “**trying to deal with the Tigrayan population by starving them**”, blocking supplies to over a million people.

What is a Famine?

- ❖ It is a widespread condition in which many people in a country or region are **unable to access adequate food supplies**.
- ❖ A **natural disaster**, such as a long period of drought, flooding, extreme cold, typhoons, insect

infestations, or plant disease, combined with government decisions on how to respond to the disaster, can result in a famine.

➤ The famine might be initiated by a **natural disaster, and a government's inability or unwillingness to deal** with the consequences of that event may magnify the effects.

❖ **Human events** also lead to famine and a major human cause of famine is warfare.

➤ During war, **crops are destroyed**, either intentionally or as a result of combat.

➤ In addition, **supply lines and routes are cut off**, and **food cannot be distributed** or is prevented from being distributed by combatants.

6.21 CPAP device 'Jivan Vayu'

Recently, the **Indian Institute of Technology-Ropar** has developed a device '**Jivan Vayu**' which can be used as a substitute of CPAP machine.

CPAP device 'Jivan Vayu'

❖ It is **India's first such device** which functions even without electricity.

❖ It is adapted to both kinds of **oxygen generation units** like O₂ cylinders and oxygen pipelines in hospitals.

❖ It is a **leak-proof, low-cost** CPAP delivery system.

❖ It is designed for a **22mm CPAP closed circuit tube**.

❖ It can deliver **high flow oxygen (20–60 LPM)** while maintaining a continuous positive pressure of up to 20 cm H₂O.

❖ It is designed to **maintain FiO₂ of above 40%** with a PEEP (positive end-expiratory pressure) of 5-20 cm H₂O.

CPAP

❖ The **Continuous Positive Airway Pressure (CPAP)** is a treatment method for patients having breathing problems during sleep called sleep apnea.

❖ The machine uses **mild air pressure** to keep the airways open for easy breathing.

- ❖ It is also used to **treat infants** whose lungs have not fully developed.
 - ❖ The **treatment is all the more necessary** during early stages of the Covid-19 infection.
- It **reduces lung damage and allows patients to recover** from the inflammatory effects.

7.9 GREEN PASSAGE SCHEME

Amid the coronavirus pandemic, the **Odisha government** launched the **Green Passage Scheme** for children.

Green Passage Scheme

- ❖ It will provide **free education to all children** who lost their parents to the Covid-19 pandemic.
- ❖ It started for extending **financial assistance to orphaned children** in the state for higher education.
- ❖ It will be implemented to **cover student's education cost** at all levels including school.
- ❖ The **government will bear the costs** as well if the orphaned kid is studying at any **private institution**.
- ❖ Under the scheme, the **tehsildars in all districts have been asked to submit a detailed report** regarding all the children orphaned due to the pandemic.
- ❖ It will cover the **costs of admission, tuition and examination fees of children for school and higher education**, including technical education, engineering etc.
- Under the scheme, the eligible children will also be entitled to a **pension of Rs 2,000 per month**.
- ❖ The **entire educational expenses** of such orphans studying in both schools and colleges and those who want to pursue medical, engineering and other courses will be taken care of by the state government.
- ❖ It covers the **costs of admission, tuition, and examination fees of children who want to pursue higher studies** in the field of engineering, medicine and technology.

4.24 EARLY ARRIVAL OF SOUTHWEST MONSOON

Recently, the **southwest monsoon has progressed rapidly** to cover two-thirds of the country just about 10 days after it broke over the Kerala coast.

Progress of Southwest Monsoon

- ❖ The **northern limit of the monsoon (NLM)** continued to pass through Diu, Surat, Nandurbar, Bhopal, Nagaon, Hamirpur, Barabanki, Bareilly, Saharanpur, Ambala, and Amritsar.
- ❖ The **monsoon has arrived 7 to 10 days ahead of its scheduled date** across some areas of south peninsular and central India.
- ❖ The **monsoon has missed Northwest India** i.e. Gujarat, Rajasthan, western Madhya Pradesh, Haryana, Punjab and Delhi so far.

Reasons for early arrival of southwest monsoon

- ❖ The **Cyclone Yaas**, formed in the Bay of Bengal during May, **helped the monsoon make a timely arrival** over the Andaman Sea.
- ❖ The fast progress of southwest monsoon is mainly due to:
 - **Strong westerly winds** from the Arabian Sea; and
 - **Formation of a low-pressure system** over the North Bay of Bengal
- ❖ The **monsoon currents strengthened and it advanced** into the Northeast, West Bengal, Odisha, Jharkhand, Bihar and parts of Chhattisgarh.
- ❖ An **off-shore trough has helped the monsoon arrive early** over Karnataka, Goa, Andhra Pradesh, Telangana, Maharashtra and southern Gujarat.

Causes of delay in southwest monsoon over Northwest India

- ❖ The monsoon becomes active over Northwest India only when the **monsoon currents (either from the Arabian Sea or the Bay of Bengal) reach the region.**
 - The monsoon progress will remain slow as the **arrival of monsoon currents over Northwest India is not expected** to happen soon.
- ❖ A **stream of mid-latitude westerly winds is approaching Northwest India**, which will hinder the monsoon advancement in the immediate coming days.

3.21 ASEAN-EU COMPREHENSIVE AIR TRANSPORT AGREEMENT (AE CATA)

Recently, the EU (European Union) and the Association of Southeast Asian Nations (ASEAN) bloc have agreed on ASEAN-EU Comprehensive Air Transport Agreement (AE CATA).

Highlights of EU-ASEAN aviation deal

- ❖ It is the **world's first** bloc-to-bloc air transport agreement.
- ❖ Under the agreement, the **airlines will be able to fly up to 14 weekly passenger services**, and **any number of cargo services** via and beyond to any third country.
- ❖ It provides essential guarantees of **fair competition for European airlines and industry**, while strengthening reciprocal prospects for trade and investment in some of the world's most dynamic markets.

Benefits under EU-ASEAN aviation deal

- ❖ It will **bolster connectivity and economic development** among the 37 member states of ASEAN and the EU.
- ❖ The airlines of ASEAN and the EU will have **greater opportunities to operate passenger and cargo services** between and beyond both regions.
- ❖ The airlines of ASEAN and the EU will be able to **fly any number of services** between both regions.
- ❖ It will help **rebuild air connectivity between ASEAN and Europe** which has been decimated by the COVID-19 pandemic and open up new growth opportunities for the aviation industry in both regions.
- ❖ It provides a foundation for **closer cooperation between ASEAN and the EU** in areas such as aviation safety, air traffic management, consumer protection, and environmental and social matters.

Concerns over effectiveness of EU-ASEAN aviation deal

- ❖ The International Air Transport Association has estimated that the **industry suffered a combined net loss of \$126.4 billion (€104.3 billion)** in 2020.

- In 2019, the aviation industry accounted for roughly **2.1 per cent of the EU's GDP**.
- ❖ The experts have cast doubts on the EU-ASEAN aviation deal's effectiveness because of the **issue of airport slots**.
- The sites currently running at near capacity will **not be able to significantly increase the number of slots** given to planes flying between Southeast Asia and Europe because airports have only a limited number of slots to cater to planes.
- ❖ The agreement may **increase the number of flights** between already active hubs, such as Singapore and Bangkok in Southeast Asia and Paris and Rome in Europe.

4.25 KERALA'S SILVERLINE PROJECT

Recently, the **Kerala cabinet** gave the green light to begin acquiring land for its **SilverLine project**.

Kerala's SilverLine Project

- ❖ It is Kerala government's flagship **semi high-speed railway project**.
- ❖ The estimated to cost of the flagship project is **Rs 63,940 crore**.
- ❖ It entails **building a semi high-speed railway corridor** through the state linking its **southern end and state capital Thiruvananthapuram** with its northern end of **Kasaragod**.
- ❖ The line is proposed to be 529.45 kms long, **covering 11 districts through 11 stations**.
- ❖ The deadline for the project, being executed by the **Kerala Rail Development Corporation Limited (KRDCL)**, is **2025**.
- KRDCL, or K-Rail, is a **joint venture** between the Kerala government and the Union Ministry of Railways.

Features of Kerala's SilverLine Project

- ❖ The project will have **trains of electric multiple unit (EMU) type** with preferably nine cars and extendable to 12 cars each.
- ❖ A nine-car rake can **seat a maximum of 675 passengers** in business and standard class settings.
- ❖ The trains can **run at a maximum speed of 220 kmph** on standard gauge track, completing

journeys in either direction in under four hours.

- ❖ A total of **11 stations are proposed including the two terminals**, three of which will be elevated, one underground and the rest at grade.

Need for Kerala's SilverLine Project

- ❖ It has long been argued by urban policy experts that the **existing railway infrastructure** in the state **cannot meet the demands** of the future.
- ❖ There are trains which run with an **average speed of 45 km/hr** due to a lot of curves and bends on the existing stretch.

Significance of Kerala's SilverLine Project

- ❖ It is aimed at **reducing travel time** between the state's northern and southern ends.
- ❖ It can take a **significant load of traffic off the existing railway stretch** and make travel easier and faster for commuters.
- ❖ It will **reduce the congestion on roads** and help reduce accidents and fatalities.
- ❖ It will **reduce greenhouse gas emissions**, help in **expansion of Ro-Ro services**, **produce employment opportunities**, **integrate airports and IT corridors** and **faster development of cities** it passes through.

7.10 DAGMARA HYDRO-ELECTRIC PROJECT

Recently, a Memorandum of Understanding (MoU) has been signed between **National Hydro Power Corporation (NHPC)** Limited and Bihar State Hydroelectric Power Corporation Limited (BSHPC) for Implementation of **Dagmara Hydro-Electric Project**, Supaul, Bihar.

- ❖ NHPC is a **Category-A Miniratna Company** under the **Ministry of Power**, in the field of Hydropower.
- ❖ It is the **largest organisation for hydropower development in India**, currently, NHPC has 24 operational power stations with a **total installed capacity of 7071 Mega Watt (MW)**.
- ❖ The project is located **near village Dagmara on the right bank** and **Simri on the left bank**, about **22.5 km downstream of Bhimnagar barrage** on Kosi river.
- ❖ It is a **Run-of-the-River** scheme. **Run-of-river hydro projects** use the **natural**

downward flow of rivers and micro turbine generators to capture the kinetic energy carried by water.

❖ Typically **water is taken from the river at a high point and diverted to a channel, pipeline, or pressurised pipeline** (or penstock).

❖ The project will have the **total capacity of generating 130 MW energy**, in which **17 units of 7.65 MW will be installed** for power generation.

❖ The estimated **cost of construction of this project is at Rs. 2478.24 crore.**

Significance:

❖ It will be a landmark project in the power sector scenario of Bihar as far as green power is concerned.

❖ Apart from **generating clean and green power**, the execution will **boost the socio-economic and infrastructure development in the area** and shall also create **employment opportunities.**

Kosi River

❖ The Kosi is a **trans-boundary river** which flows through **Tibet, Nepal and India.**

❖ It has its **source in Tibet that includes the world's highest upland**; it then drains a large part of Nepal before emerging onto the Gangetic plains.

❖ Its three major tributaries, the **Sun Kosi, Arun and Tamur** meet at one point just upstream of a 10 km gorge cut through the Himalayan foothills.

❖ The river crosses into northern Bihar, India where it branches into distributaries before **joining the Ganges near Kursela in Katihar district.**

❖ Its **unstable nature has been attributed to course changes** and the heavy silt it carries during the monsoon season, and flooding in India has extreme effects.

• The Kosi **carries the maximum amount of silt and sand after the Brahmaputra in India.**

❖ It is also known as the "**Sorrow of Bihar**" as the annual floods affect about 21,000 km² of fertile agricultural lands thereby disturbing the rural economy.

6.22 NEW SHEPHARD

Recently, a company called **Blue Origin** concluded the online auction for the **first seat on New Shephard**, a rocket system meant to take tourists to space.

❖ It takes its first human flight on 20th July, 2021, which marks the 52nd anniversary of Neil Armstrong and Buzz Aldrin's moon landing.

New Shephard:

❖ New Shephard has been named after astronaut **Alan Shephard** – the first American to go to space – and offers flights to space over 100 km above the Earth and accommodation for payloads.

❖ It is a **rocket system that has been designed to take astronauts and research payloads past the Karman line.**

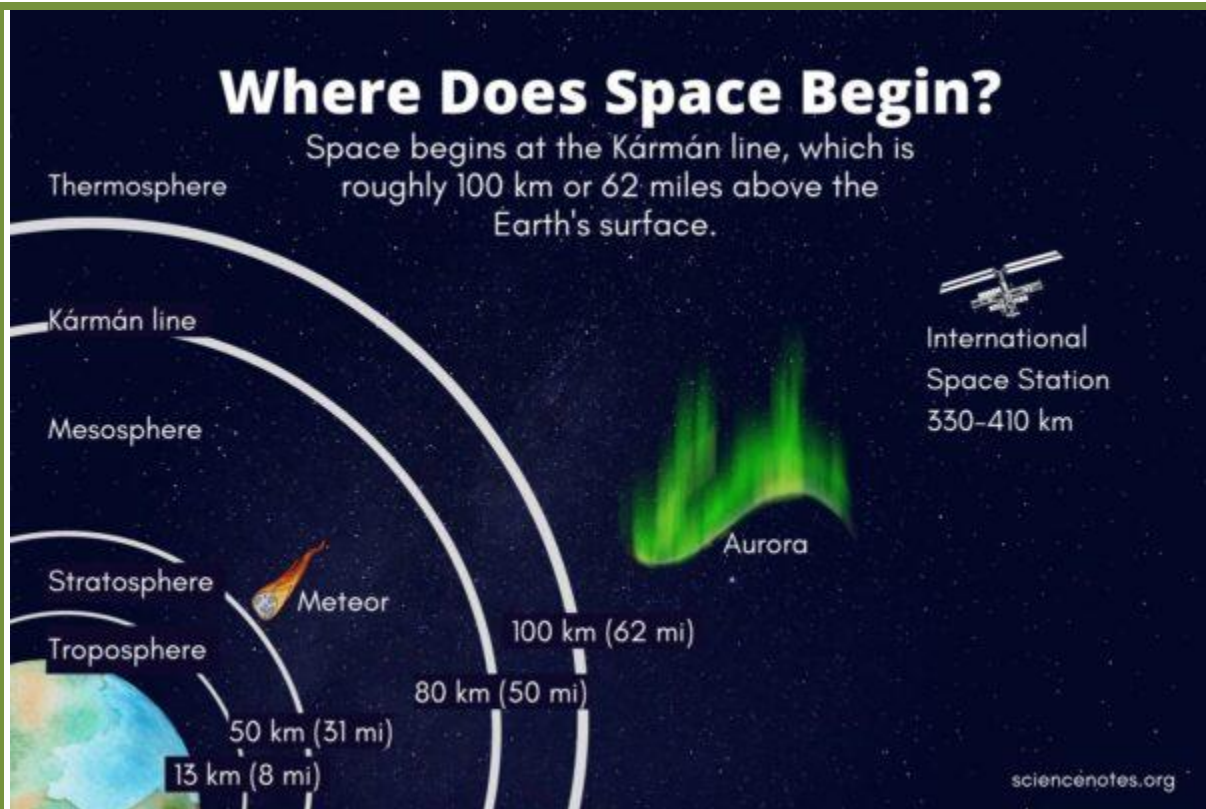
❖ The idea is to provide **easier and more cost-effective access to space** meant for purposes such as academic research, corporate technology development and entrepreneurial ventures among others.

❖ It will **also allow space tourists to experience microgravity** by taking them 100 km above the Earth.

➤ **Microgravity** is the condition in which people or objects appear to be weightless. The effects of microgravity can be seen when astronauts and objects float in space.

Karman Line

❖ The Karman line is the **internationally recognized boundary of space.**



- ❖ The line is named after **Theodore von Kármán (1881–1963)**, a Hungarian American engineer and physicist, who was active primarily in aeronautics and astronautics.
- He was the first person to calculate the altitude at which the atmosphere becomes too thin to support aeronautical flight and arrived at 83.6 km himself.
- ❖ The **Fédération Aéronautique Internationale (FAI)** defines **Karman Line** as the altitude of **100 kilometres** above Earth's mean sea level.
- FAI is the world **governing body for air sports, and also stewards definitions regarding human spaceflight.**
- ❖ However, other organizations do not use this definition. **There is no international law defining the edge of space, and therefore the limit of national airspace.**

Space Tourism

- ❖ Space tourism is about **humans travelling into space for recreational purposes.** It

seeks to **give laypeople the ability to go to space for recreational, leisure or business purposes.**

❖ It will **make space more accessible to those individuals who are not astronauts** and want to go to space for non-scientific purposes.

❖ Three private companies – Blue Origin, Virgin Galactic and SpaceX are now spearheading the human endeavour to explore space.

❖ Their progress will decide whether space travel will one day become as accessible as air travel.

Previous Space Tourists:

❖ The first space tourist was **US millionaire Dennis Tito**, who in 2001 paid USD 20 million to hitch a ride on a **Russian Soyuz spacecraft** to visit the international space station and spent eight days there.

❖ After Tito, there were **only seven other private citizens who travelled to space until 2009** when the Russian space agency wound up the business of selling tickets to private citizens.

❖ **Space Adventures** is the **only private company** to send paying customers to orbital space so far. In 2004, test pilot **Mike Melville** became the **first private astronaut to fly beyond the Karman Line.**

Significance:

Huge Market:

❖ There is an estimated market of 2.4 million people for such flights.

Base for Testing:

❖ It can **provide a base for testing supersonic travel** between different destinations on earth, significantly compressing travel time. Besides, **it heralds the entry of the private sector into this arena.**

Concerns:

❖ **Climate Change:** Soot or black carbon that results from rocket emissions accumulated in the stratosphere (approximately 5 to 31 miles above the Earth) cannot be washed away by rain or winds, as it is in the lower atmosphere. As a result, black carbon may linger in the stratosphere for years, **causing exponentially more climate change.**

❖ **Health:** It can cause health concerns as passengers could also face motion sickness and disorientation, which can **affect vision, cognition, balance and motor control.**

❖ There are **crucial safety, comfort and health factors to consider.** Training, medical screenings and liability waivers will need to be examined before tourists head to space.

❖ Space tourism will be a small subsector of the industry, but **it will bolster the entire New Space industry.**

❖ Once space tourism does become mainstream, it will also positively impact many socioeconomic factors on Earth: **creating jobs, educating citizens about space and fostering a new solar-based energy infrastructure.**

4.26 High-level Dialogue on Desertification, Land Degradation and Drought

Recently, the Prime Minister Shri Narendra Modi gave a keynote address at the UN 'High-Level Dialogue on Desertification, Land degradation and Drought'.

Initiatives adopted by India to check land degradation

❖ The Prime Minister acknowledged that India has taken the **lead to highlight land degradation** issues at international forums.

❖ The **Delhi Declaration of 2019** called for better access and stewardship over land, and emphasised gender-sensitive transformative projects.

❖ India has **enhanced the combined forest cover to almost one-fourth** of the country's total area by adding 3 million hectares of forest cover over the last decade.

• India is on track to **achieve its national commitment** of Land degradation neutrality.

❖ India is also working towards **restoring 26 million hectares of degraded land by 2030** which would contribute to India's commitment to achieve an additional carbon sink of 2.5 to 3

billion tonnes of carbon dioxide equivalent.

❖ India is **assisting fellow developing countries** to develop land restoration strategies in the spirit of South-South cooperation.

• A **Centre of Excellence is being set up in India** to promote a scientific approach towards land degradation issues.

Mandate and Objective of High-level Dialogue on DLDD

❖ **Bring attention to recovery opportunities** during and after the COVID-19 pandemic that can be aligned with action to address DLDD through job-creating projects.

❖ **Elevate the discourse on DLDD issues'** global significance for the entire SDG agenda and for climate, biodiversity and disaster risk reduction.

❖ **Build upon the commitments and initiatives** from Member States and stakeholders made during the Summits on Biodiversity and Climate Change.

❖ **Encourage all UN Member States** to adopt and implement Land Degradation Neutrality targets and National Drought Plans, in line with implementing the Sendai Framework on Disaster Risk Reduction.

❖ **Call for countries to support** the Land Degradation Neutrality Fund and other funding mechanisms to scale up land restoration by all sectors of society.

❖ **Share experiences and best practices**, cutting-edge technologies and innovative business models that advance green, resilient and inclusive recovery strategies.

Implications of Desertification, Land degradation and Drought

❖ **Land use, biodiversity loss and climate change:** Land degradation currently undermines well-being of 3.2 billion people i.e. more than 40 per cent of the entire world population.

• The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) estimates that over 70 per cent of all natural, ice-free land has been transformed by human activity, devastating global biodiversity.

❖ **Water scarcity, drought, wildfires and migration:** The climate change is worsened by unsustainable land use, with many regions suffering more frequent and prolonged droughts.

• The droughts and climate change are intensifying the incidence of wildfires that

devastated roughly 30 million acres of land in the global north and south from 2018-2020 alone.

- By 2025, two-thirds of the world could be living under water-stressed conditions, with 1.8 billion people experiencing absolute water scarcity.

❖ **Land use, zoonoses and building back better:** Unsustainable land-use change, including deforestation, has been identified as the primary driver of emerging infectious diseases.

- Combating desertification, land degradation and drought, and achieving land degradation neutrality, are key to accelerate achieving the Sustainable Development Goals.

United Nations Convention to Combat Desertification

❖ It is the **sole legally binding international agreement** linking **environment and development** to sustainable land management.

❖ It was **established in 1994**.

❖ It addresses specifically the **arid, semi-arid and dry sub-humid areas**, known as the drylands.

❖ India is a **signatory** to the United Nations Convention for Combating Desertification (UNCCD).

❖ The **Ministry of Environment, Forest and Climate Change (MoEFCC)** is the nodal Ministry of Government of India that oversees implementation of the Convention in the country.

4.27 REVISED SUBSIDY FOR ELECTRIC VEHICLES

Recently, the central government has decided to **increase the subsidy by 50% on electric two-wheelers** under the **FAME-II (Faster Adoption and Manufacturing of Electric Vehicles) scheme** in view of the adoption of eco-friendly vehicles. The Centre has made a **partial modification of the FAME-II**, including **increasing the demand incentive for electric two-wheelers to Rs. 15,000 per KWh** from an earlier uniform subsidy of Rs 10,000 per KWh for all EVs, including plug-in hybrids and strong hybrids except buses.

❖ The government **has also capped incentives for electric two-wheelers at 40%** of the cost of vehicles, up from **20% earlier**.

Significance:

❖ It will **bring down the prices of electric two-wheelers nearer to the IC (internal combustion engine) vehicles** and remove one of the biggest blocks of the high sticker price of electric two-wheelers.

❖ Together with the other important factors like **extremely low running cost, low maintenance and zero emission**, such price levels will surely spur a substantial demand for electric two-wheelers.

FAME-II:

❖ **FAME India** is a part of the **National Electric Mobility Mission (NEMM) Plan**. Main thrust of FAME is to encourage electric vehicles by providing subsidies.

❖ NEMM intends to allow **hybrid and electric vehicles** to become the first choice for the purchasers so that these vehicles can replace the conventional vehicles and thus **reduce liquid fuel consumption** in the country from the **automobile sector**.

Two Phases of the Scheme:

➤ **Phase I:** Started in 2015 and was completed on 31st March, 2019

➤ **Phase II:** Started from April, 2019, will be completed by 31st March, 2022.

❖ The scheme **covers Hybrid & Electric technologies** like Mild Hybrid, Strong Hybrid, Plug in Hybrid & Battery Electric Vehicles.

❖ **Monitoring Authority:** Department of Heavy Industries, the **Ministry of Heavy Industries and Public Enterprises**.

❖ Fame India Scheme has **four focus areas:**

➤ Technology development

➤ Demand Creation

➤ Pilot Projects

➤ Charging Infrastructure

❖ Under this scheme, **demand incentives will be availed by buyers** (end users/consumers) upfront at the point of purchase and the same shall be reimbursed by the

manufacturers from Department of Heavy Industries, on a monthly basis.

Salient Features of FAME II:

- ❖ Emphasis on **electrification of the public transportation** that includes shared transport.
- ❖ Aims to support, through subsidies, approximately 7000 e-Buses, 5 lakh e-3 Wheelers, 55000 e-4 Wheeler Passenger Cars and 10 lakh e-2 Wheelers.
- ❖ In the **3-Wheel (W) and 4-Wheel (W) segment** incentives will be applicable mainly to **vehicles used for public transport or registered for commercial purposes.**
- ❖ In the **2-Wheel (W) segment**, the focus will be on the **private vehicles.**
- ❖ To encourage advanced technologies, the **benefits of incentives will be extended to only those vehicles** which are fitted with advanced batteries like a **Lithium Ion battery** and other new technology batteries.
- ❖ Proposes for the **establishment of charging infrastructure**, whereby about 2700 charging stations will be established in metros, other million plus cities, smart cities and cities of Hilly states across the country so that there will be availability of at least one charging station in a grid of 3 km x 3 km.
- ❖ Establishment of **Charging stations are also proposed on major highways** connecting major city clusters.

Concerns:

- ❖ The **adoption of electric vehicles depends on several factors**, including robust charging infrastructure, easy financing and adequate performance in real-world conditions. These **require considerable government intervention and planning**, especially with the sector in its nascent stages.
- ❖ E-rickshaw drivers also **depend on unsafe, sometimes illegal, sources of power to charge their vehicles.** Charging is done in unsafe conditions, which poses a danger to both the driver and the commuter.

Road ahead

- ❖ Such **initiatives coupled with a mass awareness campaign** by the government and easy terms financing by public sector banks will bring us closer to the target of **30% of the two-wheeler** market becoming electric in five years.
- ❖ The government's continued support to drive adoption of EVs, with a keen focus on locally built electric two-wheelers **will make India the manufacturing hub of EVs.**
- ❖ Establishing the right coordination among **three pillars of the EV industry** i.e., urban planning, transportation and power sectors will assist in systematic adoption of EVs.

3.22 GENERALIZED SYSTEM OF PREFERENCES (GSPs)

Recently, the **European Union (EU) Parliament** has adopted a resolution which has urged the **EU Commission to consider temporary withdrawal** of the GSP+ status given to Sri Lanka.

Generalized System of Preferences (GSPs)

- ❖ It was **instituted in 1971** under the aegis of **United Nations Conference on Trade and Development (UNCTAD)**.
- ❖ It is aimed at creating an **enabling trading environment** for developing countries.
- ❖ The countries which grant GSP preferences are **Australia, Belarus, Canada, the European Union, Iceland, Japan, Kazakhstan, New Zealand, Norway, the Russian Federation, Switzerland, Turkey and the United States of America.**
- ❖ The provision and utilization of trade preferences is a key goal the **Istanbul Program of Actions** adopted at the UN LDC IV in 2013, as further reaffirmed in SDGs Goal 17.
- ❖ The objective of UNCTAD's support on GSP and other preferential arrangements is to **help developing countries to increase utilization of GSP** and other trade preferences.

European Union's Generalized System of Preferences (GSPs)

- ❖ It is a **set of EU rules** allowing exporters from developing countries to **pay less or no duties on their exports** to the European Union.
- ❖ The EU adopted a **new Generalized Scheme** of Preferences in 2012.
- ❖ The **objectives** of the EU's new GSP are:

- To focus help on countries which are more in need of trade preferences;
- To provide incentives for good governance and sustainable development; and
- To make the scheme more transparent, stable and predictable
- ❖ The Generalised Scheme of Preferences (GSP) has **3 strands**:
- **GSP general arrangement:** for all beneficiary countries
- **GSP+:** A special scheme with entire removal of tariffs on essentially the same product categories as those covered by the general arrangement.
- The countries need to ratify and implement international conventions relating to human and labour rights, environment and good governance.
- **Everything But Arms:** A special arrangement for least developed countries (as recognised and classified by the UN) giving them duty- and quota-free access for all products, except arms and ammunitions.

UNCTAD

- ❖ It is a **permanent intergovernmental body** established by the United Nations General Assembly in 1964.
- ❖ Its headquarters are **located in Geneva, Switzerland**.
- ❖ It is part of the **UN Secretariat**.
- ❖ Its goals are to **maximize the trade, investment and development opportunities of developing countries** and assist them in their efforts to integrate into the world economy on an equitable basis.
- ❖ Its objective is to **formulate policies relating to all aspects of development** including trade, aid, transport, finance and technology.

4.28 MANDATORY HALLMARKING OF GOLD

Recently, the government has announced the phased implementation of **mandatory hallmarking of gold jewellery**.

- ❖ In the first phase, gold hallmarking will be **available in only in 256 districts** and jewellers

having **annual turnover above Rs 40 lakh** will come under its purview.

Hallmarking of gold

- ❖ The **Bureau of Indian Standard (BIS)** operates gold and silver hallmarking scheme in India.
- ❖ It defines hallmarking as the **accurate determination and official recording of the proportionate content of precious metal** in precious metal articles.

Metals covered under hallmarking in India

- ❖ The government has notified two categories i.e. **gold jewellery and gold artefacts** and **silver jewellery and silver artefacts** under the purview of hallmarking.
- ❖ The hallmarking in India is **available for jewellery of only two metals** i.e. gold and silver.

Exemptions under mandatory hallmarking

- ❖ A certain category of jewellery and items will be **exempted from the mandatory requirement** of hallmarking.
- ❖ The **export and re-import of jewellery** as per Trade Policy of Government of India i.e. Jewellery for international exhibitions, jewellery for government-approved B2B domestic exhibitions will be exempted from mandatory Hallmarking.
- ❖ The **fountain pens and special types of jewellery** such as Kundan, Polki and Jadau will be exempted from hallmarking.

Provisions under mandatory hallmarking

- ❖ The government has announced that **no penalty will be imposed till August 2021** for non-compliance with the hallmarking norm.
- ❖ The jewellers with **annual turnover up to Rs 40 lakh will be exempted** from mandatory hallmarking.

What are the purity standards for gold and silver under the hallmarking scheme?

- ❖ As per BIS standards, there are three categories of hallmarking based on purity of gold i.e. **22 carat, 18 carat and 14 carat**.
- ❖ The ministry has announced that the **gold of additional carats 20, 23 and 24** will also be

allowed for Hallmarking.

❖ The ministry further said that jewellers can **continue to buy back old gold jewellery** without a hallmark from consumers.

Reasons for mandatory hallmarking

❖ India is the **biggest consumer of gold** but the level of **hallmarked jewellery is very low** in the country.

- At present, **only 30%** of Indian gold jewellery is hallmarked.

❖ It is **non-availability of sufficient assaying and hallmarking centres (A&HC)** responsible for low level of hallmarked jewellery.

Bureau of Indian Standard (BIS)

❖ It is the **National Standard Body** of India established under the BIS Act 2016.

❖ It is established for the **harmonious development of the activities** of standardization and marking and quality certification of goods.

❖ It has been providing **traceability and tangibility benefits** to the national economy in a number of ways:

- Providing safe reliable quality goods;
- Minimizing health hazards to consumers;
- Promoting exports and imports substitute; and
- Control over proliferation of varieties etc. through standardization, certification and testing

7.11 ADI PRASHIKSHAN PORTAL

Recently, the Minister of Tribal Affairs has launched '**Adi Prashikshan Portal**' and inaugurated a training programme on "Capacity Building Training of Master Trainers for ST PRI Members" as part of Azadi ka Amrit Mahotsav.

❖ It would be a **repository of all training programmes** conducted by the Ministry, TRIs, COEs and EMRS, upcoming NTRI and TRIFED.

- ❖ It will have **data base** of trainees, trainers and resource persons.
- ❖ The trainees will have **access to course material** even after completion of training.
- ❖ The portal has been developed by **Ministry of Tribal Affairs** in collaboration with UNDP and TRI-Odisha.

Significance of Adi Prashikshan Portal

- ❖ It should be **interactive and should also include feedback** in the form of actual experiences of the PRIs in implementation which will also help to improve the programme.
- ❖ It is intended to **reach remotest areas** with '**knowledge packets**' using information technology (IT).
- ❖ It is an effort to bring **Training Institutions/ Organizations, Experts and Trainers together** for addressing thematic knowledge gaps among Tribal PRIs, Communities, Officials and various other stakeholders involved in tribal area development.
- ❖ It will **transform the various ongoing training initiatives** under different units of the Ministry like TRIs, COEs and converge the initiatives for better skill and knowledge building.
- ❖ It will also **catalyze and improve the processes of conducting training** by making it online and accessible to all.

4.29 CABINET APPROVES DEEP OCEAN MISSION

Recently, the Cabinet Committee on Economic Affairs has approved the **Deep Ocean Mission**.

Deep Ocean Mission

- ❖ It is a **Rs 4,077-crore mission** that will be led by scientists at the **Ministry of Earth Sciences**.
- ❖ It is a **five-year** inter-ministerial and inter-departmental mission.
- ❖ The **five thrust areas** under the Deep Ocean Mission are:
 - Development of technologies for deep sea mining;
 - Manned submersible;

- Development of ocean climate change advisory services;
- Development of technology for exploration and conservation of deep-sea biodiversity; and
- Deep ocean survey and setting up of a marine station for ocean Biology.

❖ Under the mission, India will build a **research vessel specifically for carrying out deep ocean explorations** and it will be built at an Indian shipyard.

Significance of Deep Ocean Mission

- ❖ It will **bring together researchers and experts** from the ISRO, DRDO, Department of Atomic Energy, CSIR, Department of Biotechnology and the Indian Navy.
- ❖ It will make **India one among the handful of powerful nations** that already have dedicated ocean studies and missions, including the US, Japan, France, Russia and China.
- ❖ It provides **impetus to India's Blue Economy initiatives** planned from 2020 to 2030 which envisages a number of researches that will be performed to study the oceans.
- ❖ It will help India **tighten its grip in the South Asia region** given India's long coastline of 7500km and flanked by sea on three sides.

Challenges in Deep Ocean Mission

- ❖ The technologies required for deep-sea mining have **strategic implications** and are **not commercially available**.
- ❖ The plan to allow deep-sea mining has come under criticism from environmental organisations that fear it might **cause irreparable damage to the flora and fauna** on ocean floor.
- ❖ Under the Deep Ocean Mission, there are plans to acquire a dedicated vessel for this exploration, which could **cost around Rs 900 crore**, depending on the equipment.
- ❖ There are about 30 private and government contracts with the ISA for deep-sea exploration but **mining is not allowed** because the international code for it has yet to be announced.

4.30 JALGAON BANANA

Recently, the Ministry of Commerce & Industry has announced that it had started the **export of**

Jalgaon Banana to Dubai.

Jalgaon is considered Banana city of India

- ❖ In 2016, **Jalgaon Banana got GI certification** which was registered with Nisargraja Krishi Vigyan Kendra (KVK) Jalgaon.
- ❖ It is located over **300 km from the west coast** and on the **northern edge of the Deccan plateau**.
- ❖ It receives an **average rainfall of just 750 mm yearly** and the bananas are wholly produced by **independent growers**.
- ❖ It contributes about **half of Maharashtra's banana production** and more than **16% of that of India**.
- ❖ Its average yields at **70 tonnes per hectare** are way above global levels.
- ❖ **Strategic location:** The district is located near the Bhusaval railway station enabling access to the North Indian market.
- ❖ **Drip irrigation:** The spread of drip irrigation has made efficient use of scarce water possible.
 - It covers 15,000 plants using the same 15-hp motor used under normal flood irrigation that could at best water 10,000 plants.
- ❖ **High-density planting:** Jalgaon's major disadvantage was its dry weather and lack of humidity required by bananas but this was overcome by close planting.
- ❖ **Tissue culture:** As per the report, the main advantage with tissue-cultured banana plants is that it is based on the disease-free and genetically pure material.

Significance of Geographical Indication (GI) Tag

- ❖ A GI is a name or sign used on certain products under **Geographical Indications of Goods (Registration and Protection) Act, 1999** that corresponds to a specific geographical location or origin.
- ❖ It indicates a **community's intellectual property** attached to that particular product.
- ❖ It implies that the **product's uniqueness has been verified** by an expert committee of the Government of India.

- ❖ It helps the community get a **premium price** for the product.
- ❖ It creates a **distinct identity**, assures the buyers of quality, brings reputation to the product and creates an **international market** for it.

India's position in Banana

- **India's banana exports grew both in terms of volume as well as value** from 1.34 lakh metric tonne valued at Rs 413 crore in 2018-19 to 1.95 lakh metric tonne valued at Rs 660 crore in 2019-20.
- During 2020-21 (April-February), India has **exported banana worth of 1.91 lakh tonne** valued at Rs 619 crore.
- India is the **world's leading producer of bananas** with a share of around 25% in total output.
- **Andhra Pradesh, Gujarat, Tamil Nadu, Maharashtra, Kerala, Uttar Pradesh, Bihar and Madhya Pradesh** contribute more than 70% of the country's banana production.

4.31 HIGH COURT – UAPA MISUSE

Recently, three orders by the Delhi High Court are perhaps the first instance of a court calling out alleged misuse of the **Unlawful Activities (Prevention) Act (UAPA)** against individuals in cases that do not necessarily fall in the category of “terrorism” cases.

Arguments of High Court under UAPA

- ❖ The court highlighted that the UAPA, in **relaxing timelines for the state to file chargesheet and its stringent conditions for bail**, gives the state more powers compared to the Indian Penal Code.
- ❖ The court stated that the phrase ‘**terrorist act**’ has been defined in a very wide and **detailed manner** within Section 15 itself.
- ❖ The court said that it is a “**sacrosanct principle of interpretation of penal provisions**” that these must be construed strictly and narrowly.
- ❖ It is key to ensuring that a **person who was not covered by the legislative ambit** does not get roped into a penal provision.

Arguments of Police

- ❖ The Delhi Police argued that the terror clause in UAPA can be invoked for:
 - The **intent to threaten the unity and integrity** but the likelihood to threaten the unity and integrity; or
 - The **intent to strike terror** but the likelihood to strike terror, not just the use of firearms; or
 - **Causing or likely to cause not just death but injuries** to any person or persons or loss or damage or destruction of property

UAPA

- ❖ The **Constitution (Sixteenth Amendment) Act, 1963** was enacted to impose, by law, reasonable restrictions in the interests of the sovereignty and integrity of India.
- ❖ The **Unlawful Activities (Prevention) Bill** was passed by Parliament in 1967.
- ❖ It is considered to be the predecessor of laws such as the **Terrorist and Disruptive Activities (Prevention) Act (TADA)** and **Prevention of Terrorism Act (POTA)**.

Unlawful Activities (Prevention) Act (UAPA)

- ❖ It is primarily an **anti-terror law** which is aimed at “more effective prevention of certain unlawful activities of individuals and associations and for dealing with terrorist activities”.
- ❖ Under previous arrangement, the **UAPA could designate only an organisation as terrorist organisation** and not the individuals but the 2019 amendment to Unlawful Activities (Prevention) Act (UAPA) provided that an **individual can be designated a terrorist**.
- ❖ The UAPA cases are **tried by special courts**.
- ❖ The Act **defines unlawful activity** as any action i.e. spoken or written words, signs, or visible representation, which is intended or supports any claim to bring about secession of any part of India or which incites anyone towards secession.
- ❖ It defines unlawful activity which **disclaims, questions, disrupts or intends to disrupt** the sovereignty and territorial integrity of India.
 - The word “**disaffection**” has not been defined in the law, and finds mention only

once.

❖ Under ordinary criminal law, **an individual is entitled to bail by default if the investigating agency fails to file a chargesheet** within 90 days but under UAPA, the period of probe and detention of the accused can be extended up to 180 days.

❖ Under the Act, **investigation of cases may be conducted by officers** of the rank of Deputy Superintendent or Assistant Commissioner of Police or above.

3.23 8TH ASEAN DEFENCE MINISTERS MEETING PLUS

Recently, the eighth edition of **ASEAN Defence Ministers Meeting Plus (ADMM+)** was held.

ASEAN Defence Ministers Meeting Plus (ADMM+)

❖ It is an **annual meeting of Defence Ministers of 10 ASEAN** (Association of Southeast Asian Nations) countries and eight dialogue partner countries.

➤ The eight dialogue partner countries are **Australia, China, India, Japan, New Zealand, Republic of Korea, Russia and the United States.**

❖ **Brunei** is the Chair of the ADMM Plus forum for 2021.

❖ The **objectives** of the ADMM-Plus, are:

➤ To benefit ASEAN Member States in building capacity to address shared security challenges, while cognizant of the differing capacities of various ASEAN Member States;

➤ To promote mutual trust and confidence between defence establishments through greater dialogue and transparency;

➤ To enhance regional peace and stability through cooperation in defence and security, in view of the transnational security challenges the region faces;

➤ To contribute to the realisation of an ASEAN Security Community which, as stipulated in the Bali Concord II, embodies ASEAN's aspiration to achieve peace, stability, democracy and prosperity in the region where ASEAN Member States live at peace with one another and with the world at large;

➤ To facilitate the implementation of the Vientiane Action Programme as it calls for ASEAN to build a peaceful, secure and prosperous ASEAN.

Indo-Pacific Strategy

- ❖ The Union Minister of Defence called for an **open and inclusive order in Indo-Pacific** based upon respect for sovereignty and territorial integrity of nations.
- ❖ The Defence Minister also stressed on **peaceful resolutions of disputes** through dialogue and adherence to international rules and laws.
- ❖ The Defence Minister reiterated India's support to freedom of navigation, over-flight and unimpeded commerce for all in international waters in accordance with the **UN Convention on the Law of the Sea (UNCLOS)**.
- ❖ India supports utilisation of **ASEAN-led mechanisms** as important platforms for implementation of our shared vision for the Indo-Pacific.

India's Act East Policy

- ❖ The Defence Minister stated that the key elements of the policy aim to **promote economic cooperation, cultural ties and develop strategic relationships** with countries in the Indo-Pacific region through continuous engagement at bilateral, regional and multilateral levels.

Terrorism and Radicalisation

- ❖ The Defence Minister, terming terrorism and radicalisation as gravest threats to world peace and security, has called for:
 - **Collective cooperation** to fully disrupt terror organisations and their networks;
 - **Identify the perpetrators** and hold them accountable; and
 - **Ensure that strong measures are taken** against those who support and finance terrorism and provide sanctuary to terrorists

Cybersecurity Threats

- ❖ The Defence Minister has called for a **multi-stakeholder approach, guided by democratic values**, with a governance structure that is open and inclusive.
- ❖ The cybersecurity should aim to a **secure, open and stable internet** with due respect to sovereignty of countries, that would drive the future of cyberspace.

COVID-19 Pandemic

❖ The minister highlighted that globally available **patent free vaccines, unhindered supply chains and greater global medical capacities** are some of the lines of effort that India has suggested for a combined effort.

Humanitarian Assistance and Disaster Relief (HADR) operations

❖ India remains one of the **first to respond in times of distress** in the immediate as well as extended neighbourhood.

❖ India seeks to enhance capacity building through collaboration in the areas of Maritime Search & Rescue as a founding member of the **Heads of Asian Coast Guard Agencies Meeting (HACGAM)**.

Heads of Asian Coast Guard Agencies Meeting (HACGAM)

❖ It was established in 2004.

❖ Its members are Australia, Bahrein, Bangladesh, Brunei, Philippines, Cambodia, China, India, Indonesia, Hong Kong, Japan, Republic of Korea, Laos, Maldives, Malaysia, Myanmar, Pakistan, Singapore, Sri Lanka, Thailand, Turkey and Vietnam.

❖ The following coast guard functions are discussed in HACGAM meetings;

- Search and Rescue at sea,
- Marine Environment Protection,
- Preventing and Controlling Unlawful Act at Sea,
- Countermeasures against piracy and armed robbery,
- Capacity building,

Exchange of information and experience on coast guards functions.

5.9 APPROVAL OF CORPORATIZATION ORDNANCE FACTORY BOARD

Recently, the union cabinet chaired by Prime Minister has cleared the **corporatization of the Ordnance Factory Board** into 7 companies.

Highlights

- ❖ The board will now be **split into seven entities owned by the government** that will produce ammunition and explosives, vehicles, weapons and equipment.
- ❖ The corporatization would provide these companies with **autonomy** as well as help **improve accountability and efficiency**.
- ❖ The government has ensured that the **service conditions** of the existing central government employees of OFB are protected.
- ❖ All employees of the OFB belonging to the production units would be **transferred to the corporate entities on deemed deputation** initially for a period of two years without altering their service conditions.

Ordnance Factory Board (OFB)

- ❖ The OFB is an **umbrella body for the ordnance factories** and related institutions and is currently a subordinate office of the **Ministry of Defence**.
- ❖ The organisation dates back over 200 years and is **headquartered in Kolkata**.
- ❖ It is a **conglomerate** of 41 factories, nine training Institutes, three regional marketing centres and five regional controllers of safety.
- ❖ It provides a major chunk of the **weapon, ammunition and supplies** for Indian armed forces, paramilitary forces and police forces.
- ❖ The **products of OFB** include:
 - Civilian and military-grade arms and ammunition;
 - Explosives, propellants and chemicals for missiles systems; and
 - Military vehicles, armoured vehicles, optical devices, parachutes, support equipment, troop clothing and general store items

Need for Corporatisation of the Ordnance Factory Board (OFB)

- ❖ The **committees on Defence reforms** set by the governments between 2000 and 2015 have recommended the corporatisation of OFB.
 - T.K.A. Nair Committee, Dr. Vijay Kelkar Committee, Raman Puri

Committee and Shekatkar Committee have recommended corporatisation of the OFB.

❖ The **lack of addressing the quality issues with serious delays of OFB** affects the preparedness or forcing the Army to look elsewhere.

❖ The present structure showcase several issues such as **monopoly supply, quality issues, high cost of incidentals and overheads, lack of innovation and low productivity.**

Significance of Corporatisation of the Ordnance Factory Board (OFB)

❖ The corporatisation will result in the **conversion of the OFB into one or more 100 per cent government-owned entities** under the Companies Act, 2013 like other public sector undertakings.

❖ The **proposed transformation of OFB** from a government department to a public sector corporate entity will have such as:

- Improvement of efficiency,
- Reducing import dependency for arms and ammunition,
- Enhanced combat efficiency of the armed forces,
- Ensuring customer satisfaction and
- Greater penetration in defence export market

❖ The corporatised ordnance factories can form **strategic alliances with Indian and overseas companies** to develop new products and carve out a niche in the international armament industry.

Argument against Corporatisation of the Ordnance Factory Board (OFB)

❖ **Corporatisation leading to privatisation:** The main apprehension of the employees is that corporatisation would eventually lead to privatisation.

❖ **Unable to survive market environment for defence:** The corporate entities would not be able to survive the unique market environment of defence products that has very unstable demand and supply dynamics.

❖ It poses a **risk to national security in case of the growth of private players** in the event of possible failure of the proposed OFB corporatisation, resulting in disinvestment and even closure.

❖ The **ordnance factories cannot be run on a commercial basis** since a 'war reserve' has to be kept at par with the armed forces to maintain capacity to take care of surge in demands in a war-

like situation.

Viewpoint of the Union government on Corporatisation of the Ordnance Factory Board (OFB)

- ❖ The notion of corporatisation was listed as one of the 167 **'transformative ideas'** to be **implemented in the first 100 days** of the Narendra Modi government's second term.
- ❖ The Union Finance has announced the decision of Corporatisation of OFB for **'improving autonomy, accountability and efficiency in ordnance suppliers'**.
- ❖ The Empowered Group of Ministers (EGoM) for Corporatisation was constituted to **oversee and guide the transition support and redeployment plan of employees** while safeguarding their wages and retirement benefits.

3.24 GROWING STOCKPILE OF NUCLEAR WARHEADS: SIPRI YEARBOOK

Recently, the **Stockholm International Peace Research Institute (SIPRI)** has released the SIPRI Yearbook 2021 which highlights the **global expansion of nuclear arsenals**.

Asian Nuclear Superpowers

- ❖ **China, Pakistan and India have 350, 165 and 156 nuclear warheads** respectively as of January 2021 and they appear to be expanding their nuclear arsenals.
- ❖ The governments of India and Pakistan make statements about some of their missile tests but **provide no information about the status or size of their (nuclear) arsenals**.
- ❖ The institute also pointed out that **China is modernizing and expanding its nuclear weapon inventory**, along with India and Pakistan.

Nuclear Weapon Countries

- ❖ There are **nine countries** in the world that have nuclear weapons i.e. the **US, Russia, the UK, France, China, India, Pakistan, Israel and North Korea**.
- ❖ It highlights that **Russia and the US together possess over 90 percent** of the estimated 13,080 global nuclear weapons.
- ❖ The US and Russia continued to **reduce their nuclear weapon arsenals in 2020**, but both

are estimated to have had around 50 more nuclear warheads in operational deployment at the start of 2021.

❖ The US and Russia deployed strategic nuclear forces remained within the limits set by the 2010 Treaty on Measures for the Further **Reduction and Limitation of Strategic Offensive Arms (New START)**.

Nuclear Materials

❖ It also talked about the **fissile raw material stocks** that the countries have for their nuclear weapons.

❖ **India and Israel** have produced mainly **plutonium**, and **Pakistan** has produced mainly **highly enriched uranium (HEU)** but is increasing its ability to produce plutonium.

❖ **China, France, Russia, the UK and the US** have produced both **HEU and plutonium** for use in their nuclear weapons.

Import-Export of Nuclear Arsenals

❖ It also said **Saudi Arabia, India, Egypt, Australia and China** were the **five largest importers of major arms** in the world between 2016 and 2020.

❖ It added that Saudi Arabia had 11 percent share and India 9.5 percent in the global imports of the major arms in this time period.

Stockholm International Peace Research Institute (SIPRI)

❖ It is an **independent international institute** dedicated to research into conflict, armaments, arms control and disarmament.

❖ It was **established in 1966** to provide **data, analysis and recommendations**, based on open sources, to policymakers, researchers, media and the interested public.

❖ Its vision is a world in which **sources of insecurity are identified and understood**, conflicts are prevented or resolved, and peace is sustained.

❖ SIPRI's **mission** is to:

- Undertake research and activities on security, conflict and peace;
- Provide policy analysis and recommendations;

- Facilitate dialogue and build capacities;
- Promote transparency and accountability; and
- Deliver authoritative information to global audiences

3.25 FEDERAL RESERVE SIGNALS HIKE IN INTEREST RATES

Recently, the **Dow Jones Industrial index in the US fell 0.77%** and treasury yields rose after the Federal Reserve indicated that there could be **two rate hikes by 2023**.

- ❖ In India, the **benchmark Sensex fell marginally** and the **rupee lost over 1% against the dollar** after indication from Federal Reserve.
- ❖ The **wholesale price index-based (WPI) inflation** have scaled a record high of 12.94% in recent month which was pushed by higher fuel and commodity prices and a low base effect.
- ❖ It also translated into **retail inflation of 6.30%** which led to breach of the inflation target of $4 \pm 2\%$ set by the Reserve Bank of India.

Key Highlights of signals from Federal Reserve

- ❖ They said that they would continue with an **accommodative monetary policy** and **bond buying programme** to support the economy, generate employment and achieve inflation of around 2%.
- ❖ It discussed the **rate hike and an eventual reduction, or tapering**, of the central bank's bond buying programme.
- ❖ The Fed had signalled that there could be at least **two rate hikes by 2023** as **economic activity indicators have strengthened** and **inflation has firmed up**.

Impact of an early hike in interest rates

- ❖ The indication of a **hike in interest rates** earlier than expected resulted in a **rise in bond yields** and **strengthening of the dollar**.
- ❖ It impacts **currencies and stock markets in emerging economies** such as in India, benchmark Sensex fell 461 points or 0.87% during the day.
- ❖ It would lead to an **outflow of funds from equities into US treasury bonds** and **outflow**

of funds from emerging economies to the US.

- ❖ The experts believe that a **rise in yields** leads to a situation where they **start competing with equities**, and **market movement is severely impacted**.

- ❖ The rupee is also expected to **come under pressure** as the dollar strengthens.

Concerns associated to domestic inflation

- ❖ The **wholesale inflation** has been **rising for five months**, and is expected to rise further as the **impact of high crude prices** and **surging commodity prices** feed in.

- ❖ The **global prices for a large number of commodities** are now getting reflected in their domestic prices.

- The **petrol, diesel and LPG** witnessed **inflation** of 62.3%, 66.3% and 60.9%, respectively, in May 2021.

- The **food inflation component for retail inflation** rose **significantly** higher to 5.01% in May from 1.96%.

Concerns associated with investors

- ❖ The experts say the rise in interest rates in the US and **tapering of the monthly bond buying programme** (currently \$120 billion/month) may impact stock market movement.

- ❖ It is believed that the **rising inflation in the domestic market will be key for equity market movement** alongside the economic recovery and growth.

- ❖ The timing and pace of the US interest are hiked and tapering of the bond buying programme will be **critical for equity markets in India**.

6.23 SPACE-TIME INDUCES NEUTRINO OSCILLATIONS

Recently, the scientists from S N Bose National Centre for Basic Sciences (SNBNCBS) have showed that the **geometry of space-time** can cause **neutrino oscillations through quantum effects** even if neutrinos are massless.

Highlights

- ❖ The experiment showed that the neutrinos **“oscillate”** which implies that **different types of**

neutrinos change into one another.

- ❖ The probing of oscillations of neutrinos and their relations with mass are **crucial in studying the origin of the universe**.
- ❖ The researchers said that the **neutrinos, electrons, protons and other particles which are in the category of fermions** show a certain peculiarity when they move in presence of gravity.
- ❖ It highlighted that the **space-time induces a quantum force** in addition to gravity between every two fermions.
- The force can depend on the **spin of the particles**, and **causes massless neutrinos to appear massive** when they pass through matter, like the Sun's corona or the Earth's atmosphere.

Neutrinos

- ❖ A neutrino is a **subatomic particle** that is very similar to an electron, but has **no electrical charge and a very small mass**, which might even be zero.
- ❖ Neutrinos are mysterious particles, **produced copiously in nuclear reactions** in the Sun, stars, and elsewhere.
- ❖ Neutrinos **interact very weakly** with everything else i.e. trillions of them pass through every human being every second without anyone noticing.
- ❖ A neutrino's **spin always points in the opposite direction of its motion**, and until a few years ago, neutrinos were believed to be massless.
- It is now generally believed that the **phenomenon of neutrino oscillations** require neutrinos to have tiny masses.

Fermion

- ❖ Fermions are particles which have **half-integer spin** and are constrained by the **Pauli Exclusion Principle**.
- ❖ **Quarks and leptons**, as well as most composite particles, like protons and neutrons, are fermions.
- ❖ They possess **conserved baryon or lepton quantum numbers**.
- ❖ The name fermion was coined by **English theoretical physicist Paul Dirac** from the

surname of Italian physicist Enrico Fermi.

❖ There are **six quarks (up, down, strange, charm, bottom and top)**, and **six leptons (electron, electron neutrino, muon, muon neutrino, tauon and tauon neutrino)**, along with the corresponding antiparticle of each of these.

6.24 SEA LEVEL RISING

Recently, a team of scientists studied the climate projections of **sea level rise and associated coastal inundation** in atoll islands.

Highlights

- ❖ The study found out that the **sea levels will rise around the Lakshadweep Islands** between 0.4 mm per year to 0.9 mm per year and will affect airport and residential areas.
- ❖ The study highlights that the **worst possible inundation scenarios projected for Lakshadweep Islands** are almost similar under different emission scenarios.
- ❖ The study highlighted that **all the islands in the archipelago would be vulnerable** to impact from the rise in sea levels.
 - It estimated that **smaller islands Chetlat and Amini** are expected to have major land loss.
- ❖ The projection mapping indicated that about **60-70 per cent of existing shoreline would experience land loss** in Amini and about 70-80 per cent in Chetlat.
- ❖ It highlights that **larger island Minicoy and the capital Kavaratti are also vulnerable** to sea level rise, and expected to experience land loss along 60 per cent of the existing shoreline.

Impact of Sea Level Rise

Economic Impact

- ❖ The rising seas that swamp cities and coastal infrastructure could **cost the world more than 4 percent of the global economy each year** by 2100.
- ❖ The regular flooding means a **large potential impact on municipal tax bases** which help fund schools, emergency services, roads, and other vital local services and infrastructure.

Social Impact

- ❖ When sea levels rise as rapidly as they have been, even a small increase can have **devastating effects on coastal habitats** farther inland.
- ❖ The flooding in low-lying coastal areas is **forcing people to migrate to higher ground**, and **millions more are vulnerable from flood risk** and other climate change effects.
- ❖ The prospect of higher coastal water levels **threatens basic services** such as Internet access, since much of the underlying communications infrastructure lies in the path of rising seas.

Ecological Impact

- ❖ It can cause **destructive erosion, wetland flooding, aquifer and agricultural soil contamination** with salt, and lost habitat for fish, birds, and plants.
- ❖ The higher sea levels are coinciding with more **dangerous hurricanes and typhoons** that move more slowly and drop more rain, contributing to more powerful storm surges.

Factors responsible for Sea Level Rise (SLR)

- ❖ **Rising temperatures are warming ocean waters:** The thermal expansion was the main driver of global sea level rise for 75 – 100 years after the start of the Industrial Revolution.
- ❖ **Accelerated shrinking of land ice:** The glaciers, ice caps, and ice sheets are shrinking at a faster rate in response to rising temperatures, adding water to the world's oceans.
- ❖ **Loss of Greenland and Antarctica's ice sheets:** The scientists also believe that meltwater from above and seawater from below is seeping beneath Greenland's ice sheets, effectively lubricating ice streams and causing them to move more quickly into the sea.

Vulnerability of India to Sea Level Rise

- ❖ The vulnerability of Asian coastal cities to **global warming** and the IPCC has warned of a **one metre rise in sea level by 2100** and storm surges occurring once a year rather than once a century.
- ❖ The **flood risk is shaped** not only by sea level rise which in turn depends on factors such as how fast the ice sheets melt but also the elevation level of the land.
- ❖ It is estimated that the increase in sea level in the Indian Ocean is at the **rate of 5-6 cm per decade**.

❖ The sea level rise in the Indian Ocean is largely due to **thermal expansion** caused by ocean warming.

5.10 AMENDMENT TO CABLE TELEVISION NETWORK RULES

Recently, the Central Government had issued a notification amending the **Cable Television Network Rules, 1994**.

Highlights

❖ It aims to provide a **statutory mechanism for redressal of grievances of citizens** relating to content broadcast by television channels in accordance with the provisions of the Cable Television Network Act, 1995.

❖ The amendment will **recognize Statutory Bodies of TV channels** under Cable Television Network (CTN) Rules.

❖ It will bring the television's **self-regulatory mechanism** at par with that being set-up for OTT players and digital news publishers.

Need for amendment in Cable Television Network Rules

❖ There is an **institutional mechanism by way of an Inter-Ministerial Committee** to address grievances of citizens relating to violation of the Programme/Advertising Codes under the Rules.

❖ The need was felt to **lay down a statutory mechanism** for strengthening the grievance redressal structure.

❖ The broadcasters had also requested for **giving legal recognition** to their associations/bodies.

❖ The Supreme Court in the Common Cause Vs Union of India & Others case had advised to **frame appropriate rules to formalize the complaint redressal mechanism**.

❖ At present there are **over 900 television channels** which have been granted permission by the Ministry of Information and Broadcasting.



- All of which are required to **comply with the Programme and Advertising Code** laid down under the Cable Television Network Rules.

Existing Provisions of Cable Television Network Act, 1995

- ❖ **Sections 2(a):** It provides for authorised officer such as District Magistrate or a Sub-divisional Magistrate or Commissioner of Police for such local limits of jurisdiction as may be determined by that Government.
- ❖ **Section 2 (ai):** It defines 'Authority' the Telecom Regulatory Authority of India established under sub-section (1) of section 3 of the Telecom Regulatory Authority of India Act, 1997.
- ❖ **Section 4(1):** Any person who is desirous of operating or is operating a cable television network may apply for registration or renewal of registration, as a cable operator to the registering authority.
- ❖ **Section 8 (1):** The Central Government may specify the names of Doordarshan channels or the channels operated by or on behalf of Parliament, to be mandatorily carried by the cable operators in their cable service.
- ❖ **Section 20:** The Central Government may prohibit the operation of any cable television network in such areas as it may, by notification in the Official Gazette, specify in this behalf.

6.25 GHARIAL HATCHLINGS IN ODISHA

Gharials belong to the class Reptilia and the order Crocodilia. They are classified in the family Gavialidae within the order Crocodilia. The scientific name of the gharial is *Gavialis gangeticus*.

| Characters | Crocodile | Alligator |
|-----------------------|---|--|
| Distribution | Asia, Africa, Central America, Malaya, Indonesia and North Australia. | Mostly found in North America and China. |
| Habitats | Crocodile live in freshwater, They can also live in salt water. | Alligator live in fresh water. Lakes, swamps and streams have fresh water. |
| Habits | More aggressive, dangerous to man. | Less aggressive, attack when provoked. |
| Four mandibular tooth | First into a maxillary groove and visible externally. | Fits into a pit and not visible externally. |
| Teeth | Unequal. | Very unequal. |
| Body length | 8 metres long. | 3 metres long. |
| Color | Olive green with black spot or bands. | Steel grey. |
| Snout | Moderately long and pointed. | Short and broad. |
| | Long pointed jaw - V shaped. | Wide round jaw - U shaped. |
| |  <p>V shaped snout designed for snatching prey.</p> |  <p>U shaped snout designed for more leverage for crushing.</p> |

Recently, Odisha has seen **natural nesting of gharials for the first time** since they were introduced in its rivers back in 1975.

- ❖ Odisha had become the **only state to have all the three species** of the reptile i.e. **freshwater gharials, muggers and saltwater crocodiles** with the introduction of gharials in 1975.
- ❖ All the **original gharials introduced** over the years in Odisha are dead now and Odisha has introduced 13 more gharials over the past three years in the Mahanadi.
- ❖ The Odisha Forest Department announced **Rs 1,000 for anyone rescuing a gharial**, and compensation for those whose fishing nets are destroyed by the reptiles.

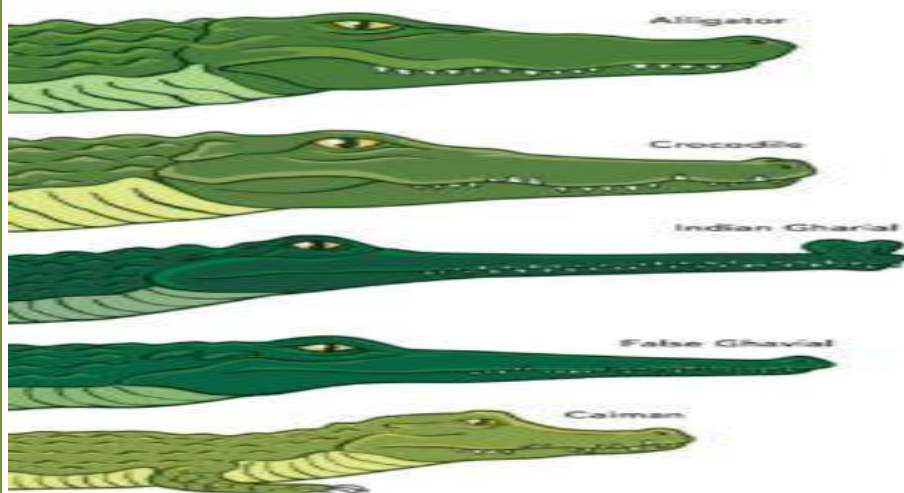
Three species of reptiles in Odisha

Freshwater gharials

- ❖ They are a type of **Asian crocodylian** distinguished by their long, thin snouts.
- ❖ They were granted full protection in the 1970s and later listed in **Schedule 1 of the Wildlife**

(Protection) Act, 1972.

- ❖ It is listed as **Critically Endangered** under the IUCN Red List of Threatened Species.
- ❖ They live in **clear freshwater river systems, congregating at river bends** where the water is deeper.
- ❖ Their range has shrunk to two countries i.e. **India**, along the Chambal, Girwa, and Son Rivers and **Nepal**, along the Narayani River.



Muggers

- ❖ It is a **medium to large** crocodilian species.
- ❖ It is found in **India, Sri Lanka, Pakistan, Nepal and in Bangladesh** and also its range extends westwards into **eastern Iran**.
- ❖ It is a **hole-nesting species**, with egg-laying taking place during the annual dry season.
- ❖ It is listed as '**Vulnerable**' under the IUCN Red List of Threatened Species.
- ❖ It is protected under **Schedule I** of the Wildlife (Protection) Act, 1972.

Saltwater Crocodiles

- ❖ It is the **largest of all crocodilians**, and the largest reptile in the world.
- ❖ Saltwater crocs have an enormous range, **populating the brackish and freshwater**

regions of eastern India, Southeast Asia, and northern Australia.

❖ Apart from the eastern coast of India, the saltwater crocodile is **extremely rare** on the Indian subcontinent.

• A large population is present within the **Bhitarkanika Wildlife Sanctuary of Odisha** while smaller populations occur throughout the Sundarbans.

❖ It is listed as '**Least Concern**' under the IUCN Red List of Threatened Species.

Bhitarkanika Wildlife Sanctuary

❖ It is the **2nd largest Mangrove ecosystems** of India.

❖ It is located in the estuarial region of **Bramhani-Baitarani**, in the north-eastern place of Kendrapara district of Odisha

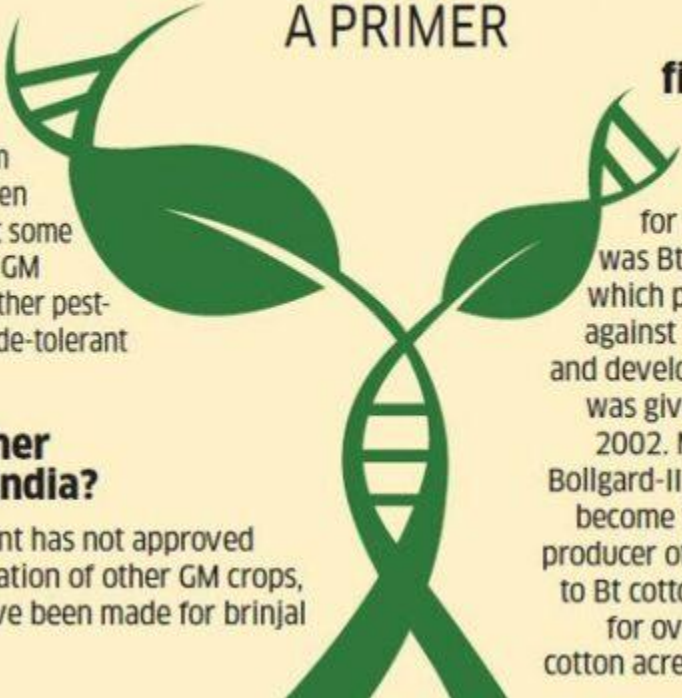
❖ It is the breeding place for the **endangered salt water crocodiles** which are the prime attractions of the sanctuary.

❖ The **Gahirmatha Beach** which forms the boundary of the sanctuary in the east is the largest colony of the Olive Ridley Sea Turtles.

6.26 HT Bt-Cotton

RajaSir

GM CROPS IN INDIA A PRIMER



What is a GM crop?

A crop which has a gene artificially inserted into it from another species, even unrelated, to give it some desired properties. GM crops are mostly either pest-resistant or herbicide-tolerant

Are there other GM crops in India?

No, the government has not approved commercial cultivation of other GM crops, though efforts have been made for brinjal and mustard

When did India get its first GM crop?

The first GM crop variety approved for commercialisation was Bt cotton. Bollgard-I, which provided immunity against the pink bollworm and developed by Monsanto, was given the go ahead in 2002. Monsanto released Bollgard-II in 2006. India has become the world's largest producer of cotton partly due to Bt cotton, which accounts for over 90% of the total cotton acreage in the country

Recently, the illegal cultivation of **herbicide-tolerant (HT) Bt-cotton** has seen a huge jump in 2021.

- ❖ The seed manufacturers claiming that the **sale of illegal seed packets** has more than doubled from 30 lakh last year to 75 lakh in 2021.

HT Bt-cotton

- ❖ The Herbicide-tolerant Bt (HT Bt) Cotton is **genetically modified crop of unapproved genes** which is not permissible in India.
- The **herbicide is like a poison** which is used to destroy unwanted vegetation.
- ❖ The technique in the HT Bt Cotton makes the **crop resistant to herbicide** following modification in genes of the seeds.
- ❖ It allows farmers to **spray herbicides to get rid of parasitic weeds** in the farm without harming the main crop.

What's the extent of HT Bt Cotton in India?

- ❖ In the absence of government approval, **production of HT Bt seed is illegal**, but farmers say it's available in those states where it is being grown defying the laws.
- ❖ A government panel had found that the **HT Bt Cotton was grown in 15 per cent** of the areas in Maharashtra, Gujarat, Andhra Pradesh and Telangana during 2017-18 while this percentage was 5 per cent for Punjab.
- ❖ The supporters of HT Bt Cotton have preferred to **reduce the cost of labour** as de-weeding is an extremely labour intensive activity involving 40 per cent of the total cost for growing cotton.
- It is in this context the herbicide tolerant (HT), the new generation Bt cotton, has **attracted the attention of many farmers**.

Arguments of farmers supporting HT Bt Cotton

- ❖ They should be allowed to **use the latest technologies in the agriculture** including genetically modified (GM) crops.
- ❖ They argue that across the world a **dozen GM crops have been approved** so far, and these are being grown on over 185 million hectares in more than two dozen countries.
- ❖ The farmers have felt the impact of HT Bt Cotton in terms of **lower costs and reduced crop losses** leading to higher production and income.

Bt cotton

- ❖ It was created by adding genes derived from the **soil bacterium Bacillus thuringiensis**, which produces over 200 different toxins, each harmful to different insect.
- ❖ It was **first approved for commercial use** in the United States in 1995.
- ❖ In 2002, a joint venture between **US-based Monsanto and the Maharashtra Hybrid Seeds Co Ltd (Mahyco)** introduced Bt cotton to India.
- ❖ In 2011, India grew the **largest GM cotton crop at 10.6 million hectares**.
- As of 2014, **95 per cent of cotton grown in India** was genetically-modified.

4.32 ELECTION PETITION

Recently, the West Bengal Chief Minister Mamata Banerjee has filed an **election petition in the**

Calcutta High Court challenging the Assembly election result of Nandigram constituency.

Election Petition

- ❖ The **Election Commission's role ends with the declaration of results** i.e. once the Returning Officer has signed the final result sheet.
- ❖ An election petition is the **only legal remedy available to a voter or a candidate** who believes there has been malpractice in an election.
- ❖ The voter or the candidate can **challenge the result through an election petition** submitted to the High Court of the state in which the constituency is located.
- ❖ The election petition has to be **filed within 45 days from the date of the poll results** and nothing is entertained by courts after that.
- ❖ The Representative of the People Act of 1951 suggests that the High Court should try to **conclude the trial within six months** but it usually drags on for much longer.
- ❖ The **acts of the candidate** along with his **election agent or by any other person** with the consent of the candidate or his election agent is covered for filing an Election Petition.

Grounds on which election petition can be filed

- ❖ Under **Section 100 of the RP Act**, an election petition can be filed on the grounds that:
 - On the day of the election, the winning candidate was **not qualified** to contest.
 - The winning candidate, his poll agent or any other person with the consent of the **winning candidate has indulged in a corrupt practice**.
 - **Section 123 of the RP Act** has a detailed list of what amounts to corrupt practice, including bribery, use of force or coercion, appeal to vote or refrain from voting on grounds of religion, race, community, and language.
 - **Improper acceptance of the nomination** of the winning candidate or improper rejection of a nomination.
 - **Malpractice in the counting process**, which includes improper reception, refusal or rejection of any vote, or the reception of any vote which is void.
 - **Non-compliance with the provisions** of the Constitution or the RP Act or any rules

or orders made under the RP Act.

Impact of Election Petition

- ❖ Under Section 84 of the RP Act, the petitioner may ask that the **results of all or the winning candidates may be declared void** if the court finds that a contention of malpractice is correct.
- ❖ The petitioner may also ask the **court to declare her** (in case the petition is filed by a candidate) **or any other candidate as the winner or duly elected.**
- ❖ The verdict on an election petition, if found in favour of the petitioner, may result in a **fresh election** or the **court announcing a new winner.**

Content of Election Petition

- ❖ Full particulars of the **corrupt practice alleged** (i.e. under declaration of expenses) including as full a statement as possible of the names of the parties alleged and the date and place of the commission of each such practice
- ❖ It should be **signed by the petitioner.**
- ❖ The petition shall also be **accompanied by an affidavit** in the prescribed form in support of the allegation of such corrupt practice.

2.18 IN-EUNAVFOR EXERCISE

Recently, the first edition of **IN-EUNAVFOR Exercise** was commenced in Gulf of Aden.

IN-EUNAVFOR Exercise

- ❖ It is a **joint naval exercise** between **Indian Navy** and **European Union Naval Force (EUNAVFOR).**
- ❖ The participants of IN-EUNAVFOR Exercise are **Indian Naval Ship Trikand, Italian Navy Ship ITS Carabinere, Spanish Navy Ship ESPS Navarra, and two French Navy Ship FS Tonnerre and FS Surcouf.**
- ❖ It will see **high tempo-naval operations** at sea, including:
 - Advanced air defence and anti-submarine exercises;

- Cross deck helicopter operations;
 - Tactical manoeuvres, boarding operations and underway replenishment;
 - Search & Rescue Operations;
 - Man Overboard drills and other maritime security operations
- ❖ It will endeavour to **enhance and hone their war-fighting skills** and their ability as an integrated force to promote, peace, security and stability in the maritime domain.
 - ❖ It showcases **increased levels of synergy, coordination and inter-operability** between IN and EUNAVFOR.
 - ❖ It underscores the **shared values** as partner navies, in **ensuring freedom of seas** and commitment to an open, inclusive and a rules-based international order.

Previous meeting of Indian Navy and European Union Naval Force (EUNAVFOR)

- ❖ They converge on multiple issues including counter piracy operations and protection of vessels deployed under the charter of **World Food Programme (UN WFP)**.
- ❖ They have regular interaction through **SHADE (Shared Awareness and De-confliction)** meetings held annually at Bahrain.



INS Trikand

- ❖ It is a **Talwar-class frigate** of the Indian Navy.
- ❖ It was built by the **Yantar shipyard in Kaliningrad, Russia**.
- ❖ It uses **stealth technologies and a special hull design** to ensure a reduced radar cross section.

Gulf of Aden

- ❖ It is a **deep-water basin** that forms a natural sea link between the Red Sea and the Arabian Sea.
- ❖ It is situated between the **coasts of Arabia** and **the Horn of Africa**.
- ❖ It connects to the **Red Sea** in the West and the **Arabian Sea** in the East.
- ❖ The Gulf of Aden and Red Sea are connected through **Bab-al-Mandeb Strait**.
- ❖ It is majorly shared between 3 neighbouring nations i.e. **Djibouti to the East, Somalia to the South, and Yemen to the North**.

3.26 WORLD COMPETITIVENESS INDEX 2021

Recently, the **Institute for Management Development (IMD)** has released the **World Competitiveness Index 2021**.

Highlights of World Competitiveness Index 2021

- ❖ It is led by **Switzerland**, while **Sweden** has moved up to the second position (from sixth last year).
- ❖ **Denmark** has lost one place to rank third, the **Netherlands** has retained its fourth place and **Singapore** has slipped to the fifth place (from first in 2020).
- ❖ **Taiwan** reached the top-10 (8th) for the first time since the ranking began 33 years ago (moving up from 11th last year).
- ❖ The **UAE** and the **USA** remain in their same spots as last year (9th and 10th, respectively).
- ❖ The top-performing Asian economies are, in order, **Singapore (fifth), Hong Kong (seventh), Taiwan (eighth)** and **China (16th)**.
- ❖ The top-performing economies are characterised by **varying degrees of investment in**

innovation, diversified economic activities, and supportive public policy.

Performance of India under World Competitiveness Index 2021

- ❖ India has maintained **43rd rank** on an annual World Competitiveness Index.
- ❖ Among the BRICS nations, **India is ranked second** after **China (16)**, followed by **Russia (45th)**, **Brazil (57th)** and **South Africa (62th)**.
- ❖ India has maintained its position for the past three years but this year, it had **significant improvements in government efficiency**.
- ❖ India's improvements in the **government efficiency factor** are mostly due to:
 - Relatively stable public finances; and
 - Support and subsidies provided by the government to the private companies

World Competitiveness Index

- ❖ It ranks **64 economies** and assesses the extent to which a **country promotes the prosperity of its people** by measuring economic well-being.
- ❖ It measures the **prosperity and competitiveness** by examining four factors i.e. **economic performance, government efficiency, business efficiency, and infrastructure**.
- ❖ It is an **annual ranking** which was first published in 1989.
- ❖ It analyzes and ranks countries according to how they **manage their competencies** to achieve long-term value creation.

It is based on **334 competitiveness criteria** selected as a result of comprehensive research using economic literature, international, national and regional sources and feedback from the business community, government agencies and academics.

6.27 INDIAN CERTIFICATION OF MEDICAL DEVICES (ICMED) PLUS SCHEME

Recently, the **Quality Council of India (QCI)**, and the **Association of Indian Manufacturers of Medical Devices (AiMeD)** have added further features to the ICMED.

Indian Certification of Medical Devices (ICMED) Plus Scheme

- ❖ It had been launched for **Certification of Medical Devices** in 2016.
- ❖ It will undertake verification of the **quality, safety and efficacy** of medical devices.
- ❖ It has been designed to integrate the **Quality Management System components and product** related quality validation processes through witness testing of products.
- ❖ The **eligibility** under ICMED scheme:
 - Indian medical device manufactures/ exporters; and
 - Local authorized representatives of medical device manufactures/ distributors

Importance of Indian Certification of Medical Devices (ICMED) Plus Scheme

- ❖ It is the first scheme around the world in which **quality management systems along with product certification standards are integrated** with regulatory requirements.
- ❖ It will be an **end to end quality assurance scheme** for the medical devices sector in India.
- ❖ It provides the **much-needed institutional mechanism** for assuring the product quality and safety.
- ❖ It will go a long way in **assisting the procurement agencies to tackle the challenges** relating to the menace of counterfeit products and fake certification.
- ❖ It will also help in **eliminating the circulation and use of sub-standard medical products or devices** of doubtful origin that could prove to be serious health hazards.

Quality Council of India (QCI)

- ❖ It has been set up as a **non-profit autonomous society** registered under **Societies Registration Act XXI of 1860**.
- ❖ Its aim is to **establish an accreditation structure** in the country and spread the quality movement in India by undertaking a National Quality Campaign.
- ❖ The **key objectives** of QCI are:
 - To lead nationwide quality movement in the country through National Quality Campaign aimed at creating awareness amongst citizens, empowering them to demand quality in all spheres of activities
 - To develop apropos capacities at the level of Governments, Institutions and enterprises

for implementing & institutionalizing continuous quality improvement

- To develop, establish & operate National Accreditation programmes in accordance with the relevant international standards & guides for the conformity assessment bodies certifying products, personnel, management systems etc.
- To develop, establish and operate National Accreditation Programmes for various service sectors such as education, healthcare, environment protection, governance, social sectors, infrastructure sector, vocational training etc.
- To encourage development & application of third party assessment model for use in government, regulators, organizations and society

To promote quality competitiveness of India's enterprises especially MSMEs through adoption of and adherence to quality management standards and quality tools.

4.33 INLAND VESSEL BILL 2021

Recently, the Union Cabinet has given nod to the **Inland Vessels Bill, 2021**, which will replace the Inland Vessels Act, 1917.

Highlights of Inland Vessel Bill 2021

- ❖ The **certificate of registration** granted under the proposed law will be deemed to be valid in all States and Union Territories.
- ❖ It is a **unified law** for the entire country, instead of separate rules framed by the States.
- ❖ It provides for a **central data base** for recording the details of vessel, vessel registration, and crew on an electronic portal.
- ❖ It requires all **mechanically propelled vessels** to be mandatorily registered.
- ❖ It provides that all **non-mechanically propelled vessels will have to be enrolled** at district, taluk or panchayat or village level.
- ❖ The **inland waters**, for the purpose of inland navigation, include any:
 - Canal, river, lake or other navigable water inward of baseline or as may be declared by notification in the Official Gazette by the Central Government

- Tidal water limit, as may be declared by notification in the Official Gazette by the Central Government;
- National waterways declared by the Central Government; and
- Other waters as may be declared by notification in the Official Gazette by the Central Government

Significance of Inland Vessel Bill 2021

- ❖ Its objective is to **promote Inland Water Transport (IWT)** by replacing, the often-described as archaic, Inland Vessels Act 1917.
- ❖ It will regulate **safety, security and registration** of inland vessels.
- ❖ It will **streamline and regulate** inland vessels.
- ❖ It envisages bringing **uniformity in the application of the law** relating to inland waterways and navigation within the country.
- ❖ It aims to promote **economical and safe transportation** as well as trade through inland waters.
- ❖ It seeks to provide for the **safety of navigation, protection of life and cargo, and prevention of pollution** that may be caused by the use or navigation of inland vessels.

Inland Water Transport (IWT)

- ❖ It is an **economic, fuel-efficient, environment friendly** and employment oriented mode of transport.
- ❖ It is recognised all over the world for its **inherent advantage of being the cheapest mode of transport** for bulk haulage over long distance between places situated along the waterfront.
- ❖ Its **energy efficiency, low pollution and potential for employment generation** are universally accepted.

Inland Waterways Authority of India (IWAI)

- ❖ It a **statutory body** under **Ministry of Shipping** established in 1986.
- ❖ It is entrusted with the **responsibility of regulation and development of National**

Waterways in the country for shipping and navigation.

❖ The **important national waterways** in India are:

- Allahabad-Haldia stretch (1620 km) of the Ganga- Bhagirathi- Hooghly river system as **National Waterway No-1**;
- Sadiya-Dhubri stretch (891 km) of Brahmaputra River as **National Waterway No-2**;
- Kollam-Kottappuram stretch of West Coast Canal along with Champakara canal and Udyogmandal canal (205 km) as **National Waterway No-3**;
- Kakinada-Puducherry stretch of Canals and the Kaluvelly Tank, Bhadrachalam-Rajahmundry stretch of river Godavari and Wazirabad- Vijayawada stretch of river Krishna (1078 km) as **National Waterway-4**; and
- Talcher-Dhamra stretch of rivers, Geonkhali-Charbatia stretch of East Coast Canal, Charbatia-Dhamra stretch of Matai River and Mahanadi Delta rivers (588 km) as **National Waterway-5**.

5.11 ELECTION PETITION

Recently, the West Bengal Chief Minister has filed an **election petition** in the Calcutta High Court challenging the **Assembly election result** of Nandigram constituency.

• **Election Petition:**

- The **Election Commission's role ends with the declaration of results**, after that, an **election petition is the only legal remedy** available to a voter or a candidate who believes there has been malpractice in an election.
- Such a person **can challenge the result through an election petition submitted to the High Court** of the state in which the constituency is located.
- Such a petition **has to be filed within 45 days from the date of the poll results**; nothing is entertained by courts after that.
- Although the **Representative of the People Act (RP Act) of 1951** suggests that the High Court should try to conclude the trial within six months, it usually drags on for much longer, even years.

- **Grounds on which Election Petition be Filed (Section 100 of the RP Act):**
- On the day of the election, the **winning candidate was not qualified** to contest.
- The winning candidate, his poll agent or any other person with the consent of the **winning candidate has indulged in a corrupt practice.**
- Improper acceptance of the nomination of the winning candidate or **improper rejection** of a nomination.
- **Malpractice in the counting process**, which includes improper reception, refusal or rejection of any vote, or the reception of any vote which is void.
- **Non-compliance with the provisions of the Constitution or the RP Act** or any rules or orders made under the RP Act.
- **If Verdict is in favour of the Petitioner (Section 84 of the RP Act):**
- The petitioner may ask that the **results of all or the winning candidates may be declared void.**
- In addition to that, the **petitioner may also ask the court to declare her** (in case the petition is filed by a candidate) or any other candidate as the winner or duly elected.
- So the verdict on an election petition, if found in favour of the petitioner, **may result in a fresh election or the court announcing a new winner.**
- **History of Election Results Declared Void:**
- The most famous being the **Allahabad High Court verdict of 1975** which set aside **Indira Gandhi's election** from Rae Bareli constituency, four years earlier, on grounds of corrupt practice.

Provisions under RP Act 1951

- It **regulates the actual conduct** of elections and by-elections.
- It provides **administrative machinery** for conducting elections.
- It deals with the **registration of political parties.**
- **Section 123 of the RP Act** has a detailed list of what amounts to corrupt practice, including **bribery, use of force or coercion, appeal to vote or refrain from voting** on grounds of

religion, race, community, and language.

- It **specifies the qualifications and disqualifications** for membership of the Houses.
- It provides **provisions to curb corrupt practices** and other offences.
- It lays down the **procedure for settling doubts and disputes** arising out of elections.

3.27 EU'S GENERALISED SCHEME OF PREFERENCES

Recently, a resolution was adopted by the European Parliament, urging the **European Union (EU) Commission to consider the temporary withdrawal of the Generalised Scheme of Preferences Plus (GSP+) status given to Sri Lanka.**

- ❖ Sri Lanka regained the GSP +, or the EU's Generalised Scheme of Preferences in 2017.
- ❖ The EU is **Sri Lanka's second-largest trading partner after China and its second main export destination.**
- ❖ The Generalised Scheme of Preferences (GSP) is a **set of EU rules allowing exporters from developing countries to pay less or no duties on their exports** to the European Union.
- ❖ It **helps developing countries to alleviate poverty and create jobs** based on international values and principles, including labour and human rights.
- ❖ The EU's GSP is **widely recognised as the most progressive in terms of coverage and benefits.**

Types:

Standard GSP:

- ❖ For **low and lower-middle income countries.** This means a **partial or full removal of customs duties on two thirds of tariff lines.**
- ❖ **Developing countries** are automatically granted GSP if they are **classified as having an income level below "upper middle income" by the World Bank** and do not benefit from another arrangement (like a **Free Trade Agreement**) granting them preferential access to the EU market.
- ❖ **Beneficiaries:** Bangladesh, Cambodia and Myanmar.

GSP+:

- ❖ The **special incentive arrangement for sustainable development and good governance.**
- ❖ It slashes these same tariffs (that under standard GSP) to **0% for vulnerable low and lower-middle income countries** that implement international conventions related to **human rights, labour rights**, protection of the environment and good governance.
- ❖ **Beneficiaries:** Armenia, Bolivia, Cabo Verde, Kyrgyzstan, Mongolia, Pakistan, The Philippines and Sri Lanka.

EBA (Everything But Arms):

- ❖ The special arrangement **for least developed countries, providing them with duty-free, quota-free access for all products except arms and ammunition.**

Monitoring Beneficiaries:

- ❖ The EU **continuously monitors and reviews GSP+ beneficiary countries'** effective implementation of the **international conventions on human rights, labour rights, environmental protection, and good governance.**
- ❖ This monitoring includes exchanges of information, dialogue and visits and involves various stakeholders, including civil society.

generalised system of preferences

- ❖ **Generalized System of Preferences** is an umbrella that comprises the bulk of **preferential schemes granted by industrialized nations to developing countries.**
 - It involves reduced **Most Favored Nations (MFN)** Tariffs or duty-free entry of eligible products exported by beneficiary countries to the markets of donor countries.
 - The idea of granting developing countries preferential tariff rates in the markets of industrialized countries was originally presented at the first **United Nations Conference on Trade and Development (UNCTAD)** conference in **1964.**
 - The GSP was adopted at **UNCTAD** in New Delhi in 1968 and was instituted in 1971.

- There are currently **13 national GSP schemes notified to the UNCTAD secretariat.**

- ❖ **Countries which Grant Generalized System of Preferences:**

- Australia, Belarus, Canada, EU, Iceland, Japan, Kazakhstan, New Zealand, Norway, Russian Federation, Switzerland, Turkey and the United States of America.

- In **2019, US terminated India's designation as a beneficiary developing nation under its GSP trade programme.** This was done after determining that India has not assured the US that it will provide "equitable and reasonable access" to its markets.

- ❖ **Benefits:**

- **Improves Economic growth and development** in the developing world by helping beneficiary countries to increase and diversify their trade with the developed nations.

- **Provides Employment:** Moving GSP imports from the docks to consumers, farmers, and manufacturers supports tens of thousands of jobs in the developed nation.

- **Boosts Company Competitiveness:** It is boosted by the GSP as it reduces costs of imported inputs used by companies to manufacture goods.

- **Promotes Global Values:** It promotes **Global values by supporting beneficiary countries** in affording worker rights to their people, enforcing intellectual property rights, and supporting the rule of law.

UNCTAD

- ❖ It is a **permanent intergovernmental body** established by the United Nations General Assembly in 1964. It is headquartered at **Geneva in Switzerland.**

- ❖ It **supports developing countries to access the benefits of a globalized economy** more fairly and effectively.

- ❖ It has 194 member nations. **India is a member.**

- ❖ Some of the reports published by it are:

- **Trade and Development Report**

- **Investment Trends Monitor Report**

- **World Investment Report**
- The Least Developed Countries Report
- Information and Economy Report
- **Technology and Innovation Report**
- Commodities and Development Report

Most Favored Nations (MFN)

- As per the **World Trade Organisation's (WTO)** General Agreement on Tariffs and Trade MFN principle, each of the WTO member countries should "treat all the other members equally as 'most-favoured' trading partners."
- According to the WTO, though the term 'MFN' "suggests special treatment, it actually means nondiscrimination."

3.28 47th G7 Summit

Recently, the Indian Prime Minister addressed the **47th G7 Summit 2021** through video conferencing.

- ❖ Earlier, the Finance Ministers from the G7 nations reached a landmark accord setting a **Global Minimum Corporate Tax Rate (GMCTR)**.
- ❖ Apart from **India, Australia and South Korea** were also invited to participate in the proceedings of the summit as "**guest countries**".
- ❖ This year's summit was **hosted by the UK**. The last **G-7 summit was in France in 2019**, with last year's event in the US canceled due to the **pandemic**.

Group of Seven (G7)

- ❖ It is an **intergovernmental organisation** that was formed in **1975**.
- ❖ The bloc **meets annually** to discuss issues of **common interest like global economic governance, international security and energy policy**.
- ❖ The G7 countries are the **UK, Canada, France, Germany, Italy, Japan and the US**.
- **All the G7 countries and India are a part of G20.**

❖ The G7 **does not have a formal constitution or a fixed headquarters**. The decisions taken by leaders during annual summits are non-binding.

Build Back Better for the World Project:

❖ It is aimed squarely at **competing with China's trillion-dollar Belt and Road infrastructure initiative**, which has been widely **criticised for saddling small countries with unmanageable debt** but has **included even G7 member Italy** since launching in 2013.

❖ It will collectively catalyse hundreds of billions of infrastructure investment for low- and middle-income countries (in Asia and Africa) and offer a **values-driven, high-standard and transparent partnership with G7**.

Democracies 11:

❖ Signed off on a joint statement (Democracies 11) by G-7 and guest countries on “open societies” that **reaffirm and encourage the values of freedom of expression**, both online and offline, as a freedom that safeguards democracy and helps people live free from fear and oppression.

❖ The statement also refers to **politically motivated internet shutdowns** as one of the threats to freedom and democracy.

❖ While the statement is **directed at China and Russia, India has been under scrutiny over Internet curbs in Jammu and Kashmir** even as the Government is locked in a face-off over its **New IT rules 2021** with tech giants.

❖ Democracies 11 is facing **threats to freedom and democracy** from rising authoritarianism, electoral interference, corruption, economic coercion, manipulation of information, including disinformation, online harms and cyber attacks, politically motivated internet shutdowns, human rights violations and abuses, terrorism and violent extremism.

Carbis Bay Declaration:

❖ The G7 signed the **Carbis Bay Declaration**. It is aimed at **preventing future pandemics**.

❖ The G7 also **pledged over 1 billion coronavirus vaccine doses for poorer nations** with half of that coming from the United States and 100 million from Britain.

❖ 11 billion doses are needed to vaccinate at least 70% of the world's population by mid-2022.

❖ The doses would come both directly and through the international **COVAX program**.

Climate Change:

❖ Renewed a pledge to **raise their contributions to meet an overdue spending pledge of USD 100 billion a year** to help poorer countries cut carbon emissions.

❖ Promised to **halt and reverse biodiversity loss by 2030**.

❖ Pledged to reach **net zero carbon emissions by 2050**.

Against China:

❖ The G-7 statement which was **not signed by India** and other outreach countries **hit out at China on "human rights and fundamental freedoms"** in Xinjiang (Uyghur Muslims) and Hong Kong, and the unilateral attempts to change the status quo in the **South China Sea**.

❖ It also called for a transparent and timely **World Health Organization's Covid origins study in China**.

❖ India had also called for the same in a **statement during the World Health Assembly**.

India's Stand:

❖ India is a **natural ally for the G7** countries in **defending the shared values** from a host of threats stemming from authoritarianism, terrorism and violent extremism, disinformation and economic coercion.

❖ Expressed concerns that **open societies are particularly vulnerable to disinformation and cyber-attacks**.

❖ It sought the support of the grouping to **lift patent protections for Covid-19 vaccines**.

❖ Planet's atmosphere, biodiversity and oceans cannot be protected by countries acting in silos, and **called for collective action on climate change**.

❖ India is the only G-20 country on track to meet its Paris commitments.

❖ Developing countries need better access to climate finance, and **called for a holistic approach towards climate change** that covers mitigation, adaptation, technology transfer, climate financing, equity, climate justice and lifestyle change.

❖ Highlighted the **revolutionary impact of digital technologies** on social inclusion and empowerment in India through applications such as **Aadhaar, Direct Benefit Transfer (DBT) and JAM (Jan Dhan-Aadhaar- Mobile) trinity**.

8.13 'SOUTHERN OCEAN' AS THE WORLD'S FIFTH OCEAN

Recently, on the occasion of **World Ocean Day (8th June)**, the **National Geographic magazine** has recognised the '**Southern Ocean**' as the world's **fifth ocean**.

- The **International Hydrographic Organization** too had recognised '**Southern Ocean**' as a **distinct body** of water surrounding Antarctica in **1937** but had **repealed the same in 1953**.

- **Other four Oceans are:** Atlantic, Pacific, Indian, and Arctic Oceans. **International Hydrographic Organization**

- IHO is an **intergovernmental consultative and technical organization** that was **established in 1921** to **support the safety of navigation** and the **protection of the marine environment**.

- **India is also a member** of IHO.

- Most of the **waters that surround Antarctica out to 60 degrees south latitude, excluding the Drake Passage and Scotia Sea**, constitute the newly acknowledged Southern Ocean.

- The Southern Ocean is the **only ocean** 'to touch three other oceans (Pacific, Atlantic and Indian Ocean) and to completely embrace a continent rather than being embraced by them'.

- It is also defined by its **Antarctic Circumpolar Current** that was formed 34 million years ago. The current flows from **west to east** around Antarctica.

Antarctic Circumpolar Current:

- ACC is the **only current in the global ocean to close upon itself in a circumpolar**

loop.

- This trait makes the ACC the most important current in the **Earth's climate system** because it **links the Atlantic, Pacific and Indian Oceans** and is the **primary means of inter-basin exchange** of heat, carbon dioxide, chemicals, biology and other tracers.
- The ACC is **created by** the combined effects of **strong westerly winds** across the Southern Ocean, and the **big change in surface temperatures** between the Equator and the poles.
- Ocean density increases as water gets colder and as it gets more salty. The **warm, salty surface waters of the subtropics are much lighter than the cold, fresher waters close to Antarctica.**
- The depth of constant density levels slopes up towards Antarctica. The westerly winds make this slope steeper, and the ACC rides eastward along it, faster where the slope is steeper, and weaker where it's flatter.

Significance of Recognition:

- Step towards conservation of World's Oceans, focusing public awareness onto a region in particular needing a conservation spotlight.
- In addition to the rapid warming of the Southern Ocean due to global warming, industrial fishing on species like krill and Patagonian toothfish had been a concern for decades. It hoped to draw attention to these issues.

4.34 BEED MODEL OF PRADHAN MANTRI FASAL BIMA YOJANA

Recently, the Maharashtra Government asked the Prime Minister for state-wide implementation of the 'Beed model' of the crop insurance scheme Pradhan Mantri Fasal Bima Yojna (PMFBY). Beed is a **district of Maharashtra** located in the **drought-prone** Marathwada region.

- ❖ **80-110 Formula:** This model is also called 80-110 Formula.
- ❖ Under this plan, the **insurer's potential losses are restricted.**
- ❖ The insurance firm **does not have to entertain claims above 110% of the gross premium.** The **state government has to bear** the cost of compensation **above 110%** of the premium collected to insulate the insurer from losses (**bridge amount**).
- ❖ However, **if the compensation is less than the premium collected, the insurance**

company would keep 20% of the amount as handling charges and reimburse the rest to the state government (premium surplus).

Reason for Implementing this Model:

❖ Benefits to States:

- **Another Source of Fund:** In most years, the **claims-to-premium ratio is low**. In the Beed model, **the profit of the insurance company is expected to reduce** and the state government would access another source of funds.
- **Reduce the Burden of Financing PMFBY:** The reimbursed amount can **lead to lower budgetary provision for PMFBY by the state** for the following year, or **help in financing the paying the bridge amount in case of a year of crop loss**.

❖ Flaws in PMFBY:

- **Fiscally-stressed states** have over the years **dissented to footing the premium bill** for the PMFBY, resulting in **insurers not honouring the farmers' claims on time**.
- In 2020, **far-below-normal monsoon rainfalls** in central Maharashtra's Beed district **dissuaded insurers from covering farmers** in the district under the PMFBY for kharif 2020.

Challenges:

- ❖ Questions remain on **how the state government is going to raise the excess amount, and how the reimbursed amount would be administered**.
- ❖ For **farmers**, this model **does not seem to have any direct benefit**.

Pradhan Mantri Fasal Bima Yojana

- ❖ PMFBY was **launched in 2016**.
- ❖ It **provides a comprehensive insurance cover against failure of the crop** thus helping in **stabilising the income of the farmers**.
- ❖ **Scope:** All food & oilseed crops and annual commercial/horticultural crops for which past yield data is available.

❖ **Premium:** The prescribed premium is 2% to be paid by farmers for **all Kharif** crops and 1.5% for **all rabi** crops. In the case of annual commercial and **horticultural** crops, the **premium is 5%**.

❖ Premium cost **over and above the farmer share is equally subsidized by States and GoI.**

❖ However, **GoI shared 90% of the premium subsidy for North Eastern States** to promote the uptake in the region.

❖ **PMFBY 2.0 (PMFBY was revamped in the 2020 Kharif Season):**

❖ **Completely Voluntary:** Prior to 2020, the scheme was optional for farmers who did not have loans pending, but mandatory for loanee farmers. Since 2020, it has been optional for all farmers.

❖ **Limit to Central Subsidy:** The Cabinet decided to cap the Centre's premium subsidy under the scheme for premium rates up to **30% for unirrigated** areas/crops and **25% for irrigated** areas/crops.

❖ **More Flexibility to States:** The government has given the flexibility to states/UTs to implement PMFBY and given them the option to select any number of additional risk covers/features.

❖ **Investing in ICE Activities:** Insurance companies have to spend 0.5% of the total premium collected on **information, education and communication (IEC)** activities.

❖ **Use of Technology under PMFBY:**

Crop Insurance App:

❖ Provides for easy enrollment of farmers.

❖ Facilitate easier reporting of crop loss within 72 hours of occurrence of any event.

❖ **Latest Technological Tools:** To assess crop losses, satellite imagery, remote-sensing technology, **drones, artificial intelligence** and machine learning are used.

❖ **PMFBY Portal:** For integration of land records.

Performance of the Scheme:

❖ The Scheme **covers over 5.5 crore farmer applications** on average per year.

❖ **Aadhar seeding** (linking Aadhaar through Internet banking portals) has helped in speedy claim settlement directly into the farmer accounts.

❖ One notable example is mid-season adversity claims of nearly Rs. 30 crore in Rajasthan during Rabi 2019-20 **Locust attack**.

3.29 ATLANTIC CHARTER

Recently, the **US' President and UK's Prime Minister** signed a **new version of the 80-year old Atlantic Charter**.

Atlantic Charter (1941):

❖ The Atlantic Charter was a **joint declaration released by US President Franklin D. Roosevelt and British Prime Minister Winston Churchill** on 14th August, 1941 (during **World War II**) following a meeting of the two heads of government in Newfoundland.

➤ The Atlantic Charter was **subsequently incorporated** by reference in the Declaration of the **United Nations** in 1942.

➤ **World War II** was a conflict that **involved virtually every part of the world during the years 1939–45**.

➤ The principal belligerents were:

• **Axis powers:** Germany, Italy, and Japan.

• **Allies:** France, Great Britain, the United States, the Soviet Union, and, to a lesser extent, China.

❖ The Atlantic Charter **provided a broad statement of US and British war aims such as:**

➤ They desired **no territorial changes without the free assent of the peoples** concerned.

➤ They **respected every people's right** to choose its own form of government and wanted sovereign rights and self-government restored to those forcibly deprived of them.

➤ They would **try to promote equal access** for all states to trade and to raw materials.

- They hoped to **promote worldwide collaboration** so as to improve labour standards, economic progress, and social security.
- The destruction of “**Nazi tyranny,**” (**Germany**) they would look for a peace under which all nations could live safely within their boundaries, without fear or want.
- Under such a peace the **seas should be free.**
- Pending a general security through renunciation of **force, potential aggressors must be disarmed.**

New Atlantic Charter (2021):

- ❖ The new charter, a 604-word declaration, is an effort to **stake out a grand vision for global relationships in the 21st century,** just as the original was a declaration of a Western commitment to democracy and territorial integrity just months before the US entered World War II.
- ❖ It is a statement of principles, a promise that the UK and the US would meet the challenges of their age together. It calls for both countries to **adhere to the rules-based international order.**
- ❖ The new charter focuses on **climate change** and the **need to protect biodiversity.** With references to **emerging technologies, cyberspace** and **sustainable global development.**
- ❖ It calls on Western allies to **oppose interference through disinformation** or other **malign influences, including in elections.**
- It **ranks the threats to democratic nations** in a technological era.
- ❖ It vows that as long as there are nuclear weapons, **North Atlantic Treaty Organisation (NATO)** will remain a nuclear alliance.

Opportunity for India:

- ❖ The **old Atlantic Charter alienated Indian nationalism** from the West but the **new Charter and the rebooting of western institutions** should facilitate a productive phase of **India’s cooperation with the US** and its allies.
- In 1941, the UK insisted that **the principle of self-determination**

highlighted in the charter did not apply to India.

➤ However, the presence of **India and South Africa along with Australia and South Korea (as guests) at the G-7 summit 2021** is a recognition of the **urgent imperative to widen the basis of the West** in dealing with global challenges.

❖ The current **Anglo-American effort to institutionalise western consultations with India is a long overdue correction.**

Indian Prime Minister, who is remotely joining the discussions at the **G-7 summit (2021)**, has an opportunity to signal a commitment to both address perceptions about shrinking democratic freedoms within India and **offer substantive collaboration with the western democracies on global issues.**



4.35 INDIA'S ETHANOL ROADMAP

The central government has released an expert committee report on the **Roadmap for Ethanol Blending in India by 2025.**

❖ The roadmap proposes a **gradual rollout of ethanol-blended fuel** to achieve E10 fuel supply by April 2022 and phased rollout of E20 from April 2023 to April 2025.

❖ The **Ministry of Petroleum & Natural Gas (MoP&NG)** had instituted an Expert Group to study the issues such as pricing of ethanol, matching pace of the automobile industry to manufacture vehicles with new engines with the supply of ethanol, pricing of such vehicles, fuel efficiency of different engines etc.

❖ **Ethanol Blending:**

• **Ethanol** is one of the principal **biofuels**, which is naturally produced by the fermentation of sugars by yeasts or via petrochemical processes such as ethylene hydration.

❖ **Blending Target:**

• The Government of India has **advanced the target for 20% ethanol blending in petrol (also called E20) to 2025** from 2030.

• **Currently, 8.5% of ethanol is blended with petrol** in India.

Objectives of Ethanol Blending:

❖ **Energy Security:**

- Increased use of ethanol can help **reduce the oil import bill**. India's net import cost stands at USD 551 billion in 2020-21.
- The E20 program **can save the country USD 4 billion (Rs 30,000 crore) per annum**.

❖ **Incentives for Farmers:**

- The oil companies procure ethanol from farmers that **benefits the sugarcane farmers**.
- Further, the government plans to **encourage use of water-saving crops, such as maize**, to produce ethanol, and **production of ethanol from non-food feedstock**.

❖ **Impact on Emission:** Use of ethanol-blended petrol **decreases emissions such as carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NO_x)**.

- The **unregulated carbonyl emissions**, such as acetaldehyde emission were, **however, higher with E10 and E20** compared to normal petrol. However, these emissions were relatively lower.

Recommendations:

❖ **Notifying Ethanol Blending Roadmap:** MoP&NG should immediately notify the plan for pan-India availability of E10 fuel by April, 2022 and its continued availability thereafter until 2025 for older vehicles, and launch of E20 in the country in phases from April, 2023 onwards so as to make E20 available by April, 2025.

❖ **Augmenting Infrastructure for Oil Marketing Companies:** OMCs will need to prepare for the projected requirement of ethanol storage, handling, blending and dispensing infrastructure.

❖ **Expediting Regulatory Clearances:** Currently, ethanol production plants/distilleries fall under the "Red category" and require environmental clearance under the Air and Water Acts for new and expansion projects.

- ❖ This often takes a long time leading to delays.
- ❖ While several steps have been taken to expedite Environment Clearances (EC) under **the Environment Protection Act** there are few areas of concern which if addressed, will facilitate early setting up of ethanol distillation capacities in the country.
- ❖ **Incentivising Ethanol Blended Vehicle:** Globally, vehicles compliant with higher ethanol blends are provided with tax benefits.
- ❖ A similar approach may be followed so that the cost increase due to E20 compatible design may be absorbed to a certain extent, as is being done in some states for promoting **Electric Vehicles**.
- ❖ **Pricing of Ethanol Blended Gasoline:** For better acceptability of higher ethanol blends in the country, retail price of such fuels **should be lower than normal petrol** to compensate for the reduction in calorific value and incentivize switching to the blended fuel.
- ❖ Tax breaks on ethanol as a fuel may be considered by the government.

Initiatives Already Taken

- ❖ The **National Policy on Biofuels–2018**, provides an indicative target of 20% ethanol blending under the Ethanol Blended Petrol (EBP) Programme by 2030.
- ❖ The **Union Ministry of Road Transport and Highways** has **mandated stickers on vehicles mentioning their E20, E85 or E100 compatibility**.
 - This will pave the way for flex fuel vehicles.
 - Flex fuel engines can run any ratio of blended petrol from E20 to E100.
- ❖ **E100 pilot project:** It has been inaugurated in Pune.
 - TVS Apache two-wheelers are designed to run on E80 or pure ethanol (E100).
- ❖ **Pradhan Mantri JI-VAN Yojana, 2019:** The scheme aims to create an ecosystem for setting up commercial projects and boost Research and Development in the 2G Ethanol sector.
- ❖ **GOBAR (Galvanizing Organic Bio-Agro Resources) DHAN Scheme, 2018:** The scheme aims to positively impact village cleanliness and **generate wealth and energy** from cattle and organic waste.
 - It also aims at creating new rural livelihood opportunities and enhancing income for

farmers and other rural people.

❖ **Repurpose Used Cooking Oil (RUCO):** The Food Safety and Standards Authority of India (FSSAI) has launched this initiative that will enable collection and conversion of used cooking oil to biodiesel.

3.30 GLOBAL LIVEABILITY INDEX: EIU

Auckland (New Zealand) has topped the Economist Intelligence Unit's (EIU) Global Liveability Index of 140 cities around the world.

- **Global Liveability Index:**

- The index takes into account more than **30 qualitative and quantitative factors** spanning **five broad categories: stability (25%), healthcare (20%), culture and environment (25%), education (10%), and infrastructure (20%).**

- Due to the **pandemic**, the EIU added **new indicators** such as stress on health-care resources as well as restrictions around local sporting events, theatres, music concerts, restaurants and schools.

- Each factor in a city is **rated as** acceptable, tolerable, uncomfortable, undesirable or intolerable.

- **General Scenario:**

- Overall, the **Covid-19 pandemic caused liveability to decline** – as cities experienced lockdowns and significant strains on their healthcare system. This **led to an unprecedented level of change in the rankings**, with many of the cities that were previously ranked as the most liveable tumbling.

- **Austria's Vienna, number one in both 2018 and 2019**, has completely **dropped out of the top 10** after being heavily affected by Covid-19, and now **ranks 12**.

- **Auckland rose to the top** of the ranking **owing to its successful approach in containing the Covid-19 pandemic**, which allowed its society to remain open and the city to score strongly on a number of metrics including education, culture and environment.

- **Damascus remains the world's least liveable city**, as the effects of the civil war in Syria continue to take their toll.

- Most of the previous ten least liveable cities **remain in the bottom ten this year**, including **Dhaka (Bangladesh) and Karachi (Pakistan)** in the Asia-Pacific (APAC) region.
- However, there is a strong contingent of cities in the **APAC region at the top of the rankings**, with **Osaka, Adelaide, Tokyo and Wellington** rounding out the **top five**.
- Apart from cities in New Zealand, Australia and Japan, other cities in the Asia-Pacific region such as **Taipei (Taiwan) (33rd) and Singapore (34th)** have also performed well.
- **Top 3 Liveable Cities:**
- Auckland (New Zealand), Osaka (Japan), Adelaide (Australia).
- **Bottom 3 Liveable Cities:**
- Damascus (Syria), Lagos (Nigeria), Port Moresby (Papua New Guinea).

2.19 INDIA: FIFTH LARGEST RECIPIENT OF FDI IN 2020

Recently, the **World Investment Report (WIR) 2021** was released by the **UN Conference on Trade and Development (UNCTAD)**.

❖ The WIR focuses on trends in **foreign direct investment (FDI) worldwide**, at the regional and country levels and emerging measures to improve its contribution to development.

Highlights of World Investment Report 2021

- ❖ The global FDI flows have been **severely hit by the pandemic** and they **plunged by 35 per cent in 2020** to USD 1 trillion from USD 1.5 trillion the previous year.
- ❖ The pandemic boosted **demand for digital infrastructure and services** globally.
- It has led to **higher values of Greenfield FDI project announcements** targeting the ICT industry, rising by more than 22 per cent to USD 81 billion.
- ❖ The report said that the **FDI in South Asia rose by 20 per cent** to USD 71 billion, driven mainly by strong M&As in India.
- ❖ The **FDI outflows from South Asia fell 12 per cent** to USD 12 billion, driven by a drop in investment from India.
- India ranked **18 out of the world's top 20 economies for FDI outflows**, with 12

billion dollars of outflows recorded from the country in 2020 as compared to 13 billion dollars in 2019.

- ❖ The **FDI inflows to developing Asia grew by 4 per cent** to USD 535 billion in 2020, making it the only region to record growth and increasing Asia's share of global inflows to 54 per cent.
- ❖ The report added that **FDI inflows in Asia are expected to increase in 2021**, outperforming other developing regions with a projected growth of 5-10 per cent.

India's performance as FDI recipient

- ❖ India received **USD 64 billion in Foreign Direct Investment in 2020** making India the **fifth largest recipient** of inflows in the world.
- ❖ The report highlighted that the **FDI increased 27 per cent** to USD 64 billion in 2020 from USD 51 billion in 2019.
 - The increase in FDI was **pushed up by acquisitions** in the information and communication technology (ICT) industry.
- ❖ The major project announcements in the ICT industry included a **USD 2.8 billion investment by online retail giant Amazon** in ICT infrastructure in India.
- ❖ The investments from India are expected to stabilise in 2021, supported by the **country's resumption of free trade agreement (FTA) talks** with the European Union (EU) and its strong investment in Africa.

UNCTAD

- ❖ It is a **permanent intergovernmental body** established by the United Nations General Assembly in 1964.
- ❖ Its headquarters are located in **Geneva, Switzerland**.
- ❖ It is part of the **UN Secretariat**.
- ❖ It reports to the **UN General Assembly and United Nations Economic and Social Council**.
- ❖ Its primary objective is to **formulate policies relating to all aspects of development** including trade, aid, transport, finance and technology.

1.8 HOUSE PRICE INDEX (HPI)

Recently, the **Reserve Bank of India (RBI)** released its quarterly **house price index (HPI)** for quarter 4 of 2020-21.

Highlights

- ❖ It based on **transaction-level data received from housing registration authorities** in ten major cities i.e. Ahmedabad, Bengaluru, Chennai, Delhi, Jaipur, Kanpur, Kochi, Kolkata, Lucknow and Mumbai.
- ❖ It says that **all-India HPI increased** (year-on-year) by 2.7 per cent in Q4 of 2020-21 as against 3.9 per cent growth a year ago.
- ❖ HPI growth **showed large variation across major cities**, from an increase of 15.7 per cent (Bengaluru) to a contraction of (-) 3.6 per cent (Jaipur).
- ❖ The **all-India HPI growth rate moderated to 0.2 per cent** in the fourth quarter of 2020-21 on a sequential (quarter-on-quarter) basis.

House Price Index (HPI)

- ❖ It is **compiled quarterly** by the **Reserve Bank of India (RBI)** for ten major cities.
 - The cities are **Mumbai Delhi, Chennai, Kolkata, Bengaluru, Lucknow, Ahmedabad, Jaipur, Kanpur, and Kochi.**
- ❖ The average house price index **representing all-India house price movement** is also compiled based on these city indices.
- ❖ The indices are based on the **official data of property price transactions collected from registration authorities** of respective state governments.
- ❖ The HPI is a **weighted average Laspeyres index** based on the transaction price, where transactions are stratified into three categories i.e. small, medium and large houses and in different geographical wards/zones.
- ❖ The city-wise indices are averaged using the **population proportion to total** as the weight to obtain an all-India index.

6.28 NARCOTICS DRUGS & PSYCHOTROPIC SUBSTANCES ACT

Recently, the Tripura High Court has highlighted that an oversight in drafting the 2014 amendments to

the **Narcotics Drugs and Psychotropic Substances Act, 1985** had unintentionally rendered a key provision of the Act i.e. **Section 27A.**

Section 27A of NDPS Act

- ❖ It prescribes the **punishment for financing** illicit traffic and harbouring offenders.
- ❖ It says that whoever **indulges in financing, directly or indirectly**, any of the activities or harbours any person engaged in any of the aforementioned activities, shall be punishable with **rigorous imprisonment**.
- The **punishment shall not be less than ten years** but which may extend to twenty years and shall also be liable to fine which shall not be less than one lakh rupees but which may extend to two lakh rupees.
- ❖ It also provided that the court may, for reasons to be recorded in the judgment, **impose a fine exceeding two lakh rupees**.

Narcotics Drugs and Psychotropic Substances Act, 1985

- ❖ It is the **principal legislation** through which the state regulates the operations of narcotic drugs and psychotropic substances.
- ❖ It provides a **stringent framework for punishing offences related illicit traffic in narcotic drugs and psychotropic substances** through imprisonments and forfeiture of property.

Reasons for inoperability of Section 27A of NDPS Act

- ❖ The text of the provision says that **offences mentioned under Section 2(viia) sub-clauses i-v are punishable** through Section 27A.
- ❖ The Section 2 (viia) sub-clauses i-v, which is supposed to be the catalog of offences, **does not exist after the 2014 amendment**.
- If Section 27A penalises a **blank list or a non-existent provision**, it can be argued that it is **virtually inoperable**.
- ❖ The drafters **missed amending the enabling provision in Section 27A** to change Section 2(vii)a to Section 2(vii)b.

Key Highlights of 2014 Amendment to NDPS Act

- ❖ The amendment to NDPS Act was aimed at **allowing for better medical access to narcotic drugs**.
- ❖ The amendment essentially **removed state-barriers** in transporting, licensing drugs classified as **“essential narcotic drugs”**, and made it centralised.
- ❖ The amendment introduced a provision in **Section 2 that defines essential narcotic drugs**.
- ❖ It also provided a provision in **Section 9 allowing the manufacture, possession, transport, import inter-State, export inter-State, sale, purchase, consumption and use** of essential narcotic drugs.
- ❖ The amendment to add the **definition of essential narcotic drugs re-lettered the old Section 2(viii)a** that was the catalog of offences as Section 2(viii)b, and under the Section 2(viii)a, defined essential narcotic drugs.

Judicial viewpoint on Section 27A of NDPS Act

- ❖ The Law Ministry had argued that the **court must overlook the omission** and read the legislation as a whole.
- ❖ The criminal laws **cannot be amended retrospectively** because of the Article 20 of the Constitution of India.
- **Article 20(1)** says that no person shall be convicted of any offence except for violation of the law in force at the time of the commission of the act charged as an offence, nor be subjected to a penalty greater than that which might have been inflicted under the law in force at the time of the commission of the offence.

5.12 DELIMITATION IN JAMMU AND KASHMIR

Recently, the Union government's invitation to 14 key political leaders from **Jammu and Kashmir** has led to speculation about possible scheduling of the Assembly elections.

- ❖ In 2020, the Prime Minister Shri Narendra Modi had said elections would be held in J&K after the **delimitation process in the Union Territory** was over.

Delimitation of Constituencies

- ❖ It is the act of **redrawing boundaries of Lok Sabha and Assembly constituencies** to

represent changes in population and is done on the basis of the preceding Census.

- ❖ The delimitation in 2002, in which **only boundaries of constituencies were readjusted**, was completed in all states, except Arunachal Pradesh, Assam, Manipur and Nagaland.
- ❖ The objective is to **provide equal representation for equal population segments**, and a fair division of geographical areas, so that no political party has an advantage.
- ❖ The Delimitation Commission's orders **cannot be questioned** before any court.
- ❖ There was **no delimitation** after the 1981 and 1991 Censuses.
- The reason was that there was a **fallout of the provision that the ratio between the number of Lok Sabha seats in a state and the population of the state** is same for all states.
- ❖ The objective is to **redraw boundaries** (based on the data of the last Census) in a way so that the **population of all seats be the same throughout the State**.

Delimitation of Jammu & Kashmir

- ❖ The delimitation exercises in J&K in the past have been **slightly different from those in the rest of the country** because of the region's special status.
- ❖ The delimitation of Lok Sabha seats in J&K was **governed by the Constitution of India**.
- The delimitation of the state's Assembly seats was governed by the **Jammu and Kashmir Constitution and Jammu and Kashmir Representation of the People Act, 1957**.
- ❖ The **assembly seats in J&K were delimited** in 1963, 1973 and 1995.
- ❖ The last exercise was conducted by the Justice (retired) **K. K. Gupta Commission** when the state was under President's Rule and was based on the 1981 census.
- ❖ There was **no census in the state in 1991 and no Delimitation Commission was set up** by the state government after the 2001 census as the J&K Assembly passed a law putting a freeze on the fresh delimitation of seats until 2026.

6.29 Nipah Virus (NiV)

Recently, a cross-sectional survey by **ICMR- National Institute of Virology** has picked up samples with the **presence of antibodies against the Nipah virus** in some bat species from a cave in Mahabaleshwar.

- ❖ India has experienced **four episodes of NiV outbreaks** with CFR ranging from 65% to 100%.
- ❖ The **first evidence of NiV infection** was reported in **Siliguri district, West Bengal** in 2001, followed by **Nadia district in West Bengal** in 2007.
- The presence of NiV antibodies were detected in **Mynaguri and Dubri district of Assam** and **Cooch Behar of West Bengal**.
- ❖ A third outbreak occurred in **Kozhikode district of Kerala state in 2018** with 18 case fatalities, followed by **another outbreak** in the same state in 2019.

Highlights

- ❖ The new study focussed on **detection of possible Nipah virus infection** in *Rousettus leschenaultii* and *Pipistrellus pipistrellus* bats in Maharashtra.
- ❖ **Blood, throat and rectal swab samples** were collected onsite from anaesthetised bats and the **throat and rectal swab specimens** were collected from all the bats.
- ❖ The **RNA was extracted from samples** and **Anti-NiV IgG antibodies** were detected in a number of the samples.
- ❖ The **cross-sectional survey** was initiated to study the prevalence of NiV in bats of India by random sampling of *P. medius*, *R. leschenaultii* and *P. pipistrellus* bats that have wide prevalence in India.
- ❖ The **exposure of R. leschenaultii bats to NiV warrants** further investigation as roosting and breeding habitats of the *Rousettus* and *Pteropus* vary greatly.
- ❖ The **NiV detection in P. pipistrellus bats**, an insectivorous species, and their role in virus spill-over to humans appears remote.

Nipah Virus

- ❖ The **Pteropus medius bats**, which are **large fruit-eating bats**, are the incriminated **reservoir for NiV** in India.
- ❖ It is a **zoonotic virus** which implies that it can spread between animals and people.
- ❖ The NiV is a member of the family **Paramyxoviridae, genus Henipavirus**.
- ❖ It is on the **top-10 priority list pathogens** identified by the World Health Organization.

- ❖ The infection with NiV is associated with **encephalitis (swelling of the brain)** and can cause mild to severe illness and even death.
- ❖ It was **first discovered in 1999** following an outbreak of disease in pigs and people in **Malaysia and Singapore**.

Transmission of Nipah Virus

- ❖ The Nipah virus (NiV) can spread to people from:
 - **Direct contact** with infected animals, such as bats or pigs, or their body fluids (such as blood, urine or saliva);
 - **Consuming food products** that have been contaminated by body fluids of infected animals (such as palm sap or fruit contaminated by an infected bat); and
 - **Close contact with a person infected with NiV** or their body fluids (including nasal or respiratory droplets, urine, or blood)
- ❖ The **person-to-person spread of NiV is regularly reported in Bangladesh and India** which is most commonly seen in the families and caregivers of NiV-infected patients, and in healthcare settings.

Diagnosis of Nipah Virus

- ❖ The laboratory testing can be conducted using **real time polymerase chain reaction (RT-PCR)** from throat and nasal swabs, cerebrospinal fluid, urine, and blood.
- ❖ The testing for antibodies is conducted using an **enzyme-linked immunosorbent assay (ELISA)**.

8.14 BLACK SOFTSHELL TURTLE

Recently, the Assam forest department and NGOs have been prompted to adopt a vision document to **raise at least 1,000 black softshell turtles** by 2030.

Black Softshell Turtle

- ❖ It is a **rare freshwater turtle** with **Nilssonina nigricans** as its scientific name.
- ❖ It is native to **Bangladesh and India**.

- ❖ It is listed as **Critically Endangered** under the IUCN Red List of Threatened Species.
- ❖ A few small remnant populations have been discovered inhabiting the **Brahmaputra River basin** of Northeast India.
- ❖ The majority of this species' population resides amongst **sacred temple ponds** in its two native countries.
 - In India, the population at the **Nagsankar Temple** is considered the country's largest.
- ❖ It **does not enjoy legal protection** under the Indian Wildlife (Protection) Act, 1972.
- ❖ The **hunting for meat and illegal trade** are some of the reasons which pushed its population towards 'extinction in the wild' status.

7.12 NISHTHA CAPACITY BUILDING PROGRAMME FOR EMRS TEACHERS AND PRINCIPALS

Recently, the **Ministry of Tribal Affairs** and NCERT came together on a joint mission for **NISHTHA Capacity Building Programme** for EMRS Teachers and Principals.

Highlights

- ❖ The capacity building program is aimed to **build competencies among teachers and school principals** and Improving Quality of School Education through Integrated Teacher Training.
- ❖ The participants were **capacitated on 18 holistic and comprehensive modules** covering different aspects of education.
- ❖ The Ministry is devising a plan to **build a pool of Key Resource Persons** from amongst all the batches of NISHTHA programs to be conducted in the coming months.
- ❖ The "**Unbox Tinkering – ATL Teacher Training Program**" was also organized in coordination with Atal Innovation Mission, NITI Aayog, IBM and Learning Links foundation.

NISHTHA Programme

- ❖ It is a **National Initiative for School Heads' and Teachers' Holistic Advancement**.
- ❖ It was launched by the **Department of School Education and Literacy**.
- ❖ It is a National Mission which aims to **improve learning outcomes at the elementary**

level through an Integrated Teacher Training Programme.

- ❖ It is developed under the **Centrally Sponsored Scheme of Samagra Shiksha** in 2019-20.
- ❖ It aims to **build competencies among all the teachers and school principals** at the elementary stage.
- ❖ Its basic objective is to **motivate and equip teachers** to encourage and foster critical thinking in students.

Eklavya Model Residential Schools (EMRSs)

- ❖ It was **started in 1997** to impart **quality education to ST children** in remote areas.
- ❖ It will enable ST children to **avail of opportunities in high and professional educational courses** and get employment in various sectors.
- ❖ Each school has a **capacity of 480 students**, catering to students from **Class VI to XII**.
- ❖ The grants were given for construction of schools and recurring expenses to the State Governments under Grants under **Article 275 (1) of the Constitution**.
- ❖ By 2022, every block with **more than 50% ST population** and **at least 20,000 tribal persons**, will have an EMRS.
- ❖ It will be on par with **Navodaya Vidyalaya** and will have **special facilities for preserving local art and culture** besides providing training in sports and skill development.

National Council of Educational Research and Training (NCERT)

- ❖ It is an **autonomous organisation** set up in 1961 by the Government of India.
- ❖ It aims to **assist and advise the Central and State Governments** on policies and programmes for qualitative improvement in school education.
- ❖ The **major objectives** of NCERT and its constituent units are to:
 - Undertake, promote and coordinate research in areas related to school education;
 - Prepare and publish model textbooks, supplementary material, newsletters, journals and develops educational kits, multimedia digital materials, etc.;
 - Organise pre-service and in-service training of teachers; develop and disseminate

innovative educational techniques and practices;

- Collaborate and network with state educational departments, universities, NGOs and other educational institutions;
- Act as a clearing house for ideas and information in matters related to school education; and
- Act as a nodal agency for achieving the goals of Universalization of Elementary Education.

4.36 AMENDMENTS THE CONSUMER PROTECTION (E-COMMERCE) RULES, 2020.

Recently, the Department of Consumer Affairs, Government of India has sought comments /suggestions on proposed amendments the **Consumer Protection (E-Commerce) Rules, 2020**.

Need for changes in E-commerce rules

- ❖ It is required to **curb e-commerce entities' dominant position** in the market.
- ❖ There was **increased incidence of the ban on misleading users** by manipulating search results.
- ❖ The government also seeks to ban **'flash sales' on e-commerce platforms** if such sales are organised by fraudulently intercepting the ordinary course of business using technological means.
- ❖ It is required to **purify e-commerce landscape** of the country which has been greatly vitiated by various e-commerce global companies.

Proposed amendments to Consumer Protection (E-commerce) Rules, 2020

- ❖ It proposed that every **e-commerce entity which intends to operate in India** must register itself with the Department for Promotion of Industry and Internal Trade (DPIIT).
- ❖ The new draft proposed the **appointment of chief compliance officer** and resident grievance officer.
- ❖ The e-commerce entities are also **required to provide information not later than 72 hours** of the receipt of an order from a government agency for prevention, detection and investigation and prosecution of offences under any law.

- ❖ The government has proposed a **ban on 'mis-selling' of goods and services** offered on such platforms.
- ❖ The proposed amendment defines '**flash sale**' as that organised by an **e-commerce entity at significantly reduced prices**, high discounts or any other such promotional offers for a predetermined period of time.
- ❖ The e-commerce entities should ensure that such **registration number and invoice of orders are displayed** prominently to their users in a clear and accessible manner on their platform.
- ❖ The E-commerce entities **offering imported goods/services** will also have to mention the name and details of the importers and the country of origin.

Present position of e-commerce entities in India

- ❖ The e-commerce entities are registered under the **Companies Act, Indian Partnership Act or Limited Liability Partnership Act** and not separately with DPIIT.
- ❖ An e-commerce entity means **any person who owns, operates or manages digital or electronic facility or platform for electronic commerce**, but does not include a seller offering his goods or services for sale on a marketplace e-commerce entity.

5.13 WHO M-Yoga App

Recently, the Prime Minister of India had launched the '**WHO M-Yoga**' App on the occasion of **7th International Day of Yoga**.

The **Ministry of AYUSH** and the **World Health Organization (WHO)** had jointly undertaken a project in 2019, focusing on mobile-Yoga.

- It envisaged the concept of the '**Be Healthy, Be Mobile**' (BHBM) under the United Nations Sustainable Development Goals to achieve Universal Health Coverage by 2030.
- The Be Healthy, Be Mobile (BHBM) initiative is a **global partnership led by WHO**.
- It supports the scale up of **mobile health (m-Health) technology** within the scope of the National Health system to **combat non-communicable diseases (NCDs)**.

WHO M-Yoga App

- It is a work of collaboration between the **World Health Organisation (WHO)** and **Ministry of AYUSH**.
- It can be used as a daily yoga companion for **people aged 12-65 years**.
- It is available in **French, English** and **Hindi**.
- It provides **10, 20 and 45 minutes of audio and video clips** for learning and practising different asanas.
- The mYoga app is mainly **divided into two sections** i.e. a learning tab and a practice tab.
- The **learning tab** is meant for those users who are completely new to Yoga.
- It features a **sequential set of videos** that help watchers learn the various yoga asanas with proper technique.
- The **practice session** is aimed at users who have learned the asanas and are practising.

Significance of WHO M-Yoga App

- It will provide many **videos of Yoga training and practice** based on common Yoga protocol in many languages.
- It will help in **spreading Yoga world over** and will contribute to the efforts of '**One World, One Health**'.
- The **m-Yoga project** focused on four areas:
 - Common Yoga Protocol for General Wellness;
 - Yoga for mental health and resilience;
 - Yoga for Adolescents; and
 - Yoga for pre – Diabetics

International Yoga Day

- The idea of an International Yoga Day was **proposed by Prime Minister Narendra Modi in 2014** in the United Nations General Assembly Meeting.
- In 2014, the United Nations proclaimed **21 June as the International Day of Yoga** by

resolution 69/131.

- It aims to **raise awareness worldwide** of the many benefits of practicing yoga.
- The theme for 2021 International Yoga Day is '**Yoga for well-being**'.

6.30 RAMGARH VISHDHARI WILDLIFE SANCTUARY

Recently, the **National Tiger Conservation Authority (NTCA)** has given the green signal to **Ramgarh Vishdhari Wildlife Sanctuary** as **52nd Tiger Reserve of India**.

Ramgarh Vishdhari Wildlife Sanctuary

- ❖ It is the **fourth tiger reserve of Rajasthan** after Ranthambore, Sariska and Mukundra tiger reserves.
- ❖ It is like a buffer for the **Ranthambore National Park**.
- ❖ It is located almost 45 kilometers on **Bundi-Nainwa Road** and covers an area of 252 square kilometers.
- ❖ It is home to **wild predators** like hyena, tigers, panthers, antelopes and wild boars.
- ❖ It was **notified as a sanctuary** in 1982.
- ❖ It comprises of **hilly dry deciduous forests** on Vindhyan formations.
- ❖ It includes floral diversities like **Mango, Dhok, Khair and Salar**.

4.37 IMD TO STRENGTHEN RADAR NETWORK OVER MAHARASHTRA

Recently, the India Meteorological Department (IMD) will install **seven new Doppler radars** in Maharashtra, including Mumbai in 2021. The IMD use Doppler radars of varying frequencies i.e. **S-band, C-band and X-band**.

- ❖ The radars are commonly used by the IMD to **detect and track the movement of weather systems, cloud bands and gauge rainfall** over its coverage area of about 500 km.
- ❖ The **radars guide meteorologists**, particularly in times of extreme weather events like

cyclones and associated heavy rainfall.

- ❖ The forecasters can follow the **development of weather systems** as well as their varying intensities, and accordingly predict weather events and their impact.

Radars in India

- ❖ The **India's east coast** has radars operational at eight locations i.e. Kolkata, Paradip, Gopalpur, Vishakhapatnam, Machilipatanam, Sriharikota, Karaikal and Chennai.
- ❖ Along the **west coast**, there are radars at Thiruvananthapuram, Kochi, Goa and Mumbai.
- ❖ The **other radars are operating** from Srinagar, Patiala, Kufri, Delhi, Mukteshwar, Jaipur, Bhuj, Lucknow, Patna, Mohanbar, Agartala, Sohra, Bhopal, Hyderabad and Nagpur.

Doppler Weather Radar

- ❖ It is an instrument that **sends pulses of electromagnetic energy** into the atmosphere to find precipitation, determine its motion and intensity, and identify the precipitation type such as rain, snow or hail.
- ❖ The **electromagnetic pulse strikes an object such as a raindrop or a snowflake** and the wave reflects back to the radar with data that can be analyzed by meteorologists.
- ❖ The meteorologists can use this information to **determine specific areas where dangerous weather conditions** exist.
- ❖ Weather radar utilizes either a solid-state or tube transmitter to **send energy pulses (also known as radar beams)** into the air to detect precipitation.

X-Band Radar

- ❖ They have a **smaller wavelength** that makes them more **sensitive to lighter particles**.
- ❖ The X-band radar is used to **detect thunderstorms and lightning**.
- ❖ These radars are also **more susceptible to attenuation** as the smaller wavelength does not allow the radar beam to penetrate through heavy precipitation bands.
- ❖ The X-Band radar generally uses a **smaller antenna dish** and therefore is much less expensive than **C- and S-Band radars**.

C-Band Radar

- ❖ The C-Band radars are often **intended for short-range weather observation** but can be used in medium- to long-range precipitation analysis.
- ❖ The C-band guides at the time of **cyclone tracking**.
- ❖ The beam does attenuate much more than the **longer wavelength S-Band** and therefore does not recognize precipitation rates as accurately as the S-Band.
- ❖ They are generally **smaller and less expensive than S-Band weather radars**, but more expensive than the smaller X-Band radar.

S-Band Radar

Its longer wavelength **allows the beam to penetrate through several bands of precipitation**, expanding the range for analysis further than the C-Band radar.

6.31 DOWNGRADING STATUS OF GREAT BARRIER REEF

Recently, a UN committee has recommended that **Great Barrier Reef** should be added to a list of “**in danger**” World Heritage Sites.

Reasons for adding Great Barrier Reef to ‘in danger’ list

- ❖ In 2015, UNESCO noted the **outlook for the reef** was poor but kept the site’s status unchanged.
- ❖ It has **suffered three major coral bleaching events** due to severe marine heatwaves.
- ❖ It is a **warning to the international community** and all of humanity that the coral ecosystem is in danger.
- ❖ The environmental campaigners said the threat to the Great Barrier Reef’s heritage status highlight **Australia’s lack of action to curb the carbon emissions** which contribute to global warming.
- ❖ In December 2020, the International Union for Conservation of Nature (IUCN) has said that the **climate change had pushed the reef into critical condition**.

❖ The recommendation from UNESCO is **clear and unequivocal that the Australian government is not doing enough** to protect our greatest natural asset, especially on climate change.

Implication of downgrading status of Great Barrier Reef

❖ The move could potentially lead towards its **eventual removal as a World Heritage Site** as it is a **major tourist attraction** that supports thousands of jobs.

❖ The placement on the UN body's in-danger list is **not considered a sanction**.

World Heritage Sites under 'in danger' list

❖ The **Italian city of Venice**, which has been overrun with tourists, and the **waterfront of the English city of Liverpool**, which is undergoing a major redevelopment, are among the other listings in UNESCO's sights.

❖ The UNESCO has recommended that a **total of seven sites be added** to the endangered list.

• The two sites i.e. **Liverpool's waterfront and Selous game reserve in Tanzania**, where poachers have run amok, be stripped of their World Heritage status altogether.

Great Barrier Reef

❖ It is a site of remarkable variety and beauty on the **north-east coast of Australia**.

❖ It contains the **world's largest collection of coral reefs**, with 400 types of coral, 1,500 species of fish and 4,000 types of mollusc.

❖ It includes **extensive cross-shelf diversity, stretching from the low water mark** along the mainland coast up to 250 kilometres offshore.

❖ It is larger than the **Great Wall of China** and the only living thing on earth visible from space.

❖ The "bricks" in the **reef framework are formed by the calcareous remains** of the tiny creatures known as coral polyps and hydrocorals.

• The "**cement**" that binds these remains together is formed in large part by **coralline algae and bryozoans**.

6.32 WORLD'S FIRST GM RUBBER PLANT

Recently, the **world's first genetically modified (GM) rubber plant** was planted on the outskirts of **Guwahati, Assam**.

GM Rubber Plant

- ❖ GM Rubber is the **second genetically modified crop** to start field trial in India after Bt. Cotton.
- ❖ It is developed at the Kerala-based **Rubber Research Institute of India (RRII)**.
- ❖ It is first of its kind **developed exclusively for the northeast** and is expected to **thrive in the climatic conditions** of the region.
- ❖ It has additional copies of gene **MnSOD (manganese containing superoxide dismutase)** in it.

Significance of GM Rubber Plant

- ❖ It will resist **reduced moisture or drought, low and high temperatures** as well as high light intensity.
- ❖ The new crop is expected to **cut short the maturity period of rubber**, indicating chances for early yielding as well.
- ❖ There are **no plant species in India that can breed with natural rubber** and there is no risk of genes flowing from GM rubber into any native species.

Reasons for GM Rubber crop in Northeast India

- ❖ The growth of **young rubber remains suspended during the winter months** which are also characterised by progressive drying of the soil.
- ❖ The MnSOD gene has the **ability to protect plants from the adverse effects of severe environmental stresses** such as cold, drought, etc.
- ❖ **Natural rubber is a native of warm humid Amazon forests** and it is not naturally suited for the cold conditions in northeastern region of the country.

6.33 DELTA PLUS VARIANT

Recently, the Union Health Ministry had categorised the **Delta Plus variant of the novel**

coronavirus as a 'variant of concern' and directed states to take up immediate containment measures in clusters where the variant has been detected.

Delta Plus Variant

- ❖ It is the **gen-next of the Sars-2 coronavirus** i.e. a mutant of the Delta version.
- ❖ Delta Plus variant or **B.1.617.2.1 is closely related to the Delta variant** which is a major contributor to the second wave of Covid-19 in India.
- ❖ The Delta Plus variant has mutation in the **spike protein region of the RNA virus**, which potentially makes it more transmissible.
- ❖ It has the mutation called **K417N** which was first found in the Beta variant (South Africa).
- ❖ The **K417N mutation is within the receptor-binding domain of the spike protein**, and this change is noteworthy because this mutation is also found in the B.1.351 or Beta variant of concern.

Delta Variant

- ❖ It was **first detected** in samples isolated from Maharashtra in December 2020.
- ❖ It was named **B.1.617.2 or the second version of Sars-2 mutant B.1.617**.
- ❖ It was named Delta variant by the **World Health Organization (WHO)**.

Classification of coronavirus variants

- ❖ The **Public Health England (PHE)** says that if the variants of **SARS-CoV-2 are considered to have concerning epidemiological, immunological or pathogenic properties**, they are raised for formal investigation.
- ❖ The variants emerging from the B.1.617 lineage are designated as **Variants Under Investigation (VUI)** with a year, month, and number.
- ❖ The US Centers for Disease Control and Prevention (CDC) classifies variants into three categories **variant of interest (VOI), variant of concern (VOC) and variant of high consequence**.
- ❖ The CDC defines a VOI as a variant with:
 - Specific genetic markers that have been associated with changes to receptor binding;

- Reduced neutralization by antibodies generated against previous infection or vaccination; and
- Reduced efficacy of treatments, potential diagnostic impact, or predicted increase in transmissibility or disease severity.
- ❖ A **variant of concern (VOC)** is defined as a variant for which there is:
 - Evidence of an increase in transmissibility;
 - More severe disease (e.g. increased hospitalizations or deaths);
 - Significant reduction in neutralization by antibodies generated during previous infection or vaccination; and
 - Reduced effectiveness of treatments or vaccines, or diagnostic detection failures

4.38 REUTERS INSTITUTE DIGITAL NEWS REPORT 2021

Recently, the **Reuters Institute for the Study of Journalism (RISJ)** has released the findings of the online survey in the **Digital News Report 2021**.

- ❖ The 2021 report is based on an **online poll of 92,000 people in 46 media markets**, representing the views of more than half the world's population.
- ❖ **Television news has continued to perform strongly** in some countries, but **print newspapers have seen a further sharp decline** almost everywhere as lockdowns impacted physical distribution.
- ❖ Finland had the **highest levels of overall trust in news with 65 per cent**, while the US had the lowest levels of trust at 29 per cent.
- ❖ **India is ranked at 31** when it came to “trust in news” out of the 46 media markets surveyed by the Reuters Institute.
 - The Asian College of Journalism (ACJ) provided logistical support for surveying the Indian market.
- ❖ The study found out that:
 - **73 per cent** of the respondents in India use smartphones to access news;
 - **82 per cent** source news online, including from social media; and

- **63 per cent** acquiring information solely from social media platforms like WhatsApp and YouTube.

Digital News Report

- ❖ It is the most **comprehensive global analysis** of news consumption trends.
- ❖ Its **first edition** was launched in 2012.
- ❖ It reveals **new insights about digital news consumption** based on a representative survey of online news consumers.

4.39 RECUSAL BY JUDGES

Recently, the two Supreme Court judges have **recused themselves** from hearing cases relating to West Bengal.

- ❖ In another scenario, the Delhi High Court judge had **recused himself** from hearing a plea by digital media houses challenging the validity of the IT rules regulating intermediaries.

What is recusal by judges?

- ❖ It is a basic precept that **no one should be a Judge in his or her own case.**
- ❖ The courts must keep the **promise of dispensing fair and impartial justice**, and must decide controversies without bias.
- ❖ The practice of recusal is **when and how an individual justice should be excluded** from participating in a specific case, where he has some interest.
- ❖ Recusal is **removal of oneself as a Judge or policymaker** in a particular matter, especially because of a **conflict of interest.**

Reasons of Judges' Recusal

- ❖ A judge can withdraw from hearing a case when there is a **conflict of interest in order to prevent creating a perception** that she carried a bias while deciding the case.
- ❖ The conflict of interest can be in many ways such as from **holding shares in a company** that is a litigant to having a **prior or personal association with a party** involved in the case.
- ❖ The practice of recusal stems from the **cardinal principle of due process of law** that nobody

can be a judge in her own case.

- Any interest or conflict of interest would be a **ground to withdraw from a case** since a judge has a duty to act fair.

- ❖ The other instance for recusal is when an **appeal is filed in the Supreme Court against a judgement of a High Court** that may have been delivered by the SC judge when she was in the HC.

Process of recusal by judges

- ❖ The decision to **recuse generally comes from the judge herself** as it rests on the conscience and discretion of the judge to disclose any potential conflict of interest.

- ❖ There are instances when **lawyers or parties in the case bring it up** before the judge.

- If a judge recuses, the case is listed before the Chief Justice for **allotment to a fresh Bench**.

- ❖ There are **no formal rules governing recusals**, although several Supreme Court judgments have dealt with the issue.

Can a judge refuse to recuse?

- ❖ The decision to **recuse or not rests with the judge** once a request is made for recusal.

- ❖ It is often **left to individual judges to record reasons for recusal** since there are no formal rules governing the process of recusal.

3.31 TAX INSPECTORS WITHOUT BORDERS (TIWB) PROGRAMME

Recently, the Ministry of Finance has announced that **Tax Inspectors Without Borders (TIWB) programme** was launched in Bhutan.

Tax Inspectors Without Borders (TIWB)

- ❖ It is a joint initiative of the **United Nations Development Programme (UNDP)** and the **Organisation for Economic Cooperation and Development (OECD)**.

- ❖ It was launched at the **Third Financing for Development conference** in Addis Ababa in 2015.

- ❖ It was widely hailed as capable of **assisting developing countries mobilize much-needed**

domestic revenues in support of the post-2015 sustainable development agenda.

- ❖ It facilitates **targeted, tax audit assistance programmes** in developing countries across the globe.
- ❖ It is a strong response to the attention given to **effective and efficient mobilisation of domestic resources** in achieving the Sustainable Development Goals to **strengthen international tax co-operation**.
- ❖ The joint **OECD/UNDP TIWB Secretariat is based in Paris** and supported by UNDP's network of Country Offices in developing countries.

Highlights of TIWB in Bhutan

- ❖ It is expected to be of about **24 months' duration**.
- ❖ Under the programme, India in collaboration with the UNDP and the TIWB Secretariat aims to **aid Bhutan in strengthening its tax administration**.
- India will transfer the **technical know-how and skills to its tax auditors**, and through sharing of best audit practices.
- ❖ The focus of the programme will be in the area of **International Taxation and Transfer Pricing**.

Organisation for Economic Co-operation and Development (OECD)

- ❖ It is an **international organization** that promotes policy coordination and economic freedom among developed nations.
- ❖ It was derived from the **Organization for European Economic Cooperation (OEEC)** that was established in 1948 to monitor American and Canadian contributions under the Marshall Plan.
- ❖ It was **formed in 1961** with its headquarters in **Paris (France)**.
- ❖ It included members from democratic states such as the **United States**, countries in **Western Europe, Japan, Canada, Australia, and New Zealand**.
- ❖ The OECD's main focus is to **help governments around the world** achieve the following:
 - Improve confidence in markets and the institutions that help them function.
 - Obtain healthy public finances to achieve future sustainable economic growth.

- Achieve growth through innovation, environmentally friendly strategies, and the sustainability of developing economies.

Provide resources for people to develop the skills they need to be productive.

3.32 BRICS GREEN HYDROGEN SUMMIT

Recently, India had organised a two-day summit on **green hydrogen involving BRICS nations** on their initiatives around the green fuel.

- ❖ The **US-India hydrogen taskforce** was launched under the aegis of **US-India Strategic Clean Energy Partnership**.
- ❖ India is planning to extend the **production linked incentive (PLI) scheme for manufacturing electrolyzers**, which are used for producing green hydrogen.
- ❖ India has launched an ambitious **National Hydrogen Mission** to introduce hydrogen purchase obligations for fertilizers, refineries involving private sector in transparent & competitive manner to produce green hydrogen.

Highlights of BRICS Green Hydrogen Summit

- ❖ India has pitched for **common international standards for green hydrogen** to ensure safe transportation and storage of the new age emission-free fuel.
- ❖ The summit highlights that the **government and industry must work together** to ensure existing regulations are not an unnecessary barrier to investment.
- ❖ The trade will benefit from common international standards for the safety of transporting and **storing large volumes of hydrogen** and having **appropriate certificate of origin**.
- ❖ India stressed that leveraging its landmass and green energy sources for **exporting green hydrogen** is one of the steps for achieving energy sufficiency.

Green Hydrogen

- ❖ It is produced by **splitting water into hydrogen and oxygen using an electrolyzer** that may be powered by electricity generated from renewable energy sources.
- ❖ It is **distinct from grey hydrogen**, which is produced from methane and releases greenhouse

gases into the atmosphere.

- ❖ Green Chemicals like **ammonia and methanol can directly be utilised** in existing applications like fertilisers, mobility, power, chemicals, shipping among others.
- ❖ Green Hydrogen **blending up to 10 per cent may be adopted in City Gas Distribution (CGD) networks** to gain widespread acceptance.

Significance of Green Hydrogen

- ❖ The transition to a hydrogen economy will **reduce its import dependency** on hydrocarbon fuels.
- ❖ It will provide **clean air to its citizens, reduce GHG (greenhouse gases) emissions** in absolute terms and fulfil the country's 'Atmanirbhar Bharat' vision.
- ❖ **100 % sustainable:** The green hydrogen does not emit polluting gases either during combustion or during production.
- ❖ **Storable:** It is easy to store, which allows it to be used subsequently for other purposes and at times other than immediately after its production.
- ❖ **Versatile:** It can be transformed into electricity or synthetic gas and used for domestic, commercial, industrial or mobility purposes.
- ❖ **Transportable:** it can be mixed with natural gas at ratios of up to 20 % and travel through the same gas pipes and infrastructure and increasing this percentage would require changing different elements in the existing gas networks to make them compatible.

Concerns associated with Green Hydrogen

- ❖ **High cost:** The energy from renewable sources, which are key to generating green hydrogen through electrolysis, is more expensive to generate, which in turn makes hydrogen more expensive to obtain.
- ❖ **High energy consumption:** The production of hydrogen in general and green hydrogen in particular requires more energy than other fuels.
- ❖ **Safety issues:** The hydrogen is a highly volatile and flammable element and extensive safety measures are therefore required to prevent leakage and explosions.

3.33 RANKED CHOICE VOTING

Recently, the **ranked choice voting** had made its debut in New York City's mayoral primary in one of the most high-profile tests yet for a system gaining use in pockets across the US.

Ranked Choice Voting

❖ Under this system, the **voters get to rank several in order of preference** rather than pick just one candidate.

• In New York City's version, **voters get to rank up to five candidates**, from first to last, on their ballot.

❖ It provides that if **one candidate is the first choice of a majority of voters** i.e. more than 50%, that person wins the race outright.

❖ Under Ranked Choice Voting system, the **vote tabulation is done in rounds** in which the candidate in last place is eliminated in each round.

Working of Ranked Choice Voting

❖ Voters rank the **candidates for a given office by preference** on their ballots.

❖ If a candidate wins an **outright majority of first-preference votes** (i.e., 50 percent plus one), he or she will be declared the winner.

❖ If no candidates win an outright majority of first-preference votes, the **candidate with the fewest first-preference votes is eliminated**.

❖ **All first-preference votes for the failed candidate are eliminated**, lifting the second-preference choices indicated on those ballots.

❖ A **new tally is conducted to determine** whether any candidate has won an outright majority of the adjusted voters.

❖ The process is **repeated until a candidate wins** a majority of votes cast.

Argument in favour of Ranked Choice Voting

❖ It is based on a simple premise that **democracy works better if people aren't forced to make an all-or-nothing choice** with their vote.

- ❖ The primary benefit of the system is that **nobody “wastes” their vote** by picking an unpopular candidate as their first choice.
- ❖ It implies that the **winner gets a majority of the vote** and it can drastically reduce the possibility of spoilers.
- ❖ More moderate candidates. It's less likely that **extreme candidates who have a strong base of support** but aren't liked more broadly could **get through in a crowded primary**.

Arguments against Ranked Choice Voting

- ❖ The system is **more complex** than a traditional election which makes it **tough to forecast a winner**.
- ❖ The system could take **longer than usual** to get results.
- ❖ The system is **tough to grasp** because it requires voters to do a lot more research which also makes races less predictable.
- ❖ The process of **redistributing votes is done by computer** and the outside groups will have a harder time evaluating whether the software sorted the ranked votes accurately.

6.34 EBOLA VIRUS DISEASE (EVD)

Recently, the Guinean authorities have announced the end of the country's **Ebola epidemic** after a 42-day countdown during which no new cases were recorded.

Ebola virus disease (EVD)

- ❖ It was formerly known as **Ebola haemorrhagic fever**.
- ❖ It is a rare but severe, often **fatal illness** in humans.
- ❖ The virus family **Filoviridae** is responsible for EVD which includes three genera: **Cuevavirus**, **Marburgvirus**, and **Ebolavirus**.

Transmission of Ebola virus disease (EVD)

- ❖ It is thought that **fruit bats of the Pteropodidae family** are natural Ebola virus hosts.
- ❖ It is **transmitted to people from wild animals** and spreads in the human population

through **human-to-human transmission**.

❖ It is introduced into the human population through close contact with the **blood, secretions, organs or other bodily fluids** of infected animals.

❖ It spreads through **human-to-human transmission** via direct contact (through broken skin or mucous membranes) with:

- Blood or body fluids of a person who is sick with or has died from Ebola
- Objects that have been contaminated with body fluids (like blood, feces, vomit) from a person sick with Ebola or the body of a person who died from Ebola

Treatment of Ebola virus disease (EVD)

❖ The two **monoclonal antibodies (Inmazeb and Ebanga)** were approved for the treatment of Zaire ebolavirus (Ebolavirus) infection in adults and children by the US Food and Drug Administration.

❖ The **Ervebo vaccine** has been shown to be effective in protecting people from the species Zaire ebolavirus, and is recommended by the Strategic Advisory Group of Experts on Immunization.

Prevention and control of Ebola virus disease (EVD)

❖ **Reducing the risk of wildlife-to-human transmission** from contact with infected fruit bats, monkeys, apes, forest antelope or porcupines and the consumption of their raw meat;

❖ **Reducing the risk of human-to-human transmission** from direct or close contact with people with Ebola symptoms;

❖ **Outbreak containment measures:** It includes safe and dignified burial of the dead, identifying people who may have been in contact with someone infected with Ebola and monitoring their health for 21 days;

❖ **Reducing the risk of possible sexual transmission:** The WHO recommends that male survivors of EVD practice safer sex and hygiene for 12 months from onset of symptoms or until their semen tests negative twice for Ebola virus; and

❖ Reducing the risk of **transmission from pregnancy** related fluids and tissue

1.9 REFORM-LINKED BORROWING: NEW MODEL OF PUBLIC FINANCE

Recently, the Prime Minister Narendra Modi had said that the **new model of public finance**, where

states were allowed to exceed their **annual borrowing limits in 2020-21** only if they undertook certain pre-specified reforms.

Highlights

❖ The Central government had linked permission for **additional borrowing of 1 per cent of their GSDP** (Gross State Domestic Product) to implementation of four critical reforms.

- One Nation One Ration Card System;
- Ease of doing business reform;
- Urban Local body/ utility reforms; and
- Power Sector reforms

❖ The additional borrowing limit of Rs 37,600 crore has been given to states for implementing the '**One Nation One Ration Card**' system.

- It is aimed at providing **ease of delivery** of subsidised ration and free food

❖ The Rs 39,521 of borrowing has been allowed to 20 states that implemented **Ease of Doing Business reforms**.

- Its aim is to **facilitate better environment and seamless process** for entrepreneurs and companies to operate.

❖ **Eleven states** that have implemented **urban local body and utility reforms** have been given additional borrowing limits of Rs 15,957 crore.

❖ **17 states** received borrowing limit of Rs 13,201 crore in lieu of **power sector reforms**.

❖ The states that have implemented **all four reforms** are **Andhra Pradesh, Goa, Kerala, Madhya Pradesh, Punjab Rajasthan, Telangana and Tripura**.

- It provides them **extra cushion to borrow from the market** in order to tide over any shortfalls in revenues and to push capital expenditure (capex).

❖ The states implementing at least **three of these reforms** get **additional grants** from the Centre for Capex purpose.

❖ Under the reforms-linked borrowing window, the states were to get **access to funds of up to Rs 2.14 lakh crore** on completion of all the four reforms.

❖ The states that have implemented **three of these four reforms** include **Himachal Pradesh, Karnataka, Odisha, Tamil Nadu, Uttar Pradesh** and **Uttarakhand**.

• The net borrowing ceiling for states has been **fixed at 4 per cent of the projected GSDP** (about Rs 8.46 lakh crore), based on recommendations of the Fifteenth Finance Commission.

4.40 NATIONAL MARITIME HERITAGE COMPLEX IN GUJARAT

Recently, the Union Ministry of Ports, Shipping & Waterways has signed a Memorandum of Understanding with the Ministry of Culture to develop a **National Maritime Heritage Complex (NMHC)**.

National Maritime Heritage Complex

❖ It is located within the **Archeological Survey of India (ASI) site of Lothal** that is located 80 kms away from Ahmedabad in Gujarat.

❖ It will be dedicated to the **maritime heritage of India** and showcase India's rich as well as diverse maritime glory.

❖ It will be made an **international tourist destination in India** where people from across the countries can take a look at the maritime heritage of India from ancient to modern times.

❖ It will have many offerings including **National Maritime Heritage Museum, Heritage Theme Park, and Light House Museum**.

❖ It shall be funded by **Ministry of Shipping and Ministry of Culture** through National Culture Fund by way of grant.

Lothal

❖ It is one of the prominent cities of the **ancient Indus valley civilization** dating to 2400 BC, located in Gujarat

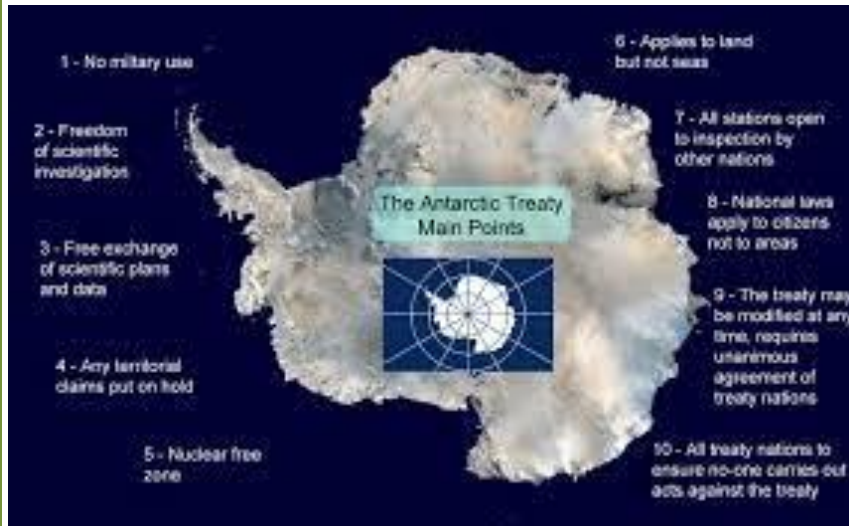
❖ It was first **discovered in 1954** and excavated from 1955-1960 by SR Rao of ASI.

❖ The name '**Lothal**' came from the local name of the place which was translated to '**Mound of the Dead**' in Gujarati.

❖ It is situated along the **Bhogava River** which is a tributary of the Sabarmati River.

❖ It is believed to be 3700 years old and is the only **major port-town** of the Indus Valley Civilization.

3.34 60-YEARS OF ANTARCTIC TREATY



Recently, the **Antarctic Treaty** has celebrated its **60th anniversary** on 23rd June 2021.

Antarctic Treaty

- ❖ It was **signed in Washington** on 1 December 1959 by the twelve countries.
- ❖ It **entered into force in 1961** and has since been acceded to by many other nations.
- ❖ The **important provisions** of the Antarctica Treaty are:
 - Antarctica shall be used for **peaceful purposes only**;
 - **Freedom of scientific investigation in Antarctica** and cooperation toward that end shall continue; and
 - Scientific observations and results from Antarctica shall be **exchanged and made freely available**
- ❖ The **three international agreements** under Antarctic Treaty System are:
 - Convention for the Conservation of Antarctic Seals (1972)

- Convention on the Conservation of Antarctic Marine Living Resources (1980)
- Protocol on Environmental Protection to the Antarctic Treaty (1991)

Members of the Antarctic Treaty

- ❖ There were only **13 original state parties**: Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, Poland, South Africa, the United States, the Union of Soviet Socialist Republics (Russia), and the United Kingdom.
- ❖ The **membership has now grown to 54** including powerful “new” Antarctic Treaty parties such as China, Germany and India.
- ❖ India became the **signatory of Antarctic Treaty** in 1983.

Claims made by signatories of Antarctic Treaty

- ❖ Among the signatories of the Treaty were seven countries i.e. **Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom**, with territorial claims.
- ❖ The **US and Russia** maintain a “**basis of claim**”.
- ❖ The treaty put a freeze on any **disputes between claimants** over their territories on the continent.
- ❖ The claimants agreed to **abide by the rules and obligations of the treaty**, which meant countries that don't recognise claims (such as China and Russia), are free to go about scientific research and peaceful activities.

5.14 CLASS ACTION SUIT IN INDIA

Recently, the **families of 71 people who were killed** after Cyclone Tauktae battered ONGC's barge vessels off Bombay High have received compensation up to Rs 2 lakh from ONGC.

- ❖ In the ONGC matter, there is little the families can do in terms of **personal injury suits, or class action suits**.

Class Action Suits

- ❖ It is a **legal action or claim** that allows one or many plaintiffs to file and appear for a group of people with similar interests.

- ❖ It derives from **representative litigation**, to ensure justice to the ordinary individual against a powerful adversary.
- ❖ The Class Action Suits were **formally incorporated into law in the United States in 1938** under the Federal Rules of Civil Procedure.

Class Action Suits in India

- ❖ The most actionable suit was the **Bhopal gas leak from the Union Carbide factory** in 1984.
- ❖ In India, the **central government filed a case on behalf of the persons** who had been injured as a result of the gas leak.
- ❖ In India, the legal provisions for filing class action suits are under **four laws**:
 - ✓ **Order 1 Rule 8 of the Civil Procedure Code** refers to representative suits, which is the closest to a classic class action suit in a civil context in India.
 - It does not cover criminal proceedings.
 - ✓ The **Section 245 of the Companies Act** allows members or depositors of a company to initiate proceedings against the directors of the company in specific instances.
 - There are threshold limits, requiring a minimum number of people or holders of issued share capital before such a suit can proceed.
 - It can be filed in the National Company Law Tribunal.
 - ✓ The **Competition Act under Section 53(N)** allows a group of aggrieved persons to appear at the National Company Law Appellate Tribunal in issues of anti-competitive practices.
 - ✓ The Supreme Court has held that in certain complaints under the **Consumer Protection Act**, they can be considered as class action suits.

Difference between Class Action Suit and PIL

The plaintiff **need not have a personal interest or claim** in the matter for filing public interest litigation (Article 32 or Article 226 of the Constitution).

- ❖ The PIL must **serve a matter of public interest**.
- ❖ Unlike a class action suit, a **PIL cannot be filed against a private party**.

Hurdles in promotion of Class Action Suits in India

- ❖ **Underdeveloped system of torts:** Tort law has not developed sufficiently in India for a number of reasons, primarily due to the high cost and time-consuming nature of litigation.
 - The litigants find it too expensive and complicated, and therefore do not pursue such cases.
- ❖ **Lack of contingency fees:** The rules of the Bar Council of India do not allow lawyers to charge contingency fees, i.e., a percentage of the damages claimants receive if they win a case.
 - It disincentivises lawyers from appearing in time-consuming cases that class action suits inevitably are.
- ❖ **Third-party financing mechanisms for litigants:** Since litigation costs are high, class action suits can be made easier by allowing external parties to fund or sponsor the cost of litigation.

6.35 TUBERCULOSIS (TB) MUKT BHARAT ABHIYAAN

Recently, the Union Minister of Health & Family Welfare chaired the **Tuberculosis (TB) MukT Bharat** meeting with various Development Partners of the Health Ministry.

Tuberculosis (TB) MukT Bharat Abhiyaan

- It was launched under the **National Strategic Plan for TB Elimination** in a mission mode for ending the **epidemic by 2025**.
- It is a multi-pronged approach which aims to **detect all TB patients with an emphasis on reaching TB patients seeking care** from private providers and undiagnosed TB in high-risk populations,

Need for TB Free India

- There is need to **develop an institutionalised mechanism** to share the best practices, experiences and ideas used in the fight against TB.
- The importance of **leadership and community involvement** can be roped in to create awareness against TB.
- It is necessary to **develop prototypes and clear strategies for 5 states** having high TB

caseload which are Uttar Pradesh, Madhya Pradesh, Meghalaya, Himachal Pradesh and Telangana.

- The **efforts to curb tuberculosis has not yielded successful results** yet and said state governments have a major role to play in the elimination of TB from the country.

National Strategic Plan for TB Elimination

- It is a **framework to guide the activities of all stakeholders** whose work is relevant to TB elimination in India.
- It provides **goals and strategies for the country's response** to the disease during the period 2017 to 2025.
- It aims to **direct the attention of all stakeholders on the most important interventions or activities** that the RNTCP believes will bring about significant changes in the incidence, prevalence and mortality of TB.
- It will guide the **development of the national project implementation plan (PIP) and state PIPs**, as well as district health action plans (DHAP) under the national health mission (NHM).
- **VISION:** TB-Free India with zero deaths, disease and poverty due to tuberculosis
- **GOAL:** To achieve a rapid decline in burden of TB, morbidity and mortality while working towards elimination of TB in India by 2025.

Tuberculosis

- It is a **contagious infection** that usually attacks your lungs.
- It can also **spread to other parts of body** such as brain and spine.
- It is caused by bacteria called **Mycobacterium tuberculosis**.
- It can spread from **person to person** through microscopic droplets released into the air.

4.41 SMART CITIES MISSION (SCM), AMRUT

Recently, the **Ministry of Housing and Urban Affairs (MoHUA)** had organized an online event to commemorate **6 years** of the launch of three transformative Urban Missions viz. **Smart Cities Mission (SCM), AMRUT and Pradhan Mantri Awas Yojana-Urban (PMAY-U)**.

Smart Cities Mission (SCM)

- ❖ It is operated as a **Centrally Sponsored Scheme**.
- ❖ It was **launched by Prime Minister Shri Narendra Modi** in 2015.
- ❖ It is a **transformational mission** aimed to bring about a **paradigm shift in the practice of urban development** in the country.
- ❖ Its objective is to **promote cities that provide core infrastructure, clean and sustainable environment** and give a decent quality of life to their citizens through the application of 'smart solutions'.
- ❖ It aims to **drive economic growth and improve quality of life** through comprehensive work on social, economic, physical and institutional pillars of the city.
- ❖ Its focus is on **sustainable and inclusive development by creation of replicable models** which act as lighthouses to other aspiring cities.

AMRUT

- ❖ The **Atal Mission for Rejuvenation & Urban Transformation (AMRUT)** was launched by Prime Minister Shri Narendra Modi in 2015.
- ❖ It aims to address the issues of **Water Supply, Sewerage and septage management, Storm Water Drainage to reduce flooding, Non-motorized Urban Transport and creating green space/parks in 500 cities** with more than 1 lakh population.
- ❖ The **purpose of AMRUT Mission** is to:
 - Ensure that **every household has access to a tap** with the assured supply of water and a sewerage connection.
 - **Increase the amenity value of cities** by developing greenery and well maintained open spaces (e.g. parks) and
 - **Reduce pollution** by switching to public transport or constructing facilities for non-motorized transport
- ❖ The **category of cities** that have been selected under AMRUT is given below:
 - All Cities and Towns with a population of over one lakh with notified Municipalities as

per Census 2011, including Cantonment Boards (Civilian areas),

- All Capital Cities/Towns of States/ UTs, not covered in above,
- All Cities/ Towns classified as Heritage Cities by MoHUA under the HRIDAY Scheme,
- Thirteen Cities and Towns on the stem of the main rivers with a population above 75,000 and less than 1 lakh, and
- Ten Cities from hill states, islands and tourist destinations (not more than one from each State).

6.36 AMBERGRIS

Recently, there have been two cases where the Mumbai Police has arrested five persons trying to sell **Ambergris** or '**whale vomit**'.

Ambergris

- ❖ It is generally referred to as **whale vomit**.
- ❖ It is a **solid waxy substance** that floats around the surface of the water body and at times settles on the coast.
- ❖ A sperm whale eats several thousand squid beaks a day and a **beak makes it way to the whale's stomach** and into its looping convoluted intestines where it becomes ambergris.
- ❖ It was called as "**preternaturally hardened whale dung**" by a German physician Franz Schwediawer in 1783.
- ❖ It is produced **only by an estimated one per cent** of sperm whales.
- ❖ It contains **alkaloids, acids**, and a specific compound called **ambreine**, which is similar to cholesterol.

Value of Ambergris

- ❖ It is referred to as **floating gold** because 1 kg of ambergris is worth Rs 1 crore in the international market.
- ❖ The reason for its high cost is its use in the **perfume market**, especially to create fragrances

like musk.

- ❖ It is believed to be in **high demand in countries like Dubai** that have a large perfume market.
- ❖ The ancient Egyptians used it as incense and it is also believed to be used in some **traditional medicines**.

Laws governing trade of Ambergris

- ❖ The sperm whale is a **protected species** and hunting of the whale is not allowed.
- ❖ The **buying or selling of ambergris** in India is prohibited under the **Wildlife Protection Act 1972**.

Sperm Whale

- ❖ They are the **largest of the toothed whales** and have one of the widest global distributions of any marine mammal species.
- ❖ They are **found in all deep oceans**, from the equator to the edge of the pack ice in the **Arctic and Antarctic**.
- ❖ They are named after the **waxy substance i.e. spermaceti**, found in their heads.
- ❖ It is listed as '**Vulnerable**' under the IUCN Red List of Threatened Species.
- ❖ They inhabit all of the **world's oceans**.

4.42 INDIA'S FIRST MARITIME ARBITRATION CENTRE

Recently, the **Gujarat Maritime University** has signed a Memorandum of Understanding (MoU) with the **International Financial Services Centres Authority** in GIFT City to promote the **Gujarat International Maritime Arbitration Centre (GIMAC)**.

GIMAC

- ❖ It will be the **first centre of its kind** in the country that will **manage arbitration and mediation proceedings** with disputes related to the maritime and shipping sector.
- ❖ It will be part of a maritime cluster that the **Gujarat Maritime Board (GMB)** is setting up

in **GIFT City at Gandhinagar.**

❖ The Maritime Board has rented about **10,000 square feet at GIFT House which is part of the Special Economic Zone (SEZ) area** with the clearance from the development commissioner.

Need for Maritime Arbitration Centre

❖ There are **over 35 arbitration centres in India** and none of them exclusively deals with the maritime sector.

• The arbitration involving Indian players is now heard at the **Singapore Arbitration Centre.**

❖ The idea is to create a **world-class arbitration centre focused on maritime and shipping disputes** that can help resolve commercial and financial conflicts between entities having operations in India.

The maritime cluster consisting of ship leasing and brokering services is being set up with the intention of **drawing back all the maritime and shipping business** which is located offshore like Dubai and Singapore.



4.43 PROJECT SEABIRD

Recently, the Union Minister of Defence had visited the **Karwar Naval Base in Karnataka** to review the progress of ongoing infrastructure development under '**Project Seabird**'.

❖ It was **approved in 1999** following the Pokhran-II by the then union defence minister George Fernandes.

❖ It is **largest naval infrastructure project for India** which involves creation of a **naval base at Karwar** on the west coast of India in Karnataka.

❖ The first phase of the naval base called **Operation Seabird was completed in 2005** and the **second phase started in 2011.**

❖ It involves a **3,000 feet long runway, docking space for 30 warships, hangars for aircraft** are part of the Rs 19,000 core project spread over 11,000 acres of land.

❖ AECOM is the **project management consultant** for managing and overseeing the planning, design, contracting, construction and acceptance of the entire works, including construction of a new

Naval Air Station.

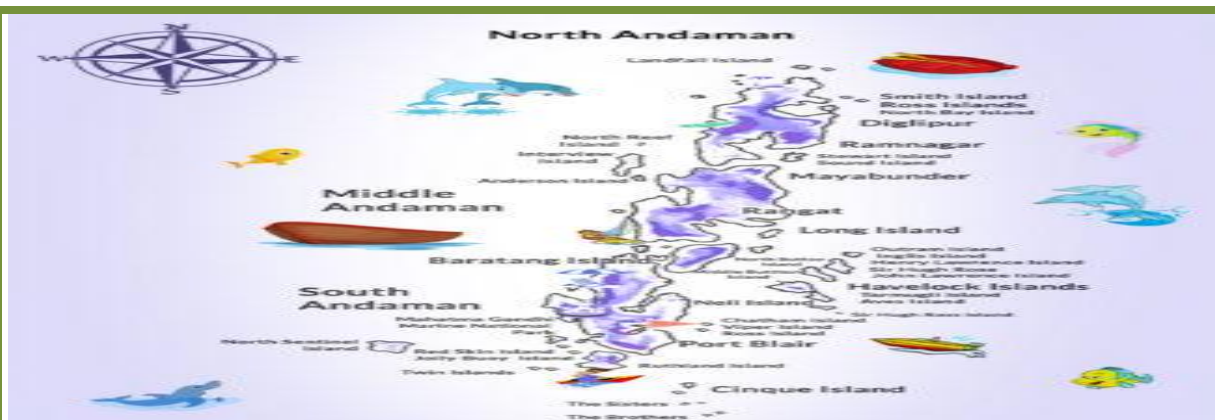
Significance of Project Seabird

- ❖ It will provide the Indian Navy with its **largest naval base on the west coast** and also the **largest naval base east of the Suez Canal**.
- ❖ It is aimed at providing **fleet support and maintenance of warships**.
- ❖ The expanded naval complex will be able to **support several major warships** and at least 30 vessels, submarines and yard crafts.
- ❖ It will house a **state-of-the-art Naval Air Base** and maintenance section.
- ❖ It will **strengthen the country's trade, economy and humanitarian assistance** and give more teeth to the Indian Navy.

INS Kadamba

- It is an **integrated strategic naval base** of the Indian Navy.
- It can accommodate the **operational fleet of Western Naval Command** and reduce the traffic in the existing naval base located at Mumbai.
- It is **India's third functional naval base** after those in Mumbai and Visakhapatnam.
- It is situated at **Binaga Bay near Karwar** in Karnataka.
- The first phase of the base was **commissioned in 2005** under "Project Seabird".
- It included a **ship lift facility, harbour and anchorage, jetty, berthing facilities** and accommodation facilities.
- **INS Shardul** became the first warship to be commissioned at INS Kadamba in 2007.

4.44 CINQUE ISLAND



Recently, the **Indian Coast Guard (ICG)** had rescued nine crew members from **sinking vessel Ganga-I** off **Cinque Island**.

Highlights

- ❖ The ICG had launched a **Search and Rescue (SAR) operation** in coordination with Port Management Board (PMB), Port Blair in which ICG ships and PMB Tug 'Ocean Marvel'.
- ❖ The **ICG ship C-146 and ICG ship C-412** on routine deployment were diverted for assistance.
- ❖ The **ICG ship Durgabai Deshmukh and PMB Tug 'Ocean Marvel'** sailed from Port Blair with a damage control team and de-flooding equipment for immediate assistance.

Cinque Island

- ❖ It is located between the **Passage and Duncan Island** towards the north side of Andaman and Nicobar Islands.
- ❖ It is further divided into **North and South Cinque islands**.
- ❖ It shares its boundaries with **Wandoor Marine National Park**, also commonly referred to as the Mahatma Gandhi Marine National Park.
- ❖ The passage between **North Cinque Island** and **Rutland** is called **Manners Strait**.
- ❖ The passage between **South Cinque** and **North Cinque** is called **Cinque Strait**.

Wandoor Marine National Park

- ❖ It is also known as **Mahatma Gandhi Marine National Park** located in Wandoor on the Andaman Islands.
- ❖ It is located on the **South Western coast of South Andaman**, in the Bay of Bengal.
- ❖ It was **established in 1983** for the protection of marine life including corals and nesting sea turtles.
- ❖ The **islands are rocky** and most of them are covered with **mangroves or tropical forest**.
- ❖ The area includes vast stretch of **enchanted marine waters, bushy vegetated islands, magnificent coral reefs** and sparkling sandy beaches and mangroves.

Passage in Andaman and Nicobar Islands

- ❖ **Duncan Pass:** It separates Rutland Island (part of Great Andaman) to the north and Little Andaman to the south.

Ten Degree Channel: It separates the Andaman Islands and Nicobar Islands from each other in the Bay of Bengal.

2.20 US-India Strategic Partnership Forum (USISPF)

Recently, the Union Finance Minister had participated in the Global Investors Roundtable organised by the **US-India Strategic Partnership Forum (USISPF)**.

Highlights

- ❖ The event provided investors with an **opportunity to engage with the Union Finance Minister** and senior officials of Indian Government to discuss potential investment opportunities.
- ❖ The minister said that the **overall vision to build a self-reliant modern India** is driven by 5 “I’s” viz. **Intent, Inclusion, Investment, Infrastructure** and **Innovation**.
- ❖ The event highlighted that India is committed for **long term relationship with US investors** and proposes to meet twice yearly.
- ❖ The event showcased the **opportunities possessed by India** such as:

- The continuous reforms make India a great place to do business;
- Covid and its aftermath have shown Indian economy's resilience;
- Highest ever GST collections shows the bright spot-More formalisation of economy and tax compliance;
- Innovation and R&D got a great potential;
- New opportunities emerging for foreign investors with recent FDI reforms privatisation policy and PLI scheme;
- Fiscal situation is under control and expect to improve further; and
- 15 new unicorns in first 5 years of 2021 itself reflecting growing startup ecosystem to be amongst the best in the world

US-India Strategic Partnership Forum (USISPF)

- ❖ It is a **non-profit organization** that works for the partnership between India and the U.S.
- ❖ It is dedicated to **strengthening economic and commercial ties**.
- ❖ It plays a significant role in **fostering a robust and dynamic relationship** between the two countries.
- ❖ The six pillars of USISPF are: **Business Policy Advocacy, Legislative Affairs, B-B-G Opportunities, Inclusive Development, Strategic Document and Education, Innovation & Entrepreneurship**.

4.45 INTEGRATED THEATRE COMMANDS

Recently, the **Chief of Defence Staff** held a meeting with the **Vice Chiefs of the Army, the Navy and the Air Force** in the backdrop of concerns about the proposed model of the integrated theatre commands

Integrated Theatre Commands

- ❖ It is a **unified command** under which all the resources of the **Army, the Navy and the Air Force are pooled**, depending on the threat perception.
- ❖ It could be **geographical** like looking at a border with a particular country or **thematic**, like a

command for all maritime threats.

❖ The idea of **creating an integrated tri-Services command in India** is not new as it had been recommended at various levels after the Kargil conflict.

Proposal for Integrated Theatre Commands

❖ A model with **four to five integrated tri-Services theatre commands** is under discussion, with each command headed by a three-star officer.

❖ The theatre commander will **report to the Chiefs of Staff Committee (COSC)**, which will include the three Service chiefs, and is headed by the CDS as its permanent chairman.

❖ The Service chiefs currently have all the operational control over their forces but **operational powers will now move to the COSC** under the new proposal of integrated theatre commands.

❖ The **operational control over all of the assets**, regardless of the force, will lie with the **commander of that theatre**.

Proposed Integrated Theatre Commands

❖ A **Maritime Theatre Command**, which will take care of all the maritime security needs of the country on both the eastern and the western seaboard.

- It will include air strike assets and amphibian forces of the Army.

❖ An **Air Defence Command**, which will be mandated with air defence across the country and beyond.

- The fighter jets will have reconnaissance and surveillance assets as well.

❖ **Two or three land-based commands** are proposed and there will be one each for India's borders with China and Pakistan.

- There will be a Logistics Command, which will have the logistics of all the Services under one person.

Concerns associated with Integrated Theatre Commands

❖ The **Air Force does not want** the Air Force chief to lose operational control of Air assets.

❖ The Air Force is **concerned that all of its assets might be divided** within these integrated

theatres.

- ❖ The current problems facing the creation of the theatre commands **stem from a flawed bottom up and standalone process** where everything has been left to the military.
- ❖ It is criticised on the basis of that the Theatre Commands would **demand large increase in expenditure** with doubtful returns.

Road ahead

- ❖ The establishment of the CDS and theatre commands has to be **enmeshed with the transformation of national security and the armed forces.**
- ❖ A strategic review is **necessary to forecast the likely threats and the nature of conflict/wars** that India may have to deal with in the next two to three decades.
- ❖ The end goal of the review is a **formal national security strategy and size/structure of the armed forces** to execute it.

The empowered committee must prepare a **vision document with timelines** that must be approved by the CCS.

5.15 ITAT e-Dwar

Recently, the Union Ministry of Law & Justice has released a portal called 'Itat-e-Dwar'.

ITAT e-Dwar

- ❖ It is an **e-filing portal of Income Tax Appellate Tribunal.**
- ❖ It will enable **online filing of Appeals, Applications, documents** etc. by various parties.
- ❖ It would not only result in **economization of the use of paper, savings in costs** but also **rationalization of the fixation of cases** leading to quicker disposal of cases.
- ❖ It seeks to **bridge the divide between the digital haves and the digital have nots** leading to digital inclusion achieved by technology.

Income Tax Appellate Tribunal

- ❖ It is a **quasi-judicial institution** set up in January, 1941.

- ❖ It specializes in **dealing with appeals** under the **Direct Taxes Acts**.
- ❖ The orders passed by the ITAT are final, an **appeal lies to the High Court only** if a substantial question of law arises for determination.
- ❖ It draws inspiration from its motto '**Nishpaksh Sulabh Satvar Nyay**', which means impartial, easy and speedy justice.
- ❖ It stands out for its **uniqueness of imparting justice to the litigants**, by an inexpensive, easily accessible forum free from technicalities, regarded for its expert knowledge on the subject of Direct Taxes etc.

6.37 RAPID ANTIGEN TEST KIT FOR COVID-19 BY IIT-DELHI

Recently, the Minister of State for Education Shri Sanjay Dhotre had launched a **Rapid Antigen Test kit for COVID-19**.

Rapid Antigen Test kit for COVID-19

- ❖ It has been developed by the **IIT Delhi researchers**.
- ❖ It is used for **in vitro qualitative detection** of SARS-CoV-2 antigen.
- ❖ It is a **colloidal gold enhanced double antibody sandwich immunoassay** for the qualitative determination of SARS-CoV-2 antigen in human nasal swabs, throat swabs and deep sputum samples.
- ❖ It is suitable for **general population screening and diagnosis** of COVID-19.
- ❖ It is directed towards an **in vitro diagnostic kit for qualitative detection of SARS-CoV-2 coronavirus antigens** in nasopharyngeal swab, using the rapid immune chromatographic method.
- ❖ A SARS-CoV-2 positive specimen produces a **distinct color band in the test region**, formed by the specific antibody antigen colored conjugate complex "(Au-SARS-CoV-2-Ab)-(SARS-CoV-2-Ag)-(SARS-CoV-2-Ab)".
- ❖ A colored band always appears in the **control region serving as procedural control regardless** of the specimen contains SARS-CoV-2 or not.
- ❖ It is found to be suitable for early **Ct values (Ct values between 14 to 32)** with a Sensitivity- 90%, Specificity- 100% and Accuracy- 98.99%, and certified by the ICMR.

6.38 ENHANCED PINAKA ROCKET

Recently, the Defence Research & Development Organization (DRDO) has successfully tested **Enhanced Pinaka Rocket**.

Enhanced Pinaka Rocket

- ❖ The enhanced range version of **Pinaka Rocket System** can destroy targets at distances up to **45 kms**.
- ❖ All the flight articles were tracked by Range instruments including **Telemetry, Radar and Electro Optical Tracking System** deployed by **ITR & Proof and Experimental Establishment (PXE)**.
- ❖ It has been developed jointly by **Pune based Armament Research and Development Establishment (ARDE)** and **High Energy Materials Research Laboratory (HEMRL)** with manufacturing support from M/s Economic Explosives Limited, Nagpur.

Origin of Pinaka Missile System

- ❖ The **development of the Pinaka** was started by the Defence Research and Development Organisation (DRDO) in the late 1980s.
- ❖ It was developed as an **alternative to the multi-barrel rocket launching systems** of Russian make, called like the 'Grad'.
- ❖ After successful tests of Pinaka Mark-1 in the late 1990, it was first used in the **battlefield during the Kargil War of 1999**.

Features of Pinaka Missile System

- ❖ It is an **indigenously developed rocket system** which is named after Lord Shiva's bow.
- ❖ It is **primarily a multi-barrel rocket system (MBRL) system**, can fire a salvo of 12 rockets over a period of 44 seconds.
- ❖ The one battery of Pinaka system consists of **six launch vehicles, accompanied by the loader systems, radar** and links with network based systems and a command post.
- ❖ The **Mark-I version of Pinaka** has a range of around **40 kilometres** and the **Mark-II**

version can fire up to 75 kilometres.

Significance of Pinaka Missile System

- ❖ The long range artillery systems like Pinaka are used for **attacking the adversary targets prior to the close quarter battles** which involve smaller range artillery, armoured elements and the infantry.
- ❖ The Mark-II version of the rocket has been modified as a **guided missile system by integrating it with the navigation, control and guidance system** to improve the end accuracy and increase the range.
- ❖ The navigation system of the missile is linked with the **Indian Regional Navigation Satellite System**.

6.39 AFRICAN SWINE FEVER

Nagaland has not reported fresh cases of **African Swine Flu** in the last two weeks.

- ❖ The disease was first reported in November-December, 2019 from the **areas of China bordering Arunachal Pradesh**.
- ❖ Earlier in April 2020, there were reported deaths of pigs due to the **Classical Swine Fever (CSF)**.
- ❖ It is a **highly contagious and fatal animal disease** that infects and leads to an acute form of hemorrhagic fever in domestic and wild pigs.
 - **Other manifestations of the disease include** high fever, depression, anorexia, loss of appetite, hemorrhages in the skin, vomiting and diarrhoea among others.
 - It was **first detected in Africa in the 1920s**.
 - Historically, outbreaks have been reported in **Africa and parts of Europe, South America, and the Caribbean**.
 - However, **more recently (since 2007)**, the disease has been reported in **multiple countries across Africa, Asia and Europe, in both domestic and wild pigs**.
 - The **mortality is close to 100%** and since the **fever has no cure**, the only way to stop its spread is by culling the animals.

- ASF is **not a threat to human beings** since it only spreads from animals to other animals.
- ASF is a disease **listed in the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code** and thus, reported to the OIE.
- ❖ **Classical Swine Fever:**
- **CSF**, also known as **hog cholera**, is an important disease of pigs.
- It is one of the most economically-damaging pandemic viral diseases of pigs in the world.
- It is **caused by a virus of the genus Pestivirus of the family Flaviviridae**, which is closely related to the viruses that cause bovine viral diarrhoea in cattle and border disease in sheep.
- Mortality is 100%.
- Recently, the **ICAR-IVRI developed a Cell Culture CSF Vaccine** (live attenuated) using the **Lapinized Vaccine Virus** from foreign strain.
- The new vaccine has been found to induce protective immunity from day 14 of the Vaccination till 18 Months.

World Organisation for Animal Health

- ❖ OIE is an **intergovernmental organisation responsible for improving animal health** worldwide.
- ❖ It has 182 Member Countries. **India is one of the member countries.**
- ❖ OIE **develops normative documents relating to rules that Member Countries can use to protect themselves** from the introduction of diseases and pathogens. One of them is the **Terrestrial Animal Health Code**.
- ❖ OIE standards are recognised by the **World Trade Organization** as reference international sanitary rules.
- ❖ It is headquartered **in Paris, France.**

5.16 AGRISTACK: THE NEW DIGITAL PUSH IN AGRICULTURE

Recently, the **Ministry of Agriculture** has signed a **Memorandum of Understanding** with **Microsoft** to run a **pilot programme** for 100 villages in 6 states.

❖ The MoU requires **Microsoft** to create a '**Unified Farmer Service Interface**' through its cloud computing services.

❖ This comprises a major part of the ministry's plan of creating '**AgriStack**' (a **collection of technology-based interventions in agriculture**), on which everything else will be built.

❖ **AgriStack:**

• It is a **collection of technologies and digital databases** that focuses on **farmers and the agricultural sector**.

• AgriStack will create a **unified platform** for farmers to provide them end to end services across the agriculture food value chain.

• It is in line with the **Centre's Digital India programme**, aimed at providing a broader push to digitise data in India, from land titles to medical records.

• The government is also implementing the **National Land Records Modernisation Programme (NRLMP)**.

• **Under the programme**, each farmer will have a **unique digital identification (farmers' ID)** that contains personal details, information about the land they farm, as well as production and financial details.

• Each ID will be linked to the individual's **digital national ID Aadhaar**.

❖ **Need:**

• At present, the **majority of farmers** across India are **small and marginal farmers** with limited access to advanced technologies or formal credit that can help improve output and fetch better prices.

• Among the new proposed digital farming technologies and services under the programme include **sensors to monitor cattle, drones to analyse soil and apply pesticide**, may significantly **improve the farm yields and boost farmers' incomes**.

❖ **Potential Benefits:**

• **Problems** such as inadequate access to **credit and information, pest infestation,**

crop wastage, poor price discovery and yield forecasting can be sufficiently addressed by use of digital technology.

- It will also **fuel innovation** and breed **investment** towards the agricultural sector and **augment research** towards more resilient crops.

❖ **Concerns:**

- **Absence of a Data Protection Legislation:** In its absence, it might end up being an exercise where **private data processing entities** may know more about a farmer's land than the farmer himself and they would be able to exploit farmers' data to whatever extent they wish to.

- **Commercialisation:** The formation of 'Agristack' will imply **commercialisation of agriculture extension activities** as they will **shift into a digital and private sphere**.

- **Absence of Dispute Settlement:** The MoUs provide for **physical verification of the land data gathered** digitally, but there is **nothing** on what will be the **course of action if disputes arise**, especially when historical evidence suggests that land disputes take years to settle.

- **Privacy and Exclusion Issues:** Given that the proposed **farmer ID** will be **Aadhaar-seeded**, further issues of privacy and exclusion would emerge.

- Several researchers have demonstrated the **vulnerability of the Aadhaar database to breaches and leaks**, while **Aadhaar-based exclusion in welfare delivery** has also been well documented in different contexts.

- Also, making **land records the basis for farmer databases** would mean **excluding tenant farmers, sharecroppers and agricultural labourers**.

- Data shows that the **population of farm labourers** has outstripped that of farmers and cultivators.

Road ahead

❖ There is no denial that there is **potential in data and technology** in empowering farmers but only when the flow of information is balanced.

❖ The **private firms working on pilot projects** must **effectively cooperate with state governments** to reconcile the differences over land ownership.

❖ The government should move ahead with the **project based on the results obtained from**

pilot trails.

8.15 LiDAR BASED SURVEY OF FOREST AREAS

Recently, the Union Environment Minister in a virtual event released the **Detailed Project Reports (DPRs) of LiDAR (Light Detection and Ranging) based survey of forest areas** in ten states.

❖ The 10 mapped states are **Assam, Bihar, Chhattisgarh, Goa, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Nagaland, and Tripura.**

❖ **Survey of Forest Areas Project:**

• The project was **awarded to WAPCOS in July 2020** at a cost of over **Rs. 18 crore** for implementation in **26 states** over 261897 hectares.

• **WAPCOS** is a **Mini Ratna** Public Sector Undertaking (PSU) under the Jal Shakti Ministry.

• It is a **first of its kind and a unique experiment using LiDAR technology** which will **help augment water and fodder in jungle** areas thereby reducing **human-animal conflict**.

• LiDAR technology has been found to have **90% accuracy**.

• States will be given **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)** funds to use in this project.

• CAMPA is meant to **promote afforestation and regeneration activities** as a way of compensating for forest land diverted to non-forest uses.

• CAMPA was established to **manage the Compensatory Afforestation Fund (CAF)** and it acts as the **custodian of the CAMPA fund**.

• **One major ridge inside a forest block** is identified in these states with an **average area of 10,000 ha selected in each State**; the area should have **average rainfall of the state**, and **requires assisted natural generation**.

❖ **Significance:**

• Besides reducing **human-animal conflict**, it will help us in **identifying areas which need groundwater recharge** which will in turn help **local communities**.

• It will **help in catching rainwater and prevent stream run-off**, which will help in

recharging groundwater.

- It will help in **recommending different types of Soil & Water conservation structures** such as Anicut, Gabion, Gully Plug, Mini percolation tank, Percolation Tank, Field bund, Sunken pond, Farm pond etc.

LiDAR

❖ It is a **remote sensing method that uses light in the form of a pulsed laser** to measure ranges & variable distances.

- These light pulses—combined with other data recorded by the airborne system—generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.

- A LiDAR instrument principally consists of a **laser, a scanner, and a specialized Global Positioning System (GPS) receiver.**

- Airplanes and helicopters are the most commonly used platforms for acquiring LiDAR data over broad areas.

- LiDAR follows a simple principle — **throw laser light at an object on the earth surface and calculate the time it takes to return to the LiDAR source.**

- Given the speed at which the **light travels** (approximately 186,000 miles per second), **the process of measuring the exact distance through LiDAR appears to be incredibly fast.**

❖ **Applications:**

- Lidar is commonly used to **make high-resolution maps**, with applications in surveying, geodesy, geomatics, archaeology, geography, geology, geomorphology, seismology, forestry, atmospheric physics, laser guidance, airborne laser swath mapping (ALSM), and laser altimetry.

6.40 PETER PAN SYNDROME

Recently, a special court in Mumbai granted bail to an accused of sexually assaulting a minor as he was suffering from **Peter Pan Syndrome (PPS)**.

❖ A **syndrome** is a **combination of symptoms and signs** that together **represent a disease**

process.

❖ PPS is a **psychological condition** that is used to **describe an adult** who is **socially immature**.

• People **who develop similar behaviours** of living life carefree, finding responsibilities challenging in adulthood, and basically **never growing up** suffer from **PPS**.

• The term was coined by **psychologist Dan Kiley** to explain the behaviour of such men who 'refuse to grow' and behave their age in **1983**.

• Dan Kiley got the idea of PPS after noticing Peter Pan, a **fictional character created by Scottish novelist James Matthew Barrie**.

• Peter Pan was a **care-free young boy, who never grew up**.

• While the **WHO (World Health Organization)** does not recognise Peter Pan Syndrome as a health disorder, **many experts believe it is a mental health condition** that can affect one's quality of life.

❖ **Symptoms:**

• PPS hasn't officially been diagnosed as a health disorder, **there are no clearly-defined symptoms or characteristics** or even reasons which cause it.

• However, it could affect **one's daily routine**, relationships, work ethic, and result in **attitudinal changes**.

❖ **People Affected:**

• It **can affect anyone**, irrespective of gender, race or culture. However, it appears to be **more common among men**.

• It **affects people who do not want or feel unable to grow up**, people with the body of an adult but the mind of a child.

• They **don't know how to or don't want to stop being children** and start being mothers or fathers.

• It is **not currently considered a psychopathology**. However, a large number of adults are presenting emotionally immature behaviors in Western society.

• **Psychopathology** is a term which refers to either the **study of mental**

illness or mental distress or the manifestation of behaviours and experiences which may be indicative of mental illness or psychological impairment.

Wendy Syndrome

❖ The Psychologist who defined PPS also used the term **Wendy Syndrome (WS)** to describe **women who act like mothers with their partners or people close to them.**

People suffering from WS are often seen **making decisions, tidying up messes, and offering one-sided emotional support.**

4.46 SANT KABIR DAS JAYANTI

Recently, **Sant Kabir Das Jayanti** was observed on **24th June, 2021** to mark the birth anniversary of **Sant Kabirdas.**

❖ Kabirdas Jayanti is celebrated on the **Jyeshtha Purnima tithi**, as per the **Hindu lunar calendar.**

❖ **Sant Kabir Das** was born in the city of **Varanasi, Uttar Pradesh.** He was a **15th century mystic poet, saint and social reformer** and a proponent of the **Bhakti Movement.**

- Kabir's legacy is still going on through a sect known as **Panth of Kabir**, a religious community that considers him as the founder.

- **Teacher:** His early life was in a Muslim family, but he was strongly influenced by his teacher, the Hindu bhakti leader **Ramananda.**

- **Literature:** Kabir Das' writings had a great influence on the Bhakti movement and includes titles like **Kabir Granthawali, Anurag Sagar, Bijak, and Sakhi Granth.**

- His verses are found in Sikhism's scripture **Guru Granth Sahib.**

- The major part of his work was collected by the fifth Sikh guru, **Guru Arjan Dev.**

- He was best known for his two-line couplets, known as '**Kabir Ke Dohe**'.

- **Language:** Kabir's works were written in the **Hindi language** which was easy to comprehend. He used to write in couplets to enlighten people.

❖ **Bhakti Movement:**

- **Beginning:** The movement probably began in the Tamil region around the 6th and 7th century AD and achieved a great deal of popularity through the poems of the Alvars (devotees of Vishnu) and Nayanars (devotees of Shiva), the Vaishnavite and Shaivite poets.

- The Alvars and Nayanars travelled from place to place singing hymns in Tamil in praise of their gods.

- The Nalayira Divyaprabandham is a composition by the Alvars. It is frequently described as the Tamil Veda.

- **Classification:** At a different level, historians of religion often classify bhakti traditions into two broad categories: saguna (with attributes) and nirguna (without attributes).

- The saguna included traditions that focused on the worship of specific deities such as Shiva, Vishnu and his avatars (incarnations) and forms of the goddess or Devi, all often conceptualised in anthropomorphic forms.

- Nirguna bhakti on the other hand was worship of an abstract form of god.

- **Social Order:**

- This movement was responsible for many rites and rituals associated with the worship of God by Hindus, Muslims and Sikhs of Indian subcontinent. For example, Kirtan at a Hindu Temple, Qawaali at a Dargah (by Muslims), and singing of Gurbani at a Gurdwara.

- They were often opposed to the establishment and all authoritarian monastic order.

- They also strongly criticized all sectarian zealotry and caste discrimination in society.

- Hailing from both high and low castes, these poets created a formidable body of literature that firmly established itself in the popular narratives.

- All of them claimed relevance for religion in social life, in the sphere of real human aspirations and social relationships.

- Bhakti poets emphasized surrender to god.

- The movement's major achievement was its **abolition of idol worship**.
- **Role of Women:**
- **Andal** was a woman **Alvar** and she saw herself as the beloved of Vishnu.
- **Karaikkal Ammaiyar** was a devotee of Shiva and she adopted the path of extreme asceticism in order to attain her goal. Her compositions were preserved within the **Nayanar tradition**.
- **Important Personalities:**
- **Kannada Region:** In this region, the movement began by **Basavanna** (1105-68) in the 12th century.
- **Maharashtra:** The Bhakti movement began in the late 13th century. Its proponents were known as the **Varkaris**.
- Among its most popular figures were **Jnanadev (1275- 96)**, **Namdev (1270-50)** and **Tukaram (1608-50)**.
- **Assam: Srimanta Sankardeva** (a Vaishnava saint born in 1449 AD in Nagaon district of Assam. He started the **neo-Vaishnavite movement**).
- **Bengal: Chaitanya** was a renowned saint and reformer of Bengal who popularised the Krishna cult.
- **Northern India:** From the 13th to the 17th centuries, a large number of poets flourished who were all Bhakti figures of considerable importance.
- While **Kabir, Ravi Dass and Guru Nanak** spoke of the formless god (nirgun bhakti), **Meerabai** (1498-1546) from Rajasthan composed and sung devotional verses in praise of Krishna.
- **Surdas, Narasimha Mehta and Tulsidas** also made priceless contributions to the canon of Bhakti literature and enhanced its glorious legacy.

3.35 BLACK SEA

In a recent event, Russia alleged that the British warship had **breached its territorial waters in Black Sea** which Britain and most of the world say **belong to Ukraine**.

❖ Russia seized and annexed the Crimea peninsula from Ukraine in 2014 and considers areas around its coast to be Russian waters.

❖ **Geographical Location of Black Sea:**

• The Black Sea, **also known as the Euxine Sea**, is one of the major water bodies and a **famous inland** sea of the world.

• This **marginal sea of the Atlantic Ocean**, located **between Eastern Europe and Western Asia**.

• It is surrounded by the **Pontic, Caucasus, and Crimean Mountains** in the south, east and north respectively.

• The Turkish straits system – the **Dardanelles, Bosphorus and Marmara Sea** – forms a transitional zone between the **Mediterranean** and the Black Sea.

• The Black Sea is also connected to the **Sea of Azov** by the **Strait of Kerch**.

• The **bordering countries** of Black Sea are: **Russia, Ukraine, Georgia, Turkey, Bulgaria and Romania**.

❖ **Anoxic Water:**

• There is a **significant absence of oxygen in the water**.

• The Black Sea happens to be the largest water body with a **meromictic basin**, which means the **movement of water between the lower and upper layers of the sea is a rare phenomenon** to find anywhere in the world.

• The anoxic condition is also caused due to the presence of the process of **Eutrophication** in the sea.

Anoxic Waters

❖ Anoxic waters are areas of sea water, fresh water, or groundwater that are **depleted of dissolved oxygen** and are a more severe condition of hypoxia.

❖ This condition is **generally found in areas that have restricted water exchange**.

❖ **International Rules of Passage through Sea:**

• Under international law of the sea (**United Nations Convention on the Law of the**

Sea (UNCLOS) 1982), **innocent passage permits a vessel to pass** through another state's territorial waters so long as this does not affect its security.

1.10 RBI'S PROPOSALS FOR MICROFINANCE INSTITUTIONS

Recently, the **Reserve Bank of India (RBI)** proposed to lift the interest rate cap on **Microfinance Institutions (MFIs)**, and said all micro loans should be regulated by a common set of guidelines irrespective of who gives them.

Proposals:

❖ RBI has suggested a **common definition of microfinance loans** for all regulated entities.

❖ **Microfinance loans** should mean **collateral-free loans to households with annual household income** of Rs 1,25,000 and Rs 2,00,000 for rural and urban/semi urban areas, respectively.

• For this purpose, **'household'** means a **group of persons normally living together and taking food from a common kitchen**.

❖ RBI has **mooted capping the payment of interest and repayment of principal for all outstanding loan obligations of the household** as a percentage of the household income, subject to a **limit of maximum 50%**.

❖ **Non-banking Financial Company (NBFC)-MFIs**, like any other NBFC, shall be **guided by a board-approved policy** and the fair practices code, whereby disclosure and transparency would be ensured.

❖ There would be **no ceiling prescribed for the interest rate**. There would be no **collateral allowed** for micro loans.

❖ There can be **no prepayment penalty**, while all entities have to permit the borrowers to repay weekly, fortnightly or monthly instalments as per their choice.

Significance of Proposal:

❖ RBI has reposed faith in the **maturity of the microfinance sector** with this step.

❖ This is a forward-looking step where the **responsibility is of the institution** to fix a

reasonable interest rate on transparent terms.

MicroFinance Institution (MFI):

❖ Microfinance is a **form of financial service** which provides small loans and other financial services **to poor and low-income households**.

❖ Indian microfinance sector has witnessed **phenomenal growth over the past two decades** in terms of increase in both the **number of institutions** providing microfinance and the **quantum of credit** made available to the microfinance customers.

❖ Microcredit is delivered through a variety of institutional channels viz.,

- **Scheduled commercial banks (SCBs)** (including **small finance banks (SFBs)** and **regional rural banks (RRBs)**)

- Cooperative banks,

- **Non-banking financial companies (NBFCs)**

- Microfinance institutions (MFIs) registered as NBFCs as well as in other forms.

❖ **MFIs** are financial companies that provide small loans to people who do not have any access to banking facilities.

- The definition of “small loans” varies between countries. In India, all loans that are below Rs. 1 lakh can be considered as microloans.

❖ **Significance:**

- It is an economic tool designed to **promote financial inclusion** which enables the poor and low-income households to come out of poverty, increase their income levels and improve overall living standards.

- It can facilitate achievement of national policies that target **poverty reduction, women empowerment, assistance to vulnerable groups, and improvement in the standards of living**.

Non-Banking Financial Company-Micro Finance Institution

❖ The NBFC-MFI is a **non-deposit taking financial company**.

❖ Conditions to qualify as NBFC-MFI:

- Minimum Net Owned Funds (NOF) of Rs. 5 crore.
- At least 85% of its Net Assets in the nature of Qualifying Assets.
- The Qualifying Assets are those assets which have a substantial period of time to be ready for its intended use or sale.

The difference between an NBFC-MFI and other NBFC is that while other NBFCs can operate at a very high level, MFIs cater to only the smaller level of social strata, with need of smaller amounts as loans.

3.36 DIGITAL MILLENNIUM COPYRIGHT ACT (DMCA)

Recently, the Union Minister for Electronics & Information Technology was locked out of his Twitter account allegedly over a notice received for violation of the **Digital Millennium Copyright Act (DMCA)**.

Digital Millennium Copyright Act (DMCA)

- ❖ It is a **1998 law** passed in the US.
- ❖ It is among the **world's first laws recognising intellectual property** on the internet.
- ❖ It oversees the **implementation of the two treaties** signed and agreed upon by member nations of the World Intellectual Property Organisation (WIPO) in 1996.
- The two treaties are the **WIPO Copyright Treaty** and the **WIPO Performances and Phonograms Treaty**.
- ❖ It **criminalizes production and dissemination** of technology, devices, or services intended to circumvent measures that control access to copyrighted works.

Significance of Digital Millennium Copyright Act (DMCA)

- ❖ The treaties require member nations to provide in their **respective jurisdictions, protection to intellectual property** that may have been created by citizens of different nations who are also co-signatories to the treaty.
- ❖ The protection, accorded by each member state, **must not be any less in any way** than the one being given to a domestic copyright holder.

- ❖ It obligates that signatories to the treaty ensure ways to **prevent circumvention of the technical measures** used to protect copyrighted work.
- ❖ It also provides the **necessary international legal protection** to digital content.

Need for Digital Millennium Copyright Act (DMCA)

- ❖ **Establishing protections for online service providers** in certain situations if their users engage in copyright infringement which allows copyright owners to inform online service providers about infringing material so it can be taken down;
- ❖ **Encouraging copyright owners to give greater access** to their works in digital formats by providing them with legal protections against unauthorized access to their works; and
- ❖ **Making it unlawful to provide false copyright management information** or to remove or alter that type of information in certain circumstances.

Generation of DMCA Notice

- ❖ Any content creator of any form, who believes that their original content has been copied by user or a website without authorisation can file an **application citing their intellectual property has been stolen or violated**.
- ❖ The users can either **approach the website on which the content has been hosted, or third party service providers**, which utilise a team of experts to help take down the stolen content for a small fee.
- ❖ The content creators such as Facebook, Instagram or Twitter can **directly approach the platform** with a proof of them being original creators.
- ❖ The platforms also give the other users against whom allegations of content cheating have been made, a **chance to reply to the DMCA notice** by filing a counter notice.
- ❖ The **platform shall then decide which party is telling the truth**, and shall accordingly, either restore the content or keep it hidden.

World Intellectual Property Organisation (WIPO)

- ❖ It is the **global forum for intellectual property (IP)** services, policy, information and cooperation.

- ❖ It is a **self-funding agency** of the United Nations, with 193 member states.
- ❖ Its mission is to **lead the development of a balanced and effective international IP system** that enables innovation and creativity for the benefit of all.
- ❖ Its **mandate, governing bodies and procedures** are set out in the WIPO Convention, which established WIPO in 1967.
- ❖ **To become a member**, a state must deposit an instrument of ratification or accession with the Director General and the WIPO Convention provides that membership is open to any state that is:
 - A member of the **Paris Union for the Protection of Industrial Property**, or member of the **Berne Union for the Protection of Literary and Artistic Works**; or
 - A member of the United Nations, or of any of the **United Nations' Specialized Agencies**, or of the **International Atomic Energy Agency**, or that is a party to the **Statute of the International Court of Justice**; or
 - **Invited by the WIPO General Assembly** to become a member state of the Organization.

1.11 VALUATION REPORT BY A REGISTERED VALUER

Recently, a controversy surrounding a Rs 4,000 crore share allotment decision by PNB Housing Finance to investors led by Carlyle at a price of Rs 390 per share due to a **valuation report by a registered valuer**.

Registered Valuer

- A registered valuer is an **individual or entity** which is registered with the **Insolvency and Bankruptcy Board of India (IBBI)** as a valuer.
- It is in accordance with the **Companies (Registered Valuers and Valuation) Rules, 2017**.
- Under Section 458 of the Companies Act, IBBI has been **specified as the authority** by the central government.
- It was introduced in the Companies Act in 2017 in order to **regulate the valuation of assets and liabilities** linked to a company.

- It aims to **standardise the valuation procedure** in line with global valuation standards.

Eligibility conditions to become a Registered Valuer

- An individual needs to **clear the Valuation Examination** conducted by IBBI.
- An individual who:
 - has specified **qualification and experience** (Graduate in a specified discipline with five years' experience or postgraduate in a specified discipline with three years' experience);
 - is enrolled as a **valuer member** with a registered valuers organisation (RVO);
 - has completed the **educational course** conducted by the RVO, and
 - has passed the **examination of the relevant asset class**, conducted by IBBI
- The individual should have a **postgraduate degree in the specified discipline** (relevant for valuation of the class of asset for which the registration is sought).

Composition of Valuation Report

- The Companies (Registered Valuers and Valuation) Rules, 2017 states that the valuer should state **11 key aspects including disclosure of the valuer's conflict of interest**.
- It **must include** purpose of valuation, sources of information, procedures adopted in carrying out the valuation, valuation methodology and major factors that influenced the valuation.

Assets which can be valued by a Registered Valuer

- The valuer can get themselves registered for **valuation of assets** such as
 - Land and building;
 - Plant and machinery; and
 - Securities and financial assets
- They can get registered for valuation of all three classes, and can undertake **valuation of only the assets for which they have got the registration**.

1.12 HIGHER THRESHOLD FOR SMALL AND MEDIUM COMPANIES

Recently, the Corporate Affairs Ministry has **expanded the turnover and borrowing thresholds** for

Small and Medium sized Companies (SMC).

Changes in threshold for SMCs

- ❖ The Ministry has increased the **turnover threshold** for SMCs to Rs 250 crore from Rs 50 crore.
- ❖ The **borrowing threshold** has been expanded to Rs 50 crore from Rs 10 crore.
- ❖ The SMCs are permitted to **avail a number of exemptions** under the Company (Accounting Standards) Rules 2021 to reduce the complexity of regulatory filings for smaller firms.

Exemptions under SMC Definition

- ❖ The **banks, financial institutions, insurance companies and listed companies** cannot be classified as SMCs.
- ❖ Any company which is **either the holding company or subsidiary of a company** that is not an SMC cannot be classified as an SMC.

What are the exemptions available to SMCs that are not available to other firms?

- ❖ The SMCs are **completely exempted from having to file cash flow statements** and provide a segmental break up of their financial performance in mandatory filings.
- ❖ The SMCs can also avail **partial reporting exemptions in areas** including reporting on employee benefits obligations such as pensions.
- ❖ The SMCs are exempted from having to provide a **detailed analysis of benefit obligations to employees**.
- ❖ The SMCs are still **required to provide actuarial assumptions** used in valuing the company's obligations to employees.
- ❖ The SMCs are **exempted from having to report diluted earnings per share** in their filings.
 - The **diluted earnings per share reflect the per share earnings of a company** assuming that all options to convert other securities into shares are exercised.
- ❖ The SMCs are allowed to provide an **estimated value in use of assets carried on their balance sheets**, and are not required to use present value techniques to arrive at the value in use of

assets.

- The value in use of an asset is the **present value of future cash flows arising from the continuous use of an asset** and from its disposal at the end of its useful life.

- ❖ Any SMC which opts to avail of any of the exemptions available to them under the Companies Accounting Rules is required to **disclose those which it has utilised in its mandatory filings**.

Implications of changes in threshold of SMCs

- ❖ It would **promote ease of doing business** for the firms that would now be included under the definition of SMC.

- ❖ The **Accounting Standards for SMC**, which were notified in December 2006 and amended from time to time, are much simpler as compared to Indian Accounting Standards (Ind AS).

- ❖ These accounting standards involve **less complexity in its application**, including the number of required disclosures being less onerous

- ❖ **Ind AS standards are applied to larger firms**, and are largely similar to International Financial Reporting Standards (IFRS) used in most developed jurisdictions.

6.41 AGNI PRIME MISSILE

Recently, the **Defence Research & Development Organization (DRDO)** has successfully test-fired **Agni Prime missile** from a defence base off Odisha coast.

Agni Prime Missile

- ❖ It is a **new generation advanced variant of the Agni class** of missiles.

- ❖ It is a **surface-to-surface ballistic missile**.

- ❖ It is a **next-generation, nuclear-capable weapon** made fully of a composite material.

- ❖ It is a **canisterised missile** with range of **1,000-2,000 kilometres**.

- ❖ It has been **designed and developed** by the Defence Research and Development Organisation (DRDO).

- ❖ It can carry a **payload of around 1,000 kg** or a **nuclear warhead**.

- ❖ It is a **double stage missile** which is lighter and much sleeker than its predecessor Agni-1.
- ❖ The ballistic missile **weighs 50% less than Agni 3** and has new guidance and a new generation of propulsion.
- ❖ It can be **launched from rail and road** and **stored for a longer period** and transported all across the country as per operational requirements.

AGNI Missile

- ❖ The Agni series of **ballistic missiles** is being developed under the **Integrated Guided Missile Development Programme** of the DRDO.
- ❖ The Agni missile family consists of **three deployed variants**.
 - The **Agni-I, Agni-II and Agni-III** are in service with the **Indian Army**.
- ❖ The **Agni-I** is a short or intermediate-range ballistic missile.
- ❖ The **Agni-II** is a medium-range ballistic missile equipped with two solid fuel stages.
- ❖ The **Agni-III** is a two-stage ballistic missile which can support a series of warhead configurations and a total payload of 2,490kg for a range of 4,500km.
- ❖ The **Agni-IV** is a two-stage nuclear-capable intermediate range ballistic missile.
- ❖ The **Agni-V** is an Indian nuclear-capable intercontinental ballistic missile.

2.21 INDIA: TIER 3 CYBERPOWER

Recently, the **International Institute for Strategic Studies (IISS)** has released a report that has done a **qualitative assessment of cyber power** in 15 countries.

Highlights

- ❖ The **country's cyber capabilities** have been assessed in seven categories:
 - Strategy and doctrine;
 - Governance, command and control;
 - Core cyber-intelligence capability;

- Cyber empowerment and dependence;
 - Cyber security and resilience;
 - Global leadership in cyberspace affairs; and
 - Offensive cyber capability
- ❖ The **US is the only country in the first tier**, for its world-leading strengths across “all” categories.
- ❖ In the **second tier**, with world-leading strengths in “some” categories are **Australia, Canada, China, France, Israel, Russia and the United Kingdom**.
- ❖ **India** has been put in the **third tier** meant for countries that have strengths or potential strengths in some of these categories but “significant weaknesses” in others.
- The other countries in third tier are **Japan, Iran, Indonesia, Vietnam, Malaysia and North Korea**.
- ❖ The **countries covered** in this report are:
- **US, United Kingdom, Canada and Australia** (four of the Five Eyes intelligence allies);
 - **France and Israel** (the two most cyber-capable partners of the Five Eyes states);
 - **Japan** (also an ally of the Five Eyes states, but less capable in the security dimensions of cyberspace, despite its formidable economic power);
 - **China, Russia, Iran and North Korea** (the principal states posing a cyber-threat to Western interests); and
 - **India, Indonesia, Malaysia and Vietnam** (four countries at earlier stages in their cyber-power development)

Reasons for India in Tier 3 Cyberpower list

- ❖ The military confrontation with China in the disputed Ladakh border area in 2020, followed by a **sharp increase in Chinese activity against Indian networks**, has heightened Indian concerns about cyber security.
- ❖ India has made only “**modest progress**” in developing its policy and doctrine for **cyberspace security** despite the geo-strategic instability of its region and a keen awareness of the

cyber threat it faces.

- ❖ India has some cyber-intelligence and offensive cyber capabilities but they are **regionally focused, principally on Pakistan**.
- ❖ It is currently aiming to **compensate for its weaknesses by building new capability with the help of key international partners** and by looking to concerted international action to develop norms of restraint.
- ❖ India's approach towards institutional reform of cyber governance has been **"slow and incremental"**.
- ❖ India has a good regional cyber-intelligence reach but **relies on partners** for wider insight.

Recommendations for India to be Tier 2 Cyberpower

- ❖ It highlighted that the **strengths of the Indian digital economy** include a **vibrant start-up culture** and a very large talent pool.
- ❖ India needs to **harness its great digital-industrial potential** and adopt a **whole-of-society approach** to improving its cyber security.
- ❖ The **"leapfrog opportunities"** for governments to be more effective in cyberpower is **"how they align themselves with other governments."**

3.37 NUCLEAR SITE IMAGES WON'T BE GIVEN TO IAEA

Recently, the speaker of Iran's parliament had said that **Tehran will never hand over images from inside of some Iranian nuclear sites** to the **International Atomic Energy Agency (IAEA)** as a monitoring agreement with the agency had expired.

Highlights

- ❖ The IAEA and Tehran struck the **three-month monitoring agreement in February 2021** to cushion the blow of Iran reducing its cooperation with the agency.
- ❖ The agreement **allowed monitoring of some activities** that would otherwise have been axed to continue.
- ❖ Tehran's assertion comes as Iran, the US and other world powers **concluded a sixth round of negotiations in Vienna** to revive the nuclear deal that former US president Donald Trump exited

three years ago before re-imposing sanctions.

Sharing of Nuclear Sites under IAEA Norms

- **Investigating site characteristics to ensure safety**
 - The safety of nuclear installations against the characteristics of a site is derived through careful investigation.
 - The basic information on site characteristics is necessary when screening less preferred sites and selecting the most appropriate site.
- **IAEA training and review services to assist Member States**
 - The IAEA assists its Member States in applying the Agency's Safety Standards on siting through safety review services, training and workshops.
 - It offers the Site and External Events Design Review Service (SEED), during which a review team visits the location of a planned site and provides recommendations in light of the Agency's Safety Standards.
 - The IAEA notes four main processes for the implementation of safeguards.
- **Collection and evaluation of safeguards-relevant information:** The IAEA collects safeguards-relevant information to determine if a state's declarations about its nuclear program are correct.
- **Development of a safeguards approach for a state:** A safeguards approach indicates which safeguards measures are needed to verify a state's declarations.
- **Planning, conducting and evaluating safeguards activities:** The IAEA then develops a plan to conduct the safeguards activities based on the safeguards approach and identifies areas that may need to be followed up.
- **Drawing of a safeguards conclusion:** Upon completing the safeguards implementation cycle, the IAEA issues safeguards conclusions, which provide credible assurances to the international community that states are abiding by safeguards commitments.

International Atomic Energy Agency (IAEA)

- It is the **world's central intergovernmental forum** for scientific and technical co-operation

in the nuclear field.

- It works for the **safe, secure and peaceful uses of nuclear science and technology**, contributing to international peace and security and the United Nations' Sustainable Development Goals.
- It was approved on **23 October 1956** by the Conference on the **Statute of the International Atomic Energy Agency**.
- It was set up as the world's "**Atoms for Peace**" organization within the United Nations family.

5.17 ARTICLE 371 FOR JAMMU & KASHMIR

Recently, an idea floated by a former Deputy Chief Minister of Jammu & Kashmir that **certain exclusive rights can be conferred on J&K citizens** by amending **Article 371**.

Article 371 of the Indian Constitution

- ❖ The **Articles 371 to 371-J in Part XXI** of the constitution contain **special provisions** for twelve states.
- It includes **Maharashtra, Gujarat, Nagaland, Assam, Manipur, Andhra Pradesh, Telangana, Sikkim, Mizoram, Arunachal Pradesh, Goa and Karnataka**.
- ❖ It falls under **PART XXI** titled '**Temporary, Transitional and Special Provisions**' of the Indian Constitution.
- ❖ Its objective is to **meet the aspirations of the people of backward regions of the states** or to protect the cultural and economic interests of the tribal people of the states.
- ❖ It aims to **deal with the disturbed law and order condition** in some parts of the states or to protect the interests of the local people of the states.

Significance of Article 371 for Jammu & Kashmir

- ❖ Under Article 371, the Constitution provides **special provisions for all the hill states with domicile rights**, similar to that enjoyed under Article 35A in J&K.
- ❖ The union government has moved a **proposal to the Law Department of J&K Union Territory (UT)** for its feedback on **granting Article 371 as compensation for the revocation of**

Article 370, which granted special status to J&K.

- ❖ The similar treatment should be given to the people of J&K, a region that also has the **special ethnic and historical character that northeastern states do**.

Why Creation of Two UTs is legally challengeable?

- ❖ Article 3 of the Constitution **does not provide for creating a Union Territory of an entire state** but for carving out an UT out of one or more states.
- ❖ There can be **no Bill providing for increasing or diminishing the area of the state of J&K** or altering the name or boundary of that state, without the consent of the state legislature.

Article 370

- ❖ It was **included in the Constitution** on October 17, 1949.
- ❖ It exempts **J&K from the Indian Constitution** (except Article 1 and Article 370 itself) and permits the state to draft its own Constitution.
- ❖ It **restricts Parliament's legislative powers** in respect of J&K.
- ❖ The **"consultation" with the state government is needed** for extending a central law on subjects included in the Instrument of Accession (IoA).

Article 35A

- ❖ It **stems from Article 370**, having been introduced through a **Presidential Order in 1954**.
- ❖ Article 35A is unique in the sense that it **does not appear in the main body** of the Constitution.
- ❖ It empowers the J&K legislature to **define the state's permanent residents** and their special rights and privileges.

4.47 BANKIM CHANDRA CHATTERJEE

Recently, the Prime Minister Shri Narendra Modi had paid homage to **Rishi Bankim Chandra Chattopadhyay** on his birth anniversary.

Bankim Chandra Chatterjee

- ❖ He was born to **Yadav Chandra Chattopadhyay and Durgadevi** in an **orthodox Bengali Brahmin family** in Naihati in West Bengal.
- ❖ He was the first person to **hail Rabindranath Tagore as Viswakavi** (Universal Poet).
- ❖ He served as the **Deputy Collector of Jessore** before taking up the post of Deputy Magistrate.
- ❖ He was one of the **first two graduates** from the University of Calcutta.

Freedom Struggle Contributions

- ❖ **Durgeshnandini (1865)** and **Kapalkundala (1866)** were his **first two novels** which were well-acclaimed and translated into other languages.
- ❖ He founded **Bangadarshan** which was a **monthly Bengali literary magazine** started in April 1972.
- ❖ He wrote the **novel Anandamath** which was **published in 1882** and it has **Vande Mataram**.
- ❖ He penned the **Indian national song** way before he authored **Anandamath** which was a political novel which **depicts a Sanyasi army standing up** to the East India Company.
- ❖ His famous novels include **Mrinalini (1869)**, **Vishbriksha (1873)**, **Chandrasekhar (1877)**, **Rajani (1877)**, **Rajsimha (1881)**, and **Devi Chaudhurani (1884)**.

7.13 CHALLENGING GUJARAT PROHIBITION ACT

Recently, the **Gujarat Prohibition Act, 1949** is being **challenged before the Gujarat High Court**, more than seven decades after it came into effect as the Bombay Prohibition Act.

Gujarat Prohibition Act, 1949

Bombay Abkari Act, 1878

- ❖ The first hint at the prohibition of liquor was through the **Bombay Abkari Act 1878**.
- ❖ It dealt with **levying of duties on intoxicants**, among other things and aspects of prohibition via amendments made in 1939 and 1947.

Bombay Prohibition Act, 1949

- ❖ The government reconsidered the question of prohibition and it was decided to undertake and enforce a **policy of “total prohibition” in the whole of the Province of Bombay** on the basis of a four-year plan.
- ❖ It was stated that there were **“many lacuna” in the Bombay Abkari Act 1878**, from the point of view of the government’s decision to enforce prohibition.
- ❖ The government deemed it fit to **remove the defects and bring within the orbit of the Act many offences** which went unpunished under the law.
- ❖ It was considered to **“overhaul the law relating to intoxicating drugs and narcotics and to embody the same into one legislative enactment,”** leading to the birth of Bombay Prohibition Act, 1949.

Gujarat Prohibition Act, 1949

- ❖ Gujarat adopted the **prohibition policy since 1960** and subsequently chose to enforce it with greater rigidity, but also made processes easier for foreign tourists and visitors to get liquor permits.
- ❖ In 2011, it renamed the Act as **Gujarat Prohibition Act**.

Issues associated with Gujarat Prohibition Act, 1949

- ❖ It highlighted that the **debates were inconclusive** and various members of the Constituent Assembly had taken a view that **prohibition should not be there** and thus the law has **no constitutional prehistory** to it.
- ❖ **Right of privacy:** It has been held as a fundamental right by the Supreme Court.
- ❖ The petitioners submit that any **invasion by the state in an individual’s right to choice of food and beverage** amounts to an unreasonable restriction and destroys the individual’s decisional and bodily autonomy.
- ❖ **Ground of manifest arbitrariness:** It highlighted while challenging sections pertaining to grant of health permits and temporary permits to out-of-state tourists on the basis that there is no intelligible differences in the classes.
- ❖ The petitioners submit that sometimes a **change in the law precedes societal change** and sometimes, a **change in the law is the result in the social reality**.

Arguments in favour of Gujarat Prohibition Act, 1949

- ❖ The law did not intend to **create complete prohibition** and had referred to constitutional debates emphasizing on prohibition so as to raise standards of health.
- ❖ In 2016, it was stated that the state government was **committed to the ideals and principles of Mahatma Gandhi** and firmly intends to eradicate the menace of drinking liquor.
- ❖ The repeal of Gujarat Prohibition law will **open Pandora's box**, primarily on the ground that various research and studies have shown that alcohol tends to **aggravate the sense of violence**.
- ❖ It highlighted that though the petitioners say there is no harm in drinking alcohol in the privacy of their homes but most of the **domestic violence crimes against women and children** are committed behind closed doors.
- ❖ It is considered to be an **attack on the constitutional obligation of the primary duty of the State** as the guardian of the population to protect the health and lives of its people.

Constitutional provisions related to banning alcohol

- ❖ **Article 47** states that it is the duty of the State to raise the level of nutrition and the standard of living of people and to improve public health.
- ❖ **Article 47** also states that the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health.
- ❖ Alcohol is a subject in the **State List** under the **Seventh Schedule of the Constitution of India**.

6.42 ACCELERATING CITIZEN-CENTRIC ENERGY TRANSITION

Recently, the Union Minister of State Power, New and Renewable Energy has launched “**The India Story**” booklet on Indian initiatives shaping energy transition.

Highlights

- ❖ India's installed **renewable energy capacity has increased** by over two and a half times and stands at more than 141 Giga Watts (including large Hydro).

- ❖ The **installed solar energy capacity has increased** by over 15 times, and stands at 41.09 GW over the last 6 years.
- ❖ **India's renewable energy capacity is the 4th largest** in the world with its annual renewable energy addition has been exceeding that of coal based thermal power since 2017.
- ❖ India has a very **liberal foreign investment policy for renewables** allowing 100% FDI through the automatic route in sector.
- ❖ India has established **dedicated Project Development Cells (PDC) and Foreign Direct Investment (FDI) cells** in all Ministries for handholding and facilitating domestic and foreign investors.
- ❖ A **Renewable Energy Investment Promotion and Facilitation Board (REIPFB) Portal** has also been developed to provide one-stop assistance and facilitation to the Industry and Investors for development of projects and bringing new investment.

Energy Transition Initiatives in India

Electrification

- ❖ **Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY):** It aims to achieve universal village electrification and provide continuous power supply to rural India.
 - It was implemented by the Ministry of Power through the Rural Electrification Corporation (nodal agency) and the power distribution companies.
- ❖ **Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA):** It was launched in 2017 to provide universal electricity access to all homes by 31 March 2019.
 - It envisions an overhaul of the power sector value chain i.e. covering generation, transmission, distribution, and energy efficiency to provide 24x7 power to all urban and rural households.
- ❖ **One Nation One Grid:** It aims to synchronise large volumes of renewables-based electricity with conventional grid-based power stations.
 - It is being implemented by the Power Grid Corporation of India Limited (PGCIL).
- ❖ **National Smart Grid Mission (NSGM) and Smart Metering initiative:** The National Smart Grid Mission (NSGM) was set up in 2015 as an institutional mechanism for accelerating smart grid

deployment in India.

Renewable Energy

❖ **National Solar Mission (NSM):** In 2015, India declared a target of 100 GW installed solar energy capacity by 2022, quintupling the National Solar Mission's (NSM) earlier target to install 20 GW solar capacity by 2022.

❖ **Wind Energy Revolution:** It estimates India's gross wind power potential to be 695 GW at a hub height of 120 m, with about 97 per cent coming from Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, and Telangana.

❖ **Hydro Power:** India is the fifth largest hydropower producer in the world with an installed capacity of 46.2 GW as of February 2021.

• Hydropower contributes 12.2 per cent of India's total installed electricity capacity and is classified into large and small hydro power (SHP).

❖ **National Biofuels Policy:** It is an element of the Union Government's five-point strategy to curb India's oil and gas imports

❖ **SATAT:** The Sustainable Alternative towards Affordable Transportation (SATAT) scheme was launched in 2018 to promote compressed biogas (CBG) as a green transport fuel.

• It aims to set up 5,000 CBG plants by 2024 to produce 15 million metric tonnes per annum (MMTPA) of CBG.

❖ **National Hydrogen Energy Mission (NHEM):** It aims to make India a global manufacturing hub for hydrogen and fuel cell technologies across the value chain.

❖ **Production-Linked Incentive (PLI) Scheme:** It will provide funding over five years to improve India's manufacturing capabilities, attract investment in core competency areas and cutting-edge technologies.

Energy Efficiency

❖ **Unnat Jyoti by Affordable LEDs for All (UJALA):** Its objectives were to promote efficient lighting, enhance awareness of efficient, cost saving equipment; and preserve the environment.

• It implemented by Energy Efficiency Services Ltd (EESL).

❖ **Standards and Labelling (SnL):** It was launched in 2006 to inform consumers about the

energy and cost savings potential of adopting energy-efficient products available in the market.

Clean Cooking

❖ **Pradhan Mantri Ujjwala Yojana (PMUY):** It was launched in 2016 as an ambitious, centrally funded welfare scheme to provide below poverty line (BPL) households with clean cooking energy.

• It is implemented by the Ministry of Petroleum and Natural Gas (MoPNG) through its Oil Marketing Companies (OMCs) IOCL, BPCL and HPCL, and their distributor network.

Sustainable Agriculture

❖ **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan Yojana (PM-KUSUM):** It aims to provide financial aid to solarise an additional 1.5 million grid-connected agri-pumps and help 2 million farmers install standalone solar pumps.

• It aims to add 25,750 MW solar capacity by 2022.

Industrial Decarbonization

❖ **Perform, Achieve and Trade (PAT):** It is a multi-cycle flagship programme of the Bureau of Energy Efficiency (BEE).

• It was launched in 2008 by the Government of India under the National Mission for Enhanced Energy Efficiency (NMEEE).

• It is a market-based compliance mechanism aimed at accelerating energy efficiency improvements in energy-intensive industries.

Sustainable Transport

❖ **Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME):** It aims to accelerate the electrification of vehicles and promote eco-friendly transportation.

❖ **Indian Railways Going Green:** The Indian Railways has electrified 45,881 route kilometres (RKM), equivalent to 71 per cent of the total 64,689 RKM of broad-gauge routes.

• It is set to become the first large rail network in the world to achieve 100 per cent electrification by December 2023.

Climate Smart Cities

❖ **Smart City Mission (SCM):** It aims to promote cities offering core infrastructure, a clean and sustainable environment, and a decent quality of life to their citizens through smart solutions.

City Gas Distribution

❖ **India's CNG and PNG network:** India's city gas distribution (CGD) network contributes to around 19 per cent of India's total natural gas consumption.

- It supplies compressed natural gas (CNG) to public and private vehicles through retail outlets and delivers piped natural gas (PNG) to domestic consumers.

Cooling Action

❖ **India Cooling Action Plan (ICAP):** India became one of the first countries to launch a comprehensive cooling action plan in 2019.

- It aims to address sustainable cooling requirements in residential and commercial buildings, cold chains, refrigeration, transport, and industry.

Skilling

❖ **Skill Council for Green Jobs (SCGJ):** It was set up in October 2015 through a joint initiative of the National Skill Development Corporation (NSDC), the Ministry of New and Renewable Energy (MNRE), and the Confederation of Indian Industry (CII).

- It aims to identify the skilling needs of manufacturers and service providers in the green business sector.

Global Initiatives

❖ **International Solar Alliance (ISA):** It is a global treaty-based, multilateral Organisation to facilitate the deployment of 1,000 GW of solar capacity and mobilising USD 1 trillion investment in the solar energy sector by 2030.

❖ **Clean Energy Ministerial (CEM):** It is a high level global forum meant to promote policies and programmes that advance clean energy technology, share lessons learned and best practices, and encourage the transition to a global clean energy economy.

❖ **Mission Innovation (MI):** It was launched in November 2015 at the UNFCCC Conference of Parties (COP) 21 in Paris by India, France, and the United States.

- It was instituted to catalyse action and investment in research, development, and demonstration (RD&D) to make clean energy affordable and accessible for all.

6.43 PREVENTION OF DRONE ATTACK

Recently, the need for an **anti-drone system shielding critical installations** in the country came under sharp focus after drone attack on an Indian Air Force (IAF) base in Jammu which is 14 km from the international border.

Anti-Drone System

- ❖ The **Israeli anti-drone SMASH 2000 Plus systems** are fitted on a rifle and can target drones flying at high speeds.
- The SMASH 2000 Plus anti-drone systems can be **retrofitted onto an AK-47** or any other rifle of a similar make.
- ❖ The **drone detection can be RF-based or via conventional radars** tuned to detect drones or via electro-optic payloads that use thermal imaging.
- ❖ The **DRDO has designated Bharat Electronics as the lead agency** for development and production of much needed anti-drone system for the armed forces.
- ❖ The anti-drone system, which was deployed during 2020 Republic and Independence Day, has a **range of over two to three kilometres with radar capability** to pick up the drone and then use frequencies to jam the unmanned aerial vehicle.
- ❖ The anti-drone system can **detect drones and other small flying objects**, not just during the day but also at night.

Why India needs Anti-Drone System?

- ❖ The usage of drone technology by non-state actors represents a very major jump in the way the **insurgency is playing out**.
- ❖ It will also entail a **new manner of counter-insurgency response** all across India.
- ❖ The drones represent three aspects of risk to the Indian state i.e. **privacy risk** (illegal surveillance), **penetration risk** (drones are used to gather Intel), and **security risk** (to attack installations, smuggle contraband).

- ❖ It is very **difficult to locate small drones and the ones operating them** and it is required to deploy drone-detection technology and subsequent countermeasures to tackle this threat.
- ❖ The armed forces are carrying out drills with the **Israeli anti-drone SMASH 2000 Plus systems** which may be procured on an immediate basis.

Challenges in deploying Anti-Drone System

- ❖ **Heterogenous Sensor Fusion:** The variety of protocols used for communication between sensors poses a problem during their integration into a networked system.
- ❖ **Energy Efficient Sensors:** Power management considerations will always be towering as the employment of such systems is going to be all-day and all-night.
- ❖ **Multiple Drone Detection and Localisation:** Technical challenges will be compounded when trying to detect and localize swarms wherein it will not be necessary that all the drones are having a viable RF signature.
- ❖ **Identification Friend or Foe (IFF):** The IFF shall always remain challenging with the use of drones for all unethical purposes by non-state actors.

Laws regulating drone movement in India

❖ **General Rules for Flying a Drone in India**

- All drones except those in the Nano category must be registered and issued a Unique Identification Number (UIN).
- A permit is required for commercial drone operations (except for those in the Nano category flown below 50 feet and those in the Micro category flown below 200 feet).
- Drone pilots must maintain a direct visual line of sight at all times while flying.
- Drones cannot be flown more than 400 feet vertically.
- Drones cannot be flown in areas specified as “No Fly Zones”.

❖ **India's No Permission, No Takeoff Policy**

- The drone pilots are required to request permission to fly via a mobile app, which will automatically process the request and grant or reject it.
- If a drone pilot tries to fly without receiving permission from the Digital Sky Platform,

he or she will simply not be able to take off.

- All drone operators will register their drone and request permission to fly for each flight through India's Digital Sky Platform.

❖ **Unmanned Aircraft System (UAS) Rules, 2021**

- It requires all persons associated with the Drone ecosystem to undertake a registration in the capacity of an authorised UAS Importer, authorised UAS Manufacturer, authorised UAS Trader, authorised UAS Owner or authorised UAS Operator.

- To be eligible to apply for said authorizations, the applicant needs to be:

- An individual who is a citizen of India and has attained at least 18 years of age;
- or

- A company or a body corporate –

- Registered and having its principle place of business within India; and

- The chairman and at least two-thirds of directors of which are citizens of India; and

- The substantial ownership and effective control of which vests in Indian nationals as specified in Schedule XI of the Aircraft Rules, 1937

- A firm or an association of persons or body of individuals or a local authority or any legal entity, whether incorporated or not, which has its principal place of business in India, Central and State Government or an agency thereof.

- It provides for a new certification requirement in the form of a 'Certificate of Manufacture and Airworthiness' which is required to be obtained by an authorised UAS Manufacturer / UAS Importer.

- It does not permit any UAS to be used, operated, or transferred in India unless it has been registered with the DGCA and has a certificate of conformance.

- The authorised UAS Operators will be permitted to operate UAS, except Nano category UAS, only upon obtaining a UAS Operator Permit ("UAOP") from the DGCA.

4.48 ATTORNEY GENERAL OF INDIA

The central government has **extended the term of K.K. Venugopal as Attorney General (AG) for**

one more year.

❖ This is the **second time the Centre has extended his tenure**. Venugopal received his first extension of term in 2020.

❖ Venugopal was appointed the **15th AG of India in 2017**. He succeeded Mukul Rohatgi who was AG from 2014-2017.

❖ He would be in command of the **government's legal defence in several sensitive cases** pending in the **Supreme Court**, which includes the challenge to the **abrogation of Article 370** of the Constitution and the **Citizenship Amendment Act**.

❖ The Attorney General (AG) of India is a **part of the Union Executive**. AG is the **highest law officer in the country**.

❖ **Article 76 of the Constitution** provides for the office of AG of India.

Appointment and Eligibility:

❖ AG is **appointed by the President** on the advice of the government.

❖ S/he must be a person who is **qualified to be appointed a judge of the Supreme Court**, i.e. s/he must be a citizen of India and must have been a judge of some high court for five years or an advocate of some high court for ten years or an eminent jurist, in the opinion of the President.

• **Term of the Office:** Not fixed by the Constitution.

• **Removal:** Procedures and grounds for the removal of AG are not stated in the Constitution. S/he holds office during the pleasure of the President (may be removed by the President at any time).

Duties and Functions:

❖ To **give advice to the Government of India (GoI)** upon such legal matters, which are referred to her/him by the President.

❖ To perform such other duties of a legal character that are assigned to her/him by the President.

• To **appear on behalf of the GoI in all cases in the Supreme Court** or in any case in any High Court in which the GoI is concerned.

- To **represent the GoI in any reference made** by the President to the Supreme Court **under Article 143** (Power of the President to consult the Supreme Court) of the Constitution.

- ❖ To discharge the functions conferred on her/him by the Constitution or any other law.

Rights and Limitations:

- ❖ S/he has the **right to speak and to take part in the proceedings of both the Houses of Parliament** or their joint sitting and any committee of the Parliament of which s/he may be named a member, but **without a right to vote**.

- ❖ S/he **enjoys all the privileges and immunities** that are available to a member of Parliament.

- ❖ S/he does **not fall in the category of government servants**. S/he is not **debarred from private legal practice**.

- ❖ However, s/he **should not advise or hold a brief against the GoI**.

- **Solicitor General of India and Additional Solicitor General of India assist the AG** in fulfillment of the official responsibilities.

- **Corresponding Office in the States:** Advocate General (Article 165).

3.38 FATF Retains Pakistan on Grey List

The **Financial Action Task Force (FATF)** decided to retain Pakistan on “**increased monitoring list**”.

- ❖ “Increased monitoring list” is another name for the **Grey List**.

- ❖ The **FATF had issued the 27-point action plan after placing Pakistan on the ‘Grey List’ in June 2018**. The action plan pertains to **curbing money laundering and terror financing**.

- During the **October-2020 Plenary**, due to the Covid-19 pandemic, Pakistan was given an extension for full compliance with the 27-point action plan till February 2021.

- It had then not fully complied with 6 of the 27 directives.

- **In February 2021**, FATF acknowledged Pakistan’s significant progress in combating

terrorism, however it was still to fully comply with **three of the 27-point action plan**.

- The three points pertained to effective steps in terms of financial sanctions and penalties against the terror funding infrastructure and the entities involved.

- ❖ The FATF said **Pakistan had failed to take appropriate action against UN-designated terrorists** such as 26/11 accused Hafiz Saeed and JeM chief Masood Azhar. However, **Pakistan has completed 26 of the 27 action items**.

- ❖ The FATF **encourages Pakistan to continue to make progress to address as soon as possible the one remaining Countering Finance of Terrorism (CFT)-related item** by demonstrating that Terror Financing investigations and prosecutions target senior leaders and commanders of UN-designated terrorist groups.

- ❖ In addition, the **FATF has handed down another 6-point list of tasks mainly on money laundering** actions to be completed as well.

- Pakistan is expected to amend its Money-Laundering Act, crackdown on Designated Non-Financial Businesses and Professions (DNFBPs) like real estate agencies and gemstone traders, confiscate and freeze assets of money laundering entities and monitor businesses for proliferation financing, with sanctions for non-compliance.

Significance:

- ❖ In Pakistan's case, the **FATF has taken cognisance of the inaction against several banned organisations** involved in raising funds for terror activities and those linked to global terrorists like Jaish-e-Mohammed chief Masood Azhar and Lashkar-e-Taiba's Hafiz Saeed and its operations chief Zaki-Ur Rahman Lakhvi.

- ❖ On several occasions, India has also raised the involvement of elements within Pakistan in a number of terror cases, **including the 26/11 Mumbai and Pulwama attacks**.

- ❖ **Perpetual containment of Pakistan on the grey list of FATF would further pressurise Pakistan to take adequate measures** to prevent such terrorist attacks on India from its soil.

- ❖ Unlike the next level "blacklist", **greylisting carries no legal sanctions, but it attracts economic strictures and restricts a country's access to international loans**.

- Pakistan's Foreign Minister had estimated a **loss of \$10 billion annually to**

the Pakistani economy for every year Pakistan has been on the greylist.

Financial Action Task Force

- ❖ It is an inter-governmental body established in 1989 during the **G7 Summit** in Paris.
- ❖ The FATF assesses the strength of a country's anti-money laundering and anti-terror financing frameworks, however it does not go by individual cases.

Objectives:

- ❖ To set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.

Headquarters:

- ❖ Its Secretariat is located at the **Organisation for Economic Cooperation and Development (OECD)** headquarters in Paris.

Member Countries:

- ❖ The FATF currently has 39 members including two regional organisations – the European Commission and **Gulf Cooperation Council**. India is a member of the FATF.

Lists under FATF:

❖ **Grey List:**

- Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list.
- This inclusion serves as a warning to the country that it may enter the blacklist.

❖ **Black List:**

- Countries known as Non-Cooperative Countries or Territories (NCCTs) are put in the blacklist.

- These countries support terror funding and money laundering activities.
- The FATF revises the blacklist regularly, adding or deleting entries.
- **Sessions:** The **FATF Plenary is the decision making body of the FATF.** It meets three times per year.

1.13 LIKELY CUT IN INTEREST RATES IN SMALL SAVING SCHEMES

Recently, the **interest rates on small saving schemes (SSS)** such as Public Provident Funds (PPF), Senior Citizens Saving Schemes (SCSS), National Saving Certificate (NSC), and Kisan Vikas Patra (KVP) will be reviewed in few days.

- ❖ The Reserve Bank of India (RBI) in its latest monetary policy statement had expressed **concern about rising inflation** and said it was likely to remain around 5% for the rest of the financial year 2021.
- ❖ The **rising inflation has come as a double whammy** for investors as interest rates on bank fixed deposits are at a multi-year low.
- ❖ The PPF offers an **interest rate of 7.1% which is way higher than that of the G-sec yields** even after including the mark-up.

Why reduction in rates of small saving scheme?

- ❖ The experts believe that the government may reduce the rates of small savings as the **interest rates in the economy have fallen.**
- ❖ The lowering of the interest rates will be in line with **RBI's and the government's strategy to boost consumption and revive the economy** as gross domestic product contracted 7.3% in FY21.
- ❖ The interest rates on small savings schemes are **aligned with the government security rates of similar maturity** with a spread since 2016.

Advantages of Savings Schemes

- ❖ **Long-term benefits:** Individuals can achieve their long-term goals such as retirement plans, children's education, and children's marriage by investing in savings schemes.
- ❖ **Various savings schemes:** The number of savings scheme currently available is large.

❖ **Hassle-free:** The maintenance and investment towards the schemes are very simple and most of the contributions made towards the schemes can be done online.

❖ **Security and safety:** The contributions that are made towards the schemes are minimal on risk as well as safe and secure since the schemes are launched by the Indian Government.

Types of Saving Schemes

❖ **Public Provident Fund (PPF):** Under Section 80C of the Income Tax Act, contributions made towards the scheme as well as the interest that is generated from the contributions are also tax exempt.

- It can be opened at post offices and banks, and the duration of the scheme is 15 years.

❖ **Employees' Provident Fund (EPF):** It was launched with the main aim of helping employees save money for their retirement.

- It is mandatory for organisations with more than 20 employees to contribute towards the EPF scheme.

❖ **National Pension System (NPS):** It was launched with the main aim of providing individuals a regular income after their retirement.

❖ **Sukanya Samriddhi Yojana Account (SSY):** It was launched by Prime Minister Narendra Modi to help secure the future of a girl child.

❖ **Voluntary Provident Fund (VPF):** Under the VPF scheme, employees are allowed to contribute their entire basic salary towards the scheme, unlike the EPF scheme, where only 12% of the basic salary can be contributed.

❖ **Kisan Vikas Patra (KVP):** It is a certification scheme offered by post offices in India.

Senior Citizens Savings Scheme (SCSS): It was launched with the aim of helping individuals who are 60 years and above.

3.39 EXERCISE SEA BREEZE 2021

Recently, the **Exercise Sea Breeze 2021** has kicked off at **Black Sea**.

Exercise Sea Breeze 2021

❖ It is an **annual exercise** started in 1997.

- ❖ The 2021 edition of Exercise Sea Breeze is being led by the **United States and Ukraine**.
- ❖ The exercise involves **sea, land, and air components**.
- ❖ It has the **largest number of participating nations** in the exercise's history with 32 countries from six continents.
 - The **participants are** Albania, Australia, Brazil, Bulgaria, Canada, Denmark, Egypt, Estonia, France, Georgia, Greece, Israel, Italy, Japan, Latvia, Lithuania, Moldova, Morocco, Norway, Pakistan, Poland, Romania, Senegal, Spain, South Korea, Sweden, Tunisia, Turkey, Ukraine, United Arab Emirates, United Kingdom, and the United States.

Significance of Exercise Sea Breeze

- ❖ It provides the opportunity for personnel of **participating nations to engage in realistic maritime training** to build experience and teamwork and strengthen their interoperability.
- ❖ It will focus on **multiple warfare areas** including amphibious warfare, land maneuver warfare, diving operations, maritime interdiction operations, air defense etc.
- ❖ It brings most **Black Sea nations and NATO Allies and partners together** to train and operate with NATO members in the pursuit of building increased capability.

Black Sea

- ❖ It is also known as **Euxine Sea**.
- ❖ It is located between **Eastern Europe and Western Asia**.
- ❖ It is located in **Eurasia**, surrounded by **Europe, Caucasus and Anatolia**.
- ❖ The countries share a border with the Black Sea includes **Romania, Turkey, Bulgaria, Ukraine, Russia, and Georgia**.
- ❖ It is also surrounded by the **Pontic, Caucasus, and Crimean Mountains** in the south, east and north respectively.
- ❖ The Black Sea connects with the **Mediterranean Sea** through the **Bosporus Strait**, and then through the **Sea of Marmara** and the **Dardanelles Strait**.

The Black sea also links with the **Aegean Sea** and the **Sea of Crete** before meeting the Mediterranean.

3.40 BAIHETAN HYDROPOWER PROJECT

Recently, the first two generating units of the **Baihetan Hydropower Project** were turned on.

Baihetan Hydropower Project

- ❖ It is the **world's second-biggest hydroelectric dam** located in southwestern **China**.
- ❖ It is built on the **Jinsha River** which is a tributary of the **Yangtze River**.
- ❖ It is a **289-meter-tall (954-foot-tall) dam** which will have 16 generating units with a capacity of 1 million kilowatts each.

Significance of Baihetan Hydropower Project

- ❖ It is part of Chinese efforts to **curb surging fossil fuel demand** by building more hydropower capacity.
- ❖ It will make it **second in size after the Three Gorges Dam**, opened in 2003 on the Yangtze, with 22.5 million kilowatts of generating capacity.
- ❖ China is a leader in **developing ultra-high-voltage (UHV) transmission technology** to move power from dams in the southwest to Shanghai and other eastern cities.
- ❖ It should eliminate the **need to burn 20 million tons of coal** annually.

Concerns associated with construction of dams

- ❖ The environmental groups have criticised the **over-engineering of the river has destroyed major habitats** and damaged natural flood plains.
- ❖ The construction of dams has resulted in problems like **excessive sedimentation and salinity, waterlogging, sudden floods, soil erosion, large scale deforestation, extinction of species**.
- ❖ The Inter-state river water disputes are also the **result of sharing the water resources and high cost of construction and maintenance**.

Jinsha River

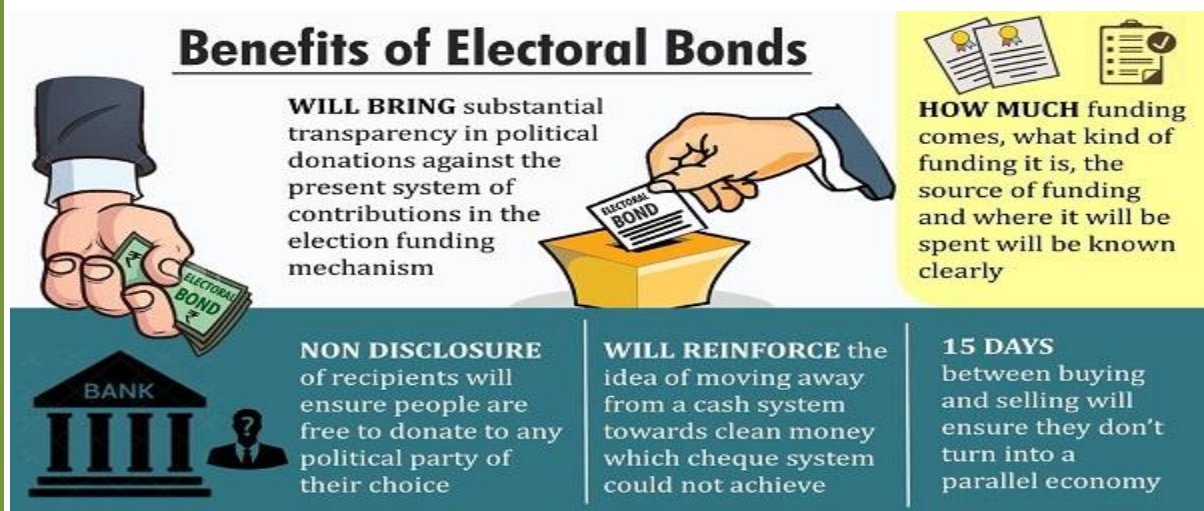
- ❖ Its headwaters rise in the **Wulan and Kekexili ranges in western Qinghai province**, to the

south of the **Kunlun Mountains**, and on the northern slope of the **Tanggula (Dangla) Mountains**.

- ❖ It is the **upper-stream of Yangtze River** and the **largest river** in Yunnan Province.

ELECTORAL BOND SCHEME

Recently, the Government of India has notified the **Electoral Bond Scheme** for the sale of electoral bonds by the authorised branches of State Bank of India (SBI).



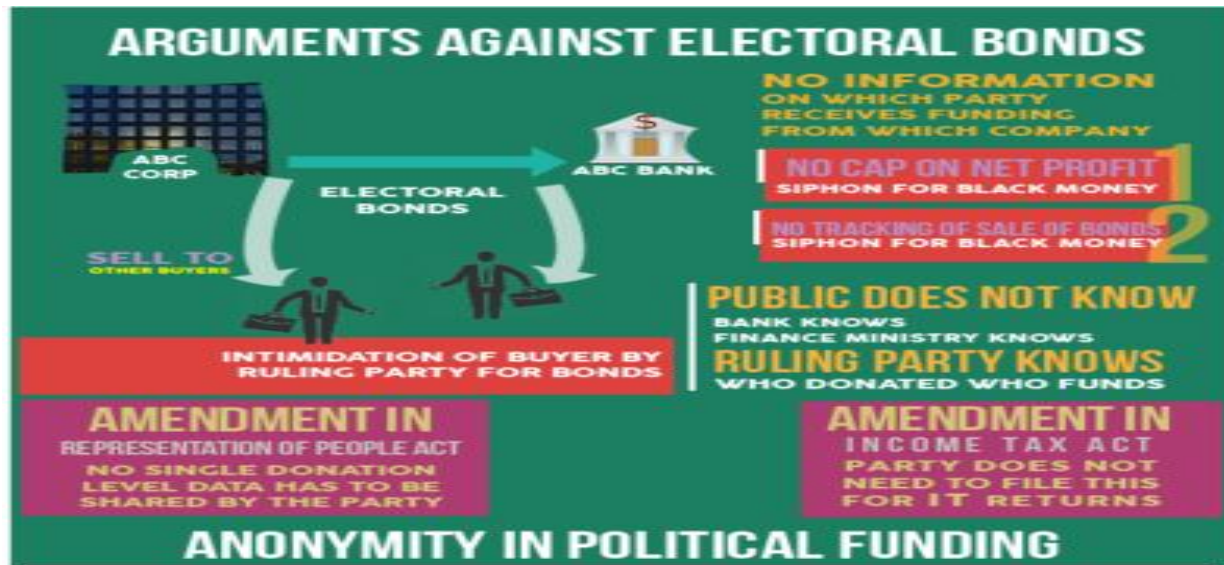
Benefits of Electoral Bonds

- WILL BRING** substantial transparency in political donations against the present system of contributions in the election funding mechanism
- HOW MUCH** funding comes, what kind of funding it is, the source of funding and where it will be spent will be known clearly
- NON DISCLOSURE** of recipients will ensure people are free to donate to any political party of their choice
- WILL REINFORCE** the idea of moving away from a cash system towards clean money which cheque system could not achieve
- 15 DAYS** between buying and selling will ensure they don't turn into a parallel economy

Electoral Bonds

- ❖ It is similar to **promissory note (PN)** because it can be **bought by any Indian citizen or company incorporated in India** from select branches of State Bank of India.
- ❖ The **citizen or corporate can then donate** the same to any eligible political party of his/her choice.
- ❖ It is an **interest free banking instrument** issued on a **non-refundable basis** and is **not available for trading** i.e. no loan would be provided against these bonds.
- ❖ The bonds are **similar to bank notes that are payable to the bearer** on demand and are free of interest.
- ❖ An individual or party will be allowed to purchase these bonds **digitally or through cheques**.
- ❖ The electoral bonds were introduced with the **Finance Bill (2017)**.

- ❖ The bonds will be issued in **multiples of Rs 1,000, Rs 10,000, Rs 100,000 and Rs 1 crore.**



Conditions for Electoral Bonds

- ❖ Any party that is registered under **section 29A of the Representation of the Peoples Act, 1951** (43 of 1951) and has secured **at least one per cent of the votes polled** in the most recent General elections or Assembly elections is eligible to receive electoral bonds.
- ❖ The party will be allotted a **verified account by the Election Commission of India (ECI)** and the electoral bond transactions can be made only through this account.
- ❖ The electoral bonds will **not bear the name of the donor** and the political party might not be aware of the donor's identity.
- ❖ The Electoral Bond shall be **redeemable in the designated account** of a registered political party within the prescribed time limit from issuance of bond.
- ❖ The Electoral Bonds would have a **life of only 15 days** during which it can be used for making donation only to the political parties registered under section 29A.
- ❖ The political party needs to **disclose the details of non-governmental corporations** and persons who donate more than Rs. 20,000 to it in a financial year.

Taxability of Electoral Bonds

- ❖ A donor will get a **deduction under section 80GGB** and the recipient or the political party;

will get **tax exemption**, provided returns are filed by the political party.

❖ Every political party would have to **file its return within the time prescribed** in accordance with the provision of the Income-tax Act.

7.14 Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME)

Recently, the **Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) Scheme** has completed its one year.

Highlights

❖ **One District One Product:** The Ministry of Food Processing Industries approved ODOP for 707 districts for 35 States and UTs.

- The GIS ODOP digital map of India has been launched to provide details of ODOP products of all the States and UTs.

- The digital map also has indicators for Tribal, SC, ST, and aspirational districts.

❖ **Convergence:** The Ministry signed three joint letters with the Ministry of Rural Development, the Ministry of Tribal Affairs, and the Ministry of Housing and Urban Affairs.

- It has signed six Memorandum of Understanding (MoUs) with the Indian Council of Agricultural Research (ICAR), the National Cooperative Development Corporation (NCDC), the Tribal Cooperative Marketing Development Federation of India (TRIFED) etc.

❖ **Capacity Building and Incubation Centres:** The National Institute of Food Technology Entrepreneurship and Management (NIFTEM) and the Indian Institute of Food Processing Technology (IIFPT) have been performing a key role in providing training and research support.

❖ **Seed Capital:** It is being implemented with the support of the National Rural Livelihood Mission (NRLM) and its network of State Rural Livelihood Mission (SRLMs) operating at the state level.

- It envisages financial support of Rs. 40,000 for working capital and purchase of small tools for each member of SHGs engaged in food processing activities.

❖ **Marketing and Branding:** The MoUs have been signed with NAFED and TRIFED to take up the marketing and branding support for 10 products each.

❖ **Institutional Mechanism:** All the 35 participating States and UTs have constituted/ identified

their respective State Nodal Agencies, State Level Approval Committees, District Level Committees, and State Level Technical Institutions.

PM-FME Scheme

- ❖ It is an all India **Centrally Sponsored Scheme** under the **Aatmanirbhar Bharat Abhiyaan**.
- ❖ It is aimed at **providing financial, technical and business support** for upgradation of existing micro food processing enterprises.
- ❖ It adopts **One District One Product (ODOP) approach** to reap benefit of scale in terms of procurement of inputs, availing common services and marketing of products.
- ❖ The scheme would provide **support to FPOs/SHGs/Producer Cooperatives for capital investment** along the entire value chain with credit linked grant at 35%.
- ❖ Under the capacity building component, **training of the Master Trainers would be delivered** through online mode, classroom lecture and demonstration and self-paced online learning material.
- ❖ The scheme envisions to directly assist the 2 Lakh micro food processing units over a **period of five years** from 2020-21 to 2024-25.

Objectives of PM-FME Scheme

- ❖ **Support for capital investment** for upgradation and formalization with registration for GST, FSSAI hygiene standards and Udyog Aadhaar.
- ❖ **Capacity building** through skill training, imparting technical knowledge on food safety, standards & hygiene and quality improvement.
- ❖ **Hand holding support** for preparation of DPR, availing bank loan and upgradation.
- ❖ **Support** to Farmer Producer Organizations (FPOs), Self Help Groups (SHGs), producers cooperatives for capital investment, common infrastructure and support branding and marketing.

Significance of PM-FME

- ❖ The scheme would support **strengthening of backward and forward linkages**, provision of common facilities, incubation centres, training, R&D, marketing & branding, provision of which would primarily be for ODOP products.

- ❖ All individuals & institutions members receiving grant would **undergo training for upgradation** of their skills.
- ❖ The scheme lays **special focus on SCs/STs, women and aspirational districts and FPOs, SHGs and producer cooperatives.**

4.49 NATRAX-High Speed Track (HST)

Recently, the **Ministry of Heavy Industries & Public Enterprises** has inaugurated **NATRAX-High Speed Track (HST)**.

NATRAX

- ❖ It is a **High Speed Track (HST)** located in **Indore (Madhya Pradesh)**.
- ❖ It is **Asia's longest and world's fifth longest** High Speed Track for automobiles.
- ❖ It is developed in an **area of 1000 acres** of land.
- ❖ It is a **one stop solution for all sorts of high speed performance tests** for widest categories of vehicles from 2 wheelers to heavy tractor trailers.
- ❖ The HST is used for **measuring the maximum speed capability** of high-end cars like BMW, Mercedes, Audi, Ferrari, Lamborghini, Tesla etc.

Significance of NATRAX

- ❖ The NATRAX centre has **multiple test capabilities** like measurements of maximum speed, acceleration, constant speed fuel consumption, emission tests through real road driving simulation, high speed handling and stability evaluation.
- ❖ It is **accessible to most of the major Original Equipment Manufacturer (OEMs)** because it is centrally located in Madhya Pradesh.
- ❖ The foreign OEMs will be looking at NATRAX HST for the **development of prototype cars for Indian conditions.**
- ❖ It is **one stop solution for all sorts of high speed performance tests**, being one of the largest in the world.
- ❖ It can cater to **widest category of vehicles** i.e. from two wheelers to the heaviest tractor

trailers.

NATRAX (National Automotive Test Tracks)

- ❖ It is a **State-of-art Automotive Proving Ground**.
- ❖ It is a flagship project of the **Ministry of Heavy Industries** under NATRIP.
- ❖ It provides a one-stop solution for **comprehensive testing and evaluation, Research & Development and Certification** to entire automotive and auto component industries.
- ❖ Its objective is to offer **world-class testing and evaluation services** catering for all categories of vehicles from 2/3 wheelers to heavy commercial vehicles.

4.50 GLACIAL LAKE ATLAS OF GANGA RIVER

Recently, the Department of Water Resources, River Development and Ganga Rejuvenation has released the **Glacial Lake Atlas of Ganga Basin**.

- ❖ The Department of Space also launched the **NHP-Bhuvan portal** of National Remote Sensing Centre (NRSC).

Glacial Lake Atlas

- ❖ It is based on the **inventoried glacial lakes in part of Ganga River basin** from its origin to foothills of Himalayas.
- ❖ The study portion of Ganga River basin **covers part of India and transboundary region**.
- ❖ It is **funded** by the Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD&GR).
- ❖ It is a step forward for **facilitating acquisition of reliable information** and putting the same in public domain which would pave the way for an effective water resource development and management.
- ❖ The possible uses of the **Glacial Lake Atlas** are managing the glacial lakes as well as to mitigate the possible adverse impacts of **Glacial Lake Outburst Floods (GLOF)** and climate change.
- ❖ The expected utility of the atlas is:
 - The atlas provides a **comprehensive and systematic glacial lake database** for

Ganga River basin with size > 0.25 ha;

- The atlas can be used as **reference data for carrying out change analysis**, both with respect to historical and future time periods;
- The atlas also provides **authentic database for regular or periodic monitoring changes** in spatial extent (expansion/shrinkage), and formation of new lakes;
- The atlas can also be used in **conjunction with glacier information** for their retreat and climate impact studies;
- The information on glacial lakes like their **type, hydrological, topographical, and associated glaciers** are useful in identifying the potential critical glacial lakes and consequent GLOF risk; and
- The **Central and State Disaster Management Authorities** can make use of the atlas for disaster mitigation planning and related program

Highlights

- ❖ Ganga River basin has been **divided into 11 sub-basins** on the basis of confluence of major rivers contributing into the system.
- They are **Yamuna** joining the main river on the right, whereas rivers like **Sarda, Ghaghara, Gandak, and Kosi** joining on the left.
- ❖ In India, Ganga River basin extends in two states viz., **Himachal Pradesh and Uttarakhand**.
- ❖ A total of 4,707 **glacial lakes have been mapped in the Ganga River basin** using a total of 105 high resolution multispectral RS-2 LISS-IV images.
- ❖ Each glacial lake has been given a **12 alpha-numeric unique glacial lake ID**, along with several attributes that include hydrological, geometrical, geographical, and topographical characteristics.
- ❖ Out of 11 sub-basins, **only 6 sub-basins contain glacial lakes**, which are predominantly distributed in Kosi sub-basin (51.77%) followed by Ghaghara sub-basin (26.77%).
- ❖ **Uttarakhand state shares 93.50% of lake count**, followed by **6.50% in Himachal Pradesh**, with a total lake area of 90.70% and 9.30% respectively.

4.51 BHUVAN PORTAL

- ❖ The National Hydrology Project or NHP-Bhuvan Portal is a **repository of information** on the initiatives undertaken by NRSC under NHP.
- ❖ It is the national **Geo-portal developed and hosted by ISRO** comprising of Geo Spatial Data, Services and Tools for Analysis.
- ❖ The Satellite Imageries are of **Multi-sensor, Multi-platform and Multi-temporal** in nature can be visualized in 2D and 3D.

National Hydrology Project

- ❖ It is a **Central Sector scheme** sponsored by Ministry of Jal Shakti.
- ❖ It is launched with **financial aid from the World Bank**.
- ❖ Its objective is to **improve the extent and accessibility of water resources information and strengthen institutional capacity** to enable improved water resources planning and management across India.
- ❖ The project comprises **four broad components**:
 - Improving In Situ Monitoring System (IMS)
 - Improving Spatial Information System (SIS)
 - Promoting Water Resources Operation and Management Applications (WROMA)
 - Strengthening Water Resources Institutions and Capacity Building (WRICB)

National Remote Sensing Centre (NRSC)

- ❖ It is one of the **primary centres of Indian Space Research Organisation (ISRO)**, Department of Space (DOS).
- ❖ It has the mandate for **establishment of ground stations** for receiving satellite data, generation of data products, dissemination to the users and development of techniques for remote sensing applications.

1.14 ENFORCING CONTRACTS PORTAL

Recently, the Ministry of Law and Justice has launched the “Enforcing Contracts Portal”.

- ❖ The **Doing Business Report of World Bank Group** benchmarks business regulations across 191 economies of the world.
- ❖ The Ease of Doing Business (EoDB) index is a ranking system which is an **indication of an economy's position relative** to that of other economies across 11 areas of business regulation.
- ❖ The “Enforcing Contracts” indicator **measures time and cost to resolve a standardized commercial dispute** as well as a series of good practices in the judiciary.

Enforcing Contracts Portal

- ❖ It aims to **promote ease of doing business and improve** ‘Contract Enforcement Regime’ in India.
- ❖ It is envisioned to be a **comprehensive source of information pertaining to the legislative and policy reforms** being undertaken on the “Enforcing Contracts” parameters.
- ❖ Its objective is to **provide easy access to latest information on commercial cases** in Dedicated Commercial Courts of Delhi, Mumbai, Bengaluru and Kolkata.
- ❖ It aims to provide access to **repository of commercial laws** for ready reference.

6.44 ASSOCIATION OF CLOUD BURSTS WITH FOREST FIRES

Recently, the scientists from **Hemvati Nandan Bahuguna (HNB) Garhwal University** and **IIT Kanpur** jointly measured the **association of cloud bursts with forest fires**.

Highlights

- ❖ The study has found a **connection between the formation of the tiny particles, the size of a cloud droplet** on which water vapor condenses leading to the formation of clouds and forest fires.
- ❖ The quantity of such particles called the **cloud condensation nuclei (CCNs)** were found to have peaks associated with forest fire events.
- ❖ The study measured the activation of cloud condensation nuclei and studied its **impact on high altitude cloud formation and complexity of local weather phenomenon**.

- ❖ The CCNs were measured by a **droplet measurement technology's (DMT) CCN Counter** at Himalayan Clouds Observatory (HCO), Garhwal University.
- ❖ The observation was carried out under a **Climate Change Programme Division**, Department of Science & Technology (DST) funded project.

Association of Cloud Bursts with Forest Fires

- ❖ It showed that the **highest concentration of CCN** was found to be associated with **excessive fire forest activities** of the Indian subcontinent.
- ❖ The CCN concentration (CCN) was observed at **four supersaturation levels** (SS: 0.2, 0.5, 0.8, and 1.0%).
- ❖ The highest CCN concentration is observed at the **time of sunrise and after the sunset** for the diurnal variation of monsoon, post-monsoon, and winter season.
- ❖ The possible reasons for **maximum concentration in morning and evening time** could be **upliftment and settlement of CCN** because of the convection process, anthropogenic emission, vehicular emission, and biomass burning in the residential area and valley region.
- ❖ The **lowest value of CCN concentration** corresponds to the **heavy rains and snowfall days**, possibly caused by extensive wet scavenging.

Cloud Condensation Nuclei (CCN)

- ❖ The CCNs are **small particles typically 0.2 µm, or 1/100** the size of a cloud droplet on which water vapor condenses.
- ❖ It can activate and grow into **fog or cloud droplets** in the presence of supersaturation (SS).
- ❖ It is used in **cloud seeding**, which tries to encourage **rainfall by seeding the air** with condensation nuclei.

6.45 ATMANIRBHAR KRISHI APP

Recently, the **Office of Principal Scientific Adviser**, Government of India has launched the **Atmanirbhar Krishi App**.

Atmanirbhar Krishi App

- ❖ It was created to **equip farmers with actionable agricultural insights** and **early weather alerts**.
- ❖ The data related to **soil type, soil health, moisture, weather, and water table** were aggregated and analysed to generate personalized insights.
- ❖ The app was envisioned in **5 stages**:
 - Data aggregation
 - Building centralized insights
 - Enable local expertise (KVK) supported interactions and insights
 - Deriving Machine Learning inferences
 - Continuous improvement
- ❖ The app brings together **data relevant to the farmer** and his farm, from various agencies and departments of the Government of India.
- ❖ **Bengaluru-based Indian Centre for Social Transformation (ICST)** Founder Trustee Raja Seva is one of the major stakeholders in the development of Atmanirbhar Krishi App.

Salient Features of Atmanirbhar Krishi App

- ❖ The data has been made **comprehensible for farmers** by simplifying the language.
- ❖ It is available in **12 languages for free of cost** for farmers, start-ups, Krishi Vigyan Kendras, Self Help Groups, and NGOs.
- ❖ The app has been **designed to work on minimal bandwidth** considering the connectivity issues in the remote areas of the country.
- ❖ The app **does not collect any inputs** from the farmer.
- ❖ The app **relies on the geo-location of the farm** to provide relevant data.
- ❖ The Atmanirbhar Krishi App is a great initiative by the Government of India which provides **real time useful and appropriate information** to farmers digitally.
- ❖ It will facilitate **Krishi Vigyan Kendras (KVKs)** to interact with farmers more specifically as per the existing ground realities.

1.15 FUND FOR INDUSTRIAL RESEARCH ENGAGEMENT (FIRE)

Recently, the **SERB-DST** partners with **Intel India** to launch **Fund for Industrial Research Engagement (FIRE)**.

Fund for Industrial Research Engagement (FIRE)

- ❖ It is **first-of-its-kind research initiative** of the Science and Engineering Research Board (SERB).
- ❖ It is a novel initiative to **bring together industry and academia on a common platform** to exchange ground-breaking ideas and co-promote innovative research.
- ❖ It is a **joint government and industry initiative** with a co-funding mechanism to promote innovative technology solutions and strengthen academic research.
- ❖ It is a one-of-its-kind collaborative initiative that aims to **transform the culture of research in India** and strengthen the technology ecosystem.

Significance of Fund for Industrial Research Engagement (FIRE)

- ❖ It will **increase research opportunities** in the space of Artificial Intelligence (AI)/Machine Learning (ML), platform systems, circuits & architecture, Internet of Things (IoT) etc.
- ❖ It aims to **promote research in the upcoming critical areas of science and engineering** with Public-Private Partnerships as elaborated in the draft Science, Technology and Innovation Policy 2021.
- ❖ It will **open many new doors for exploration** in scientific research, which could make India a key player in technology-based solutions.
- ❖ It promises to bring **support for strong ideations**, especially in futuristic S&T thematic areas, and aims to bring expertise in academia and industry together.

Science and Engineering Research Board (SERB)

- ❖ It is a **statutory body** established through an Act of Parliament.
- ❖ The primary and distinctive mandate of the Board is **supporting basic research in emerging areas** of Science & Engineering.

❖ It aims to build up **best management systems** which would match the best global practices in the area of promotion and funding of basic research.

6.46 BORNADI WILDLIFE SANCTUARY

Recently, the Wildlife specialists have the **first photographic evidence of a tiger** inhabiting the **Bornadi Wildlife Sanctuary**.

Bornadi Wildlife Sanctuary

- ❖ It is situated in the **Himalayan foothills** between Udalguri and Baksa districts of **Assam**.
- ❖ It flanks **Bhutan border** and is spread in an area of 26 sq kms.
- ❖ It is named after the **River Bornadi** which flows on the **western side** of this wildlife reserve.
- ❖ It was recognized as a **wildlife sanctuary in 1980** and it was established to protect the **rare species of Hispid Hare and Pygmy Hog**.
- ❖ Other animals found in the reserve are **golden langur, clouded leopard, hoolock gibbon** and **white-winged wood duck**.

Hispid Hare

- ❖ It is a **lagomorph** in the **Leporidae family (hares and rabbits)**.
- ❖ It is identified by its **distinctively short ears** and, unlike other members of the Leporidae family, short and stout hind legs barely exceeding the length of the forelegs.
- ❖ It is **rarely found outside** the shelter of the tall grassland habitats in its range.
- ❖ Its range **historically spanned all suitable tall grassland habitats** across much of the terai in north India and southern Nepal, and the floodplain grasslands of north-eastern India and northern Bangladesh
- It is now **restricted to small isolated pockets**, perhaps only in protected areas (PAs), in **southern Nepal and north and northeastern India**.
- ❖ It is listed as '**Endangered**' under the IUCN Red List of Threatened Species.
- ❖ It is listed in **Schedule I** of the Indian Wildlife (Protection) Act, 1972.