

MONTHLY

EPIC!

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Dear Forumiites,

The 12th edition of EPIC magazine comes when the Civil Services Preliminary Examination, 2021 is around the corner. As the uncertainty regarding the prelims exam prevails, the EPIC team has tried to bring you the most relevant content to give you an edge in the preparation.

This edition of EPIC showcases the ongoing debate on the net zero emissions and the global fight against climate change. Some of the other important topics covered include- National Vaccination Strategy, debate around refugee convention, Reinventing BIMSTEC etc.

A special shoutout to the students who diligently write to us and provide feedback. Your opinion is important to us. Also, topics are regularly included in the subsequent editions of EPIC based on students demand. Keep writing to us at feedback@forumias.academy.

Stay safe and Happy reading!

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FOCUS ARTICLE

SHOWCASE ARTICLE - Net Zero Emission and Climate Justice

In News

In March 2021, 58 countries announced net-zero emission targets. In the next 30 years, they aim to reduce their emissions of climate change-causing carbon dioxide and other GHGs. Globally more than 1000 companies including giants like Apple, Nestle and IKEA have also committed to a target of net zero emissions.

More in the News

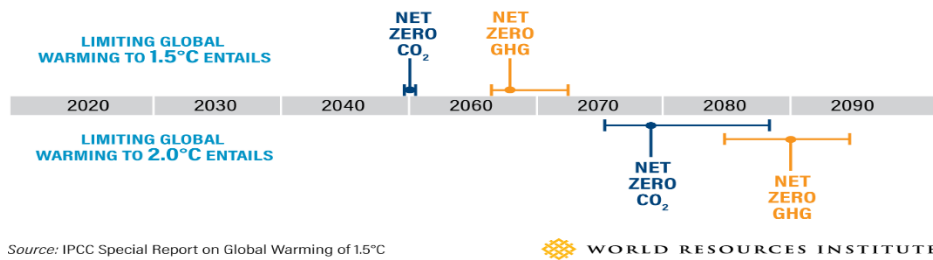
- U.S. President Joe Biden has said that he wants to make - achieving climate and energy goals "a core pillar" of bilateral cooperation with India. The two countries announced a "U.S.-India Climate and Clean Energy Agenda 2030 Partnership" to create stronger bilateral cooperation on actions in the current decade to meet the goals of the landmark Paris Agreement.
- In its bid to reclaim the global climate leadership, the US president convened 40 world leaders in a virtual Leaders Summit on Climate in April 2021 to rally the world in tackling the climate crisis and meeting the demands of science.
- In April 2021, John Kerry- the US President's Special Envoy on Climate has come to India to talk upon the climate change partnership which was impacted during the years Donald Trump was the President of the United States
- "Net zero emission" by 2030 or 2050 is being demanded by the climate movement triggered by Greta Thunberg.

About net-zero emissions

- **Definition:** Net zero emissions means that all man-made greenhouse gas emissions must be removed from the atmosphere through reduction measures such as afforestation, promoting renewable sources of energy etc. This will reduce the Earth's net climate balance, after removal via natural and artificial sink to zero.
- **Zero-Carbon emission versus Net-zero emission** - Net-zero, which is also referred to as **carbon-neutrality**, does not mean that a country would bring down its emissions to zero. In zero-carbon emission, the country will focus on limiting carbon emission. But, net-zero is a state in which a country's emissions are compensated by absorption and removal of greenhouse gases from the atmosphere. Absorption of the emissions can be increased by creating more carbon sinks such as forests, while removal of gases from the atmosphere requires futuristic technologies such as carbon capture and storage.
- **Targets for Net-zero emission** - The net-zero formulation does not assign any emission reduction targets on any country. Theoretically, a country can become carbon-neutral at its current level of emissions, or even by increasing its emissions, if it is able to absorb or remove more.
- **Carbon-negative** - In some cases, a stage may appear that the country can become carbon-negative. The perfect example for this is Bhutan where the absorption is more than the carbon emissions.

Evolution of the net zero " goal " and the climate politics behind it

Global timeline to reach net-zero emissions

**What does the Paris Agreement tell about net-zero emissions?**

- The Paris agreement always had two components: **the short-term targets (NDCs)** and **the long-term targets for decarbonisation**, to reach the eventual target. Science tells we do have time till 2050. We should use the remaining 30 years for a long-term plan so our targets can be met without an overnight transition. The net-zero goal does not figure in the 2015 Paris Agreement, the new global architecture to fight climate change.
- The Paris Agreement only requires every signatory to take the best climate action it can. Countries need to set five- or ten-year climate targets for themselves, and demonstrably show they have achieved them. The other requirement is that targets for every subsequent time-frame should be more ambitious than the previous one.

The recent debate around Net-zero emissions

- An active campaign has been going on led by the developed countries from the last two years so as to get every country to sign on a net zero goal for 2050. The recent visit of **U.S. Special Presidential Envoy for Climate John Kerry** to India and the virtual climate summit of 2021 needs to be seen in this light.
- The argument being floated behind this newfound zeal is that only by achieving global carbon neutrality by 2050 can we keep planet's temperature below 2 degrees Celsius as compared to pre industrial times.
- The current policies and actions undertaken would not even be successful to prevent a 3–4-degree Celsius rise by the end of the century.
- **Focus on long-term goals:** The broader theme of the current discussion centres around having a **long-term goal**. Such discussions have been going on for decades. Carbon neutrality goal is the latest entrant to these discussions.
 - **Long term targets** ensure predictability and continuity in the climate action policies of the countries. However, till now a consensus on what these long-term goals should be has never been reached.
- Earlier, discussions used to hover around emission reduction targets say for 2050 or 2060. These targets were for rich and developed countries. This was in line with the view that previous unregulated emissions over several decades are main culprits behind the current situation we are in.
- **Shifting the burden:** The net zero formulations are advantageous for the developed nations as it does not assign any target as such. It only requires a country to absorb or

remove from the atmosphere which it emits. This would mean that now the **burden of responsibility** falls on everybody's shoulders and not just on them.

- **Increasing global pressure:** Around 58 countries, accounting for more than half of the world's emissions, have announced net zero emission targets so far, according to Climate Watch data.org.
 - Only six parties, including the United Kingdom and New Zealand, have legally binding net zero emissions targets while 26 parties presently have it in their policy documents.

Rationale behind achieving net zero emissions

- **To achieve goals set in Paris Agreement** - In the Paris Agreement, governments agreed to keep global warming 'well below' 2 degrees Celsius, and to 'make efforts' to keep it below 1.5°C.
 - The Intergovernmental Panel on Climate Change (IPCC) released a report in October, 2018 on the 1.5°C target. It concluded that global emissions need to reach net zero around mid-century to give a reasonable chance of limiting warming to 1.5°C.
- **Carbon dioxide emissions at an all-time high**- According to **Global carbon project report 2019** (a Global Research Project of Future Earth and a research partner of the World Climate Research Programme) humans released more CO₂ than they did ever before in history. This puts us on course for a 3-degree Celsius global temperature rise this century. For us to stand a chance of limiting global warming to 1.5degree Celsius, Human made emissions need to fall 45% by 2030.
- **To mitigate consequences of climate change** - During the course of global warming, the energy balance and thus the temperature of the earth changed, due to the increased concentration of greenhouse gases, which has a significant impact on humans and the environment.
 - The **direct consequences of man- made climate change** include: rising sea levels, higher ocean temperatures, an increase in heavy precipitation (heavy rain and hail), shrinking glaciers, thawing permafrost etc.
 - The **indirect consequences of climate change**, which directly affect us humans and our environment, include: an increase in hunger and water crises, especially in developing countries, health risks through rising air temperatures and heat-waves, increasing spread of pests and pathogens, loss of biodiversity due to limited adaptability and adaptability speed of flora and fauna etc.
- **Greater economic benefits:** With many countries making bolder pledges, it is likely to spur technological innovation. Early investment in carbon-neutral ventures can attract large-scale economic opportunities in future. For example, the Net-zero emissions target can **generate 24 million jobs in 15 years** across multiple sectors.

- **Adoption of clean sources of energy:** This will reduce the dependence on fossil fuels, lower energy bills, etc. Further, the Net-zero emissions targets can spur the growth of renewable energy and associated developments.

Challenges to achieve net zero emissions

- **Dilution of Paris climate agreement** - The adoption of Net-zero emissions target can lead to the dilution of the Paris deal in the following ways:
 - **Violate the common but differentiated responsibilities and respective capabilities (CBDR-RC)** : As the net-zero target is aimed to be achieved around the mid of this century, the poor countries and developing countries have to take many initiatives to achieve the net-zero targets. In other words, the **developed countries can evade their historical responsibility and transfer burden to developing countries.**
 - The **Climate Action Tracker report** mentioned that even after five years of the Paris deal, the climate action of major developed countries is **incompatible with the goals of the Paris Agreement**. Apart from that, the report also mentioned that only a few developing countries including India, are taking enough step towards climate justice. So, the adoption of these targets will dilute the country's immediate responsibility and emit **more GHGs than at present.**
 - **Credibility and accountability of Net-Zero emissions** - The Paris climate deal itself lacks accountability. Perhaps, this is the major reason for the non-monetisation of Climate finance (100 billion \$ annually from 2020(now it is shifted to 2025)). If that is the case, then the individually determined Net-zero targets will remain as targets alone.
- **COVID 19 and its ramifications** -The way in which countries emerge from the pandemic could shape the course of the energy system.
 - **Late transition** - One initial response to the crises of 2020 is to repair the economy – a focus on wealth first. Other underlying societal and environmental pressures may receive less attention initially until their relative neglect provokes backlash reactions.
 - **Emphasis on nationalistic ambitions** - Alternatively, governments and societies may decide to focus on their own security, with a new emphasis on nationalism threatening to unravel the post-World War 2 geopolitical order.
 - **Accelerated decarbonisation** - Another possibility is that the response to the crises of 2020 could be a renewed focus on the broader issue of societal well-being – a health first approach. Lessons learned from shared best practices, alignments of diverse interests and institutional improvements would help create a pathway to the welfare of people and society and the health of the environment, including meeting the goals of the Paris Agreement – accelerated decarbonisation now.

- **Challenges with respect to Electrification** - While the Net Zero Emission scenario assumes rapid electrification in all sectors, several technological and behavioural constraints include:
 - **Agriculture sector** - In agriculture, smaller farm vehicles can quickly electrify, but the replacement of large, powerful diesel tractors is more limited, due to cost constraints and battery weight.
 - **Transport sector** - While electric passenger vehicles are now available, mass production, cost reductions and better financing mechanisms all need to be in place to increase the market share of electric cars.
- **Hydrogen fuel and related problems** - Large-scale green hydrogen production is still a nascent industrial process and while costs are coming down, more progress is required.
- **Constraints regarding Bioenergy** - The use of biomass and biofuels will require considerable transition in existing supply chains.
 - In some cases, this will involve moving to more centralised collection for largescale industrial use, switching the type of biomass collected for alternative biofuel production and adapting existing processes to meet new demand, such as for the very stringent aviation market.
 - While biomass availability is not an issue, getting the right biomass in the right place may well take some time to implement.
- **Unreliable technology- Most** Net zero emission technologies are still only prospective technologies – they do not exist as large-scale socio-technical systems ready for deployment.
 - Relying more upon tree-planting will require such vast areas it will drive land-grabbing and rising hunger in the global south.
- **Other associated Challenges:** This includes the challenges like,
 - **Non-availability of Negative emissions technologies**
 - Challenges in **reskilling of the labour force, job loss**
 - **The higher annual cost** to the Government as the target demand high financial incentives.
 - Challenges in developing the necessary carbon-neutral supply chains
 - **Initial high cost of materials and installations**, etc

INDIA AND PARIS AGREEMENT

- On February 2021, India's emission intensity of gross domestic product (GDP) has reduced by 24 per cent between 2005 and 2016, thereby achieving its voluntary goal to reduce the emission intensity of GDP by 20-25 per cent from 2005 levels, earlier than the target year of 2020.
- In 2015, India further raised ambition in its nationally determined contributions (NDC) to reduce the emission intensity of its GDP by 33-35 per cent below 2005 levels by 2030.
- India's share of non-fossil fuel-based energy resources in installed capacity of electricity generation has already reached 38 per cent against an NDC target of 40 per cent by 2030.

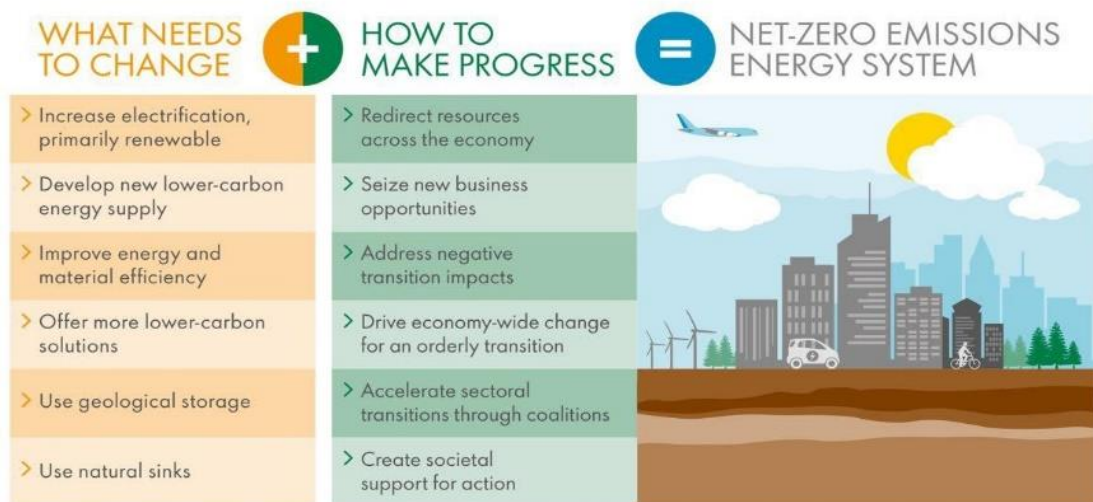
- It also announced a target of achieving 175 GW of renewable energy capacity by 2022, which was subsequently enhanced to 450 GW by 2030.

India's reluctance to join Net Zero countries Club

- **Paris agreement is already in action** - The net-zero goals do not feature in the 2015 Paris Agreement, the new global architecture to fight climate change.
 - India has been arguing that countries must instead focus on delivering on what they have already promised.
- **India is already contributing significantly to the global cause** - India is well on its way to achieving its three targets under the Paris Agreement and looks likely to overachieve them.
 - Several studies suggest that India is the only country among the G20 whose actions are in compliance to the Paris agreement and its aim to keep the global temperatures below 2degree Celsius.
 - For example, in July 2020, India railways announced plans to achieve net zero emissions by 2030. This follows a target to achieve complete electrification of its network by 2023.
 - Similarly, for the first time in 2018, solar investments exceeded investments in coal.
- **Issue of peak year** -Any country has to take into account the year which it chooses to be its peak year in any decision on net zero targets. Peak year is the year when Greenhouse gas emissions have peaked and have started to decline.
 - According to an estimate, if India chose 2030 as its peaking year and 2050 as its net-zero year, and if carbon capture technologies remained commercially unviable, then 83% of India's energy would have to come from renewable (excluding hydropower). Further, the share of fossil-fuel energy in the primary energy mix would have to be cut down to 5% by 2030 from 73% (2015).
 - Many developed countries have already peaked emissions and for them, the conversation around net zero revolves more around ways to achieve that. However, India is yet to peak, both economically and in terms of its emissions.
- **Need of rapid structural changes** - These changes need to be across all sectors and sections of society. This, in turn, would require significant international financial investments and technological transfer from or technology co-development with the developed world.
 - As a result, choosing a year for net zero target becomes tricky since it should not only minimise climate impacts but also gives it enough space to develop.
- **Unreliable methods to offset emissions** - Over the next two to three decades, India's emissions are likely to grow at the fastest pace in the world, as it presses for higher growth to pull hundreds of millions of people out of poverty.
 - Most of the carbon removal technologies right now are either unreliable or very expensive.

- Also, no amount of afforestation or reforestation would be able to compensate for the increased emissions.
- **It could derail our development plans** - If India chooses a faster transition towards low-carbon growth, it would affect the revenue of coal-dependent states such as Jharkhand and Odisha. It could render half a million people in the coal sector jobless and lead to higher railway passenger fares as Coal freight is the core source of revenue for the Indian Railways.
- **Fails to adhere to the idea of climate justice** - It brushes over one of the most important principles of 2015 Paris Agreement – “common but differentiated responsibility”. This requires richer countries to lead and take historical responsibility for the emissions caused in the past by them. Also developing countries will have to suffer a higher burden and hence climate mitigation policies should be differentiated to put a higher onus of mitigation on the developed world.
- **Adaptation a bigger challenge than mitigation** - For India and other developing countries, it is important that mitigation does not overshadow other key elements of the Paris Climate agreement. The consequences of climate change are already upon us and even with the most ambitious mitigation action, will continue to impact the world since greenhouse gases accumulated in the earth's atmosphere diminish only gradually. Adaptation should have equal billing with mitigation.
- **Failure of developed countries to fulfil pledges made in Paris deal** - Developed countries had committed themselves to providing \$100 billion a year in climate finance to developing countries up to 2020 to enable them to expand their climate action. It was in addition to a further increase the size of this funding significantly in the period 2021-2025. However according to OECD, the actual flows have fallen far short, being only \$79 billion in 2018.
- **Per capita emissions fall way short as compared to developed ones** - Even with more than 1.35 billion people, India's per capita carbon footprint is only around 2 tonnes CO₂equivalent (CO₂e), much lower than the global average of 4.8 tonnes and a fraction compared to the footprint of countries like Australia at 17 tonnes CO₂e.
- **Mismatch between short-term actions and long-term commitments** - Such long-term commitment, ending in mid-century rely on promises of future carbon removal – instead of reducing emissions now and are not coupled with short-term actions.

Suggested solutions to achieve Net Zero Emissions in India



- **Accelerating clean technologies**
 - Grow the power sector by a factor of more than four in 30 years, dominated by renewable.
 - Target 13% hydrogen in final energy, including as a fuel for industry and transport.
 - Transform bio energy, with liquid bio fuels surpassing petroleum products by 2040 to fuel industry and transport, including hard-to-abate sectors such as aviation.
- **Supporting energy-efficient and lower-carbon choices**
 - Invest in processes, technologies and end uses to improve energy intensity per unit of GDP by almost 60% by 2050, a rate of improvement nearly twice historical levels.
 - Adopt economic mechanisms, such as carbon pricing, to drive the reallocation of capital and resources and support the commercialisation of new fuels and technologies.
 - **Create markets and demand for these low-carbon fuels by, for example, sectoral carbon pricing, emissions performance standards and policy mandates.**
- **Removing unavoidable emissions**
 - Capture and store 400 mega tonnes of CO₂ using Carbon Capture and Storage by 2050; construction needs to begin in the near-term.
 - Remove 0.9 gigatons of CO₂e/ year by 2050; this requires at least 30-40 million hectares of additional forest cover (an area equivalent to Rajasthan) and plant more trees outside of forests.
 - Establish governance for carbon removals to establish both natural carbon sinks and carbon capture, utilisation and storage, particularly during the transition, to keep the world within its carbon budget and prevent overshoot.
- An integrated and ambitious industrial policy promoting the following
 - **Transport Sector - The** focus should be on electrification and enhanced use of bio fuels.

- New industries such as the manufacture of solar panels, wind turbines, batteries and hydrogen electrolyzers.
- Developing lower-carbon industrial processes such as green steel produced using green hydrogen.
- Installing carbon capture, utilisation and storage at cement production facilities.
- Steer the automobile industry towards lower-carbon vehicles and applying innovative digital solutions to reduce emissions from urban transport.
- **Transformation of operations to save planet** - Entire supply chain has to have net zero emissions. For example, Apple intends to do 75% of these reductions from the supply chain through conversions of dirty Energy to clean energy. Other best practices of this order could be replicated with suitable modifications.
- **Creating societal support**
 - Create clear and predictable policies that keep overall macroeconomic costs of the transition manageable.
 - Adopt fair and equitable policies that mitigate regional, sectoral and distributional impacts of the transition.
 - Establish transparent and inclusive policies that encourage wide societal innovation and participation in change.
- At an individual level
 - A huge impact could be made depending upon the choices we make as to how we eat, what we eat, how we transport ourselves, how we dress and most importantly on how we vote.

PERSPECTIVES: Ethics of climate change negotiations

The climate system is a global common. Yet the consequences and costs of climate change do not fall equally on all nations and all parts of the globe. And with fossil fuels now supplying 80 percent of global energy, and thus enabling much of modern economic progress, nations will accept constraints on their freedom to emit greenhouse gases only when they are satisfied, they are being treated fairly as part of a global response. The differing perspectives of developed and developing nations – and the contrast between past and future actions – remain a key issue.

Perspective of developing nation - If asked which nations are responsible for this dramatic increase in greenhouse gases, the answer is obvious – the developed nations. The United States, currently with about 5 percent of global population, has produced about a quarter of all the carbon dioxide that humankind has added to the atmosphere.

Perspective of developed nations - On the other hand, if asked where the future growth in carbon dioxide emissions will originate, the answer is that the developing nations will largely be responsible. The developing nations with large populations – China foremost, followed by India, Brazil, Russia and others – are rapidly exploiting fossil fuels to power economic development. China, which now builds a new large coal-fired power plant every week or so, has already passed the United States as

the nation that emits the most carbon dioxide. Is this fair? Ethical concerns demand a principled understanding of the differing rights and obligations of both developed and developing countries.

Arguments against the idea of net-zero emissions targets:

- **Against commutative justice:** It strikes at the root of the basic tenets of the United Nations Framework Convention on Climate Change (UNFCCC).
- **Against distributive and corrective justice:** It violates principles of equity and Common but differentiated responsibilities based on respective capabilities (CBDR-RC) based on historical responsibility. Even though industrialisation in the developed countries is responsible for emissions that causes climate change, people of the developing countries are suffering disproportionately more.
- **Undermines the achievement of a climate-just world** due to mismatch between the commitments of developed and developing nations. The Climate Action Tracker reports that the climate action of major developed countries is incompatible with the goals of the Paris Agreement. (Backtracked from Kyoto commitments). On the other hand, India introduced **climate sensitivity in domestic policies** through interventions like energy for all, housing for all, health insurance and crop insurance, “Clean India”, and “give it up” campaigns, popularising yoga and sustainable lifestyle practices.

Way forward

The global community should try to deal with climate change by referring to the three types of justices provided by **Aristotle in Nicomachean Ethics**:

- **Distributive justice:** It pertains to how resources should be distributed in terms of principles of equality, equity and merit. **Distributive climate justice in the implementation of the Paris Agreement** can be ensured by focusing on ensuring ambitious climate action by developed countries in the near term.
- **Commutative justice:** It refers to agreements or commitments and other kinds of social contracts. It can be ensured by fulfilling the past commitments made by developed countries. For instance, meet their climate finance goal i.e., the goal of jointly mobilising at least \$100 billion per year by 2020 to support climate action in developing countries.
- **Corrective justice:** It pertains to the righting of wrongs. Developed countries need to repay the climate debt by shouldering greater mitigation responsibilities and providing finance, technology and capacity-building support to safeguard the interest of the poor and vulnerable people in developing countries.

Conclusion

To reach a net-zero emissions energy system by 2050, India needs to deploy clean energy technologies on a mass scale. It requires more and faster deployment of large-scale solar, wind and hydro power – replacing coal – to power greater electrification across the country. It also requires the development of new fuels, such as liquid biofuels and biogas, as well as hydrogen produced from electrolysis. Energy efficiency must also improve significantly. Additionally, carbon removals (from technology and nature) play a critical role. Crucially, it will take policy frameworks

to create alignments and manage the wider economic and social impacts of the transition in order to make progress at the pace required for the energy system to be net-zero emissions by 2050. India has set major targets to grow its economy and progress its national development in the years to come. In tandem, it is determined to manage its emissions to address local pollution and climate change. Together, these two goals pose a significant challenge for the country, but by setting clear objectives and a trajectory, creating an enabling policy environment and making the right investments, India can make major progress.

General Studies - 1

Remembering the social reformer - Dr. B.R Ambedkar

Syllabus: Modern Indian history from about the middle of the eighteenth century until the present- significant events, personalities, issues.

In News - 130th birth anniversary of B R Ambedkar was celebrated on 14th April 2021.

Introduction

- Bhimrao Ramji Ambedkar (14 April 1891 – 6 December 1956), popularly known as Babasaheb, was a jurist, political leader, philosopher, historian, orator, economist, teacher, editor, prolific writer, and a revolutionary inspiring **Dalit movement in India**. He was also the **chief architect of the Indian Constitution**.
- Ambedkar belonged to the Mahar caste, a lower caste in Maharashtra. He became one of the first Dalits to obtain a college education in India. With degrees from Columbia University and the London School of Economics, he quickly gained a reputation as a scholar in economics and practiced law for a few years.

His contribution to nation-building

- **Phase I**- It included the **organisation of untouchables** through newspapers and depressed class conferences. He wrote a petition to the British government to consider the situation of untouchables and promote their education.
- **Phase II** - In 1927, the Bombay legislative assembly passed an order **allowing untouchables to drink water from public ponds**. In the second depressed class conference, he burned *Manusmriti*. This marked his **acknowledgment as a leader of untouchables**.
- **Phase III** - He started becoming highly critical of caste Hindus as well as congress. He started advocating **separate representation for Dalits**. His divide with Gandhi on the issue of untouchables became prominent. He later signed **Poona Pact with Gandhi in 1932**. From 1942 to 1946, he was highly critical of congress.
- **Phase IV**- Towards the dawn of independence, we see a change in the views of Ambedkar. He left the demand for a separate electorate. He **cooperated with Congress information on the Constitution**. He was nominated as chairman of the drafting committee. He also became the first law minister of independent India.

- **Phase V-** He became disillusioned with Congress. He **resigned from government** as a protest against the defeat of the Hindu code bill in the hands of caste Hindus. Later on, he converted **himself to Buddhism** in 1956.

Ambedkar's Views on caste system

- **Origin of the caste system** - Ambedkar wanted to know the origin of the caste system to understand, **how the caste system and specifically untouchability can be eradicated**. He was not satisfied with the theory given in Purushukta of Rig-Veda. He instead went for a **more scientific and anthropological account of the origin of the caste system**.
- **Brahmanical hegemony** - For him, till the society was migratory, there was no caste system. There were only three varnas. Shudras were Kshatriyas, who developed differences with Brahmins. In response, Brahmins stopped upanayana sanskar for this group which symbolized purification. Thus, **Shudras were Kshatriyas who were not purified**.
- **Varna system excluded Dalits** - On the other hand, he suggested that **untouchables were followers of Buddhism**. As a result of which they were not the part of Varna system and had to live outside the main village.
- **The function of untouchability** - According to him untouchability was enforced so that they continue to **serve the interest of other castes**. This happens because even when they take up any other profession, the higher caste would not take up their services. This forced them to continue with their traditional jobs. Since all the caste were benefitted from this structure, they all started practicing untouchability.
- **Eradicating untouchability** - Only by leaving Hinduism, was it possible to end untouchability. He gave the example of **Bhakti saints and earlier social reformers** who tried but could not end untouchability. For him, caste Hindus are not bad people but they are extremely religious.

Ambedkar's Views on Hinduism

- **Hinduism as Brahmanical ideology** - According to Ambedkar, there is nothing called Hinduism. The word itself is of **a foreign origin**. It is a Brahmanical ideology, to establish their hegemony. It is based on **two principles- endogamy and the concept of purity and pollution**.
- **Process of Sanskritization** - To establish their hegemony Brahmins have started **exclusive practices**. Once they started the following endogamy, other castes also followed them. This is the process defined by **M.N Srinivas as Sanskritisation**. As a result, **society got divided into closed groups**. He also criticized the myth of pure blood which he believed was sustained by endogamy.
- **Concept of purity and pollution** - Brahmins also started to differentiate between pure and impure. Those who were **purier were higher in the hierarchy compared to those who were impure**. They adopted the practice of vegetarianism. This resulted in exclusivity.

Those who ate meat were considered impure. Here again, those lower in hierarchy started to imitate.

- **Endogamy sustains Hinduism** - If **endogamy ends, Brahmanism ends and thus Hinduism ends**. This leads to the end of the caste system and untouchability.

Ambedkar's Views on democracy

- **Social equality is the core of democracy** - For Ambedkar, political progress is impossible without a reformed society. Fight for democracy at the **social level is more important than the political level**. For him, society can be more oppressive than the state as it has more means and scope of exploitation. The idea of democracy and the caste system are incoherent with each other. Democracy is based on the **idea of fraternity** and caste systems prevent a deep sense of spiritual sharing.

Ambedkar's Debates with Gandhi

Ambedkar was critical of Gandhi. He had no faith in the constructive program of Gandhi to abolish untouchability. They disagreed on the following issues:

- **The idea of the varna and caste system** - Gandhi **supported the varna system**. For him, every society had some form of functional specialization. He was also **against the caste system**. He didn't consider the caste system as an original feature of Hindu society. For Ambedkar though, **Gandhi's views were textual** and far removed from the ground reality. The Varna system is based on worth whereas the caste system is based on birth. The Varna system is a division of labor whereas the caste system is a division of laborers. Gandhi himself was not following his Varna dharma i.e profession of Vaishya.
- **The use of the term Harijan** - **Ambedkar was critical of Gandhi's use of the term Harijan** for untouchables. **Harijan is a misleading word**. Untouchables are not those who are loved by God but they are instead the most exploited sections of the Hindu society. He instead preferred the use of the term Dalits.
- **Working of Harijan Sevak Sangh** - He was also a critic of Gandhi's Harijan Sevak Sangh. **Gandhi didn't accept Ambedkar's proposal to include the members of the Dalit community** in the management of Harijan Sevak Sangh. Gandhi believed that members of the upper caste should serve the Dalits and work in their interest. For Ambedkar, it was an instrument to distract the community from reality so that they continued to be exploited.
- **Gandhi's support for the abolition of untouchability** - **Gandhi neither supported Mahad satyagraha nor did undertake any fast for the abolition of untouchability**. On the other hand, he undertook fast unto death for the abolition of a separate electorate.
- **Debates over conversions** - Gandhi was **against religious conversions**. For him, a person's birth into a particular religion was a divine wish. He, however, could take good things to form the religion and culture of others.
- **The similarity in goals as well as means** - Although the differences might seem huge at first, the goals of both of them were more or less similar. The **differences were mostly concerning the means and approaches**. Even Ambedkar believed in non-violent methods.

Initially, Ambedkar adopted the method of satyagraha and later on shifted towards constitutional methods.

Ambedkar's Views on Women

- **Inclusion of women in mainstream society** - Besides these mainstream forms of exploitation even the **subaltern forms** like women's exploitation, could not escape his agenda. He viewed them as the most oppressed of all. He raised his voice against **women's discriminatory situation in society**. He always involved women in his struggles and tended to give them important positions. For example, **about 500 women had marched at the head of the historical procession at Mahad** (Drinking Water Satyagraha, Maharashtra, 1927) to assert the untouchable's right to drink water from the public tank. He also oversaw the drafting of a new law in 1951 which allow women to choose their partners and give them divorce if necessary.

Conclusion

To conclude, one may say that Ambedkar was a social prophet of the untouchables. There is no doubt that he was a patriot and **didn't oppose national integration**. For him, the liberation from the **degrading humiliations imposed by Hinduism on Dalits was a matter of more urgent necessity than the political liberation** from the alien British rule. Hence, Ambedkar deserves the credit for having made Hindus aware of the great tension generating social problems which must be tackled. Otherwise, they may eventually bring about the doom not only of the Hindu society but of the total Indian political system. He will have a **significant place in history through his scholarly writings, speeches, leadership, and constructive work**.

Women-led development model

Syllabus: Role of women and women's organization

In News: In projecting a new growth story India is transitioning from women's development to women-led development. In this vision, women have been reimagined as builders of India's progress and development.

What do you mean by women-led development?

In the women-led development model, women have been envisioned as active partners in charting out India's development story. It views women as **architects of India's progress and development**. They will not be the passive receivers of the fruits of development.

- **For instance**, schemes such as **Pradhan Mantri Awas Yojana** are empowering women as the house is given in the name of a woman of the household. This gives ownership of a house to a woman. This adds to the assets of a woman which makes a woman economically empowered.
- During the **covid-19 pandemic**, an amount of ₹ 500/- per month for three months (April' 20 to June' 20) was accredited to the accounts of women account holders under the **Pradhan Mantri Jan Dhan Yojana (PMJDY)**.

Women at Work: Present Scenario

- **UNDP Report:** The UNDP in its latest **report for Gender Inequality** has noted that women spend 2.4 more hours per day than men on unpaid care and domestic work on an average. Women have been hit harder than men by the **pandemic**. They suffered income loss and left the Labour market at a greater rate.
- **Global gender gap report:** The **Global Gender Gap Report 2021** was published by **World Economic Forum (WEF)**. The report noted that in terms of economic participation, the **gender gap has widened in India** by 3% this year. The share of women in **professional and technical roles declined** to 29.2%.

Government Initiatives for Women Empowerment in Various Arenas

- **In Panchayats:**
 - **Mahila Sabhas in Gram Panchayat:** A Mahila Sabha is a meeting of women of a village, which takes place before the Gram Sabha, to address issues related to women.
 - **Rashtriya Gram Swaraj Abhiyan (RGSA):** The scheme is for developing and strengthening the abilities of Panchayati Raj Institutions (PRIs) for rural local governance to become more responsive towards local development needs.
 - **Panchayat Mahila Evam Yuva Shakti Abhiyan (PMEYSA):** The objectives of this scheme are to enable Women Panchayat Leaders to come together and to articulate their problems as women Panchayat Leaders.
- **In Education:**
 - **Vigyan Jyoti Scheme:** The programme is to encourage girls to take interest in science and build a career in STEM.
 - **GATI Scheme:** It will develop a **comprehensive Charter and a framework for assessing Gender Equality** in STEM.
 - **KIRAN Scheme:** It is primarily aimed to bring gender parity in the Science & Technology sector by inducting more women talent in the research & development domain through various programmes.
 - **Beti Bachao Beti Padhao Scheme:** It is a campaign of the Government of India that aims to generate awareness and improve the efficiency of welfare services intended for girls in India.
- **In Entrepreneurship:**
 - **Mahila e-haat:** It is an initiative for meeting the aspirations and needs of women entrepreneurs. It is an online marketing platform for women, where participants can display their products.
 - **Women Entrepreneurship Platform (WEP):** It is a platform intended to promote entrepreneurship among women in India.
- **Other Initiatives:** Many other schemes such as the national creche scheme, one-stop centre scheme, and scheme for adolescent girls (SAG) are launched across the country.

What are the challenges to a women-led development model?

- **Lesser Labour Force Participation:** According to the **AISHE Report 2019**, the female students were half (48.6%) of the total admission in higher education but the participation of women in the **labour force stands as low as 18.6%**.
- **Married women:** A large number of women leave their jobs to get married and have a family and later on find it difficult to come back and continue their job. They are seen as an **'unreliable' member of the company**.
- **Pressure from society:** There is a fear of women being branded by the community that might see their work as a marker of low status, i.e., the inability of the husband, the main breadwinner, to provide for the family.
- **Frequency of Informal Work:** Women are undervalued and underpaid in the informal sector. Disproportionate long hours and lesser job security narrow down the job opportunities for educated women in India.

Way Forward

- **Sustaining the education v/s employment ratio:** It needs to be guaranteed that women education which is being subsidised very heavily is put to use for the country. The remaining share of educated women should also be able to utilise their talent and contribute to the GDP of the country.
- **Women in Leadership Role:** Restrained gender participation comes from social-economic issues, which can be corrected by bringing behavioural changes. This can be changed if more women are given leadership positions.
 - Women should be equally represented in company boards, parliaments, higher education, public institutions through special measures and quotas.
- **Changing the Mindset:** The idea that women's dreams and career are as important as that of a male must be inculcated in the minds of girls' right from the beginning. Society also needs to recognise the role and importance of women in the development of the country.
 - Families must have conversations with women about their choice of work.
- **Recognizing invisible work:** There is a need to invest considerably in the care economy and social protection. Gross Domestic Product should be redefined to make work in the home visible and counted.
 - The concept of **Temporary Basic Income** introduced by UNDP can prove as a head start to other similar initiatives.
- **Providing Small Necessities:** Not just education, job and entrepreneurship lead to women empowerment but also providing basic and other small necessities is empowerment itself.
 - **For example:** a bank account in their name, a house of their own or even proper hygiene and sanitation facilities at workplaces, educational institutions etc.
 - A woman who is educated and has worked at places with these necessities provided is quite likely to ensure these facilities for the future generations she will be in touch with.

Groundwater extraction in India

Syllabus: Distribution of key natural resources -Water Resources- Water Scarcity and need for Conservation

In news: A recent study has found that Groundwater depletion may reduce winter cropping intensity by 20% in India. Over-the-years, the focus of the policy has been towards intensive agriculture which has led to unsustainable groundwater use for irrigation and in turn groundwater scarcity.

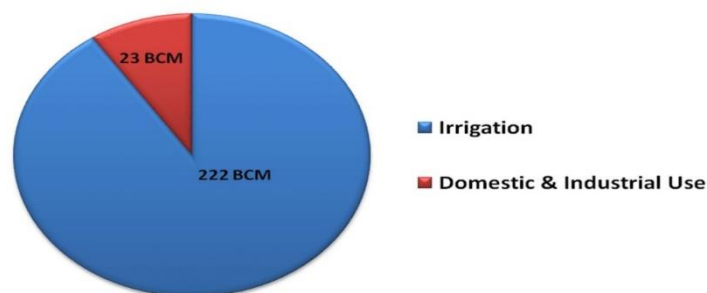
About the recent study

- **Aim of the study:** The study was conducted with satellite and census data from India to quantify the impacts of groundwater depletion on cropping intensity.
- **Groundwater depletion:** The study has noted that with severe groundwater depletion, the cropping intensity or the amount of land planted in the winter season may decrease by up to 20% by 2025. Some of the important winter crops are wheat, barley, mustard and peas.
- **Irrigation types:** The team also studied India's three main irrigation types on winter cropped areas: dug wells, tube wells, canals. It also analysed the groundwater data from the Central Ground Water Board.
- **Crop loss:** They found that 13% of the villages in which farmers plant a winter crop are located in critically water-depleted regions. These villages may lose 68% of their cropped area in future if access to all groundwater irrigation is lost. The results suggest that these losses will largely occur in the northwest and central India.

About groundwater use in India

- **Groundwater:** Groundwater is the water that seeps through rocks and soil and is stored below the ground. The rocks in which groundwater is stored are called aquifers.
- India is the **largest groundwater user** in the world, according to the World Bank, using nearly a quarter of the global total. This is partly because of decentralized access to water in the country.
- **Use of extracted water:** 89% of groundwater extracted is used in the irrigation sector, followed by domestic use which is 9% of the extracted groundwater. The industrial use of groundwater is 2%.

Ground Water Usage in India



Reasons for accelerated depletion of groundwater

- **Intensive agriculture:** In the green revolution era, a policy-supported environment led to a large increase in rice cultivation in north-western India (mainly in Punjab and Haryana) which are ecologically less suitable for rice cultivation due to predominantly light soils.
- **Recharge Problem:** Weak monsoons due to climate change have further eroded India's groundwater reserves. Groundwater mainly depends on rainfall for recharge, so deficient rains mean less groundwater availability.
 - A failed monsoon leads farmers to draw deeper from groundwater to irrigate their crop which pushes water tables down further.
- **Groundwater not prioritised in policies:** Water falls under the State List and thus, the usage is prioritised as per the State's needs, losing sight of an overall national problem.
- **Estimation of groundwater resources:** The current assessment methodology is indicative and not representative. So, there is a need for a clearer understanding of the state of aquifers in India for their management and governance at the local level.
- **Agricultural crop pricing and water-intensive crops:** Decisions such as cropping pattern and cropping intensity are taken independent of the groundwater availability in most areas. Wells, including dug wells, shallow tube-wells and deep tube wells provide about 61.6% of water for irrigation, followed by canals with 24.5%.
- **Irrational energy subsidies:** Since power is the main component of the cost of groundwater extraction, the availability of cheap/subsidised power in many states adds to the greater extraction of this resource.
 - Moreover, the electricity supply is not metered and a flat tariff is charged depending on the horsepower of the pump.
- **Groundwater Contamination:** A variety of land and water based human activities, including over exploitation and unscientific extraction are polluting the groundwater, making it unsafe and unfit for human use.
 - 70% of India's water resources are contaminated with one or more heavy metals and chemicals such as Arsenic, Uranium, Fluoride, Nitrate etc.

Initiatives to conserve groundwater

- The Central Ground Water Authority (CGWA) under the Jal Shakti Ministry recently issued the latest **guidelines to regulate the extraction of groundwater** across the country.
- **National Water Policy 2012** which proposes a framework for creation of a system of laws and institutions and for a plan of action with a unified national perspective.
- **National Aquifer Mapping and Management Programme:** It was initiated as a part of the Ground Water Management and Regulation scheme to delineate and characterize the aquifers to develop plans for ground water management.
- **Atal Jal Yojana:** It aims to conserve groundwater in seven states facing the biggest declines in aquifer levels mainly due to over-extraction for water-intensive crops.
- **Paani Bacho, Paise Kamao (save water, earn money) scheme:** It was launched by Punjab State Power Corporation Limited (PSPCL) to provide direct benefit transfer for electricity

to agricultural consumers. Farmers get ₹ 4 as direct benefit for each unit of electricity saved.

Need for Policies aligned to Groundwater conservation

Policies that reduce the demand for groundwater and promote its rational use can help in conserving groundwater, such as:

- **Policies promoting suitable tech:** Policies that promote increased field-level water use efficiency, such as the adoption of water-saving technologies like sprinkler and drip irrigation should be prioritised.
- **Development of groundwater rich states:** Studies have suggested that eastern India (i.e., Bihar, Jharkhand, Odisha, and West Bengal) may be able to become the future breadbasket of India as groundwater in this region has not been overexploited, and tube well infrastructure can be further developed. This requires heavy investment in groundwater infrastructure through suitable policy support.
- **Database on natural and artificial recharge of water:** A single agency can be formed to maintain a database on
 - the amount of groundwater being utilised by various stakeholders, and
 - natural and artificial recharge to groundwater.
- **Study of Dark Blocks:** A study to assess land use and the proportion of agricultural land falling under dark blocks (over-exploited assessment units) can be initiated. This will help determine suitable cropping pattern in water-stressed areas.
 - Additionally, an impact study to determine losses caused to the economy, health and environment due to dark blocks should be carried out.
- Policy level changes by **switching over to less water-intensive crops**, could be one way to reduce pressures on existing groundwater reserves.

Way forward

- **Promoting Judicious Use of groundwater in agriculture:** It is important to formulate policies that promote the judicious use of groundwater in agriculture as well.
 - Groundwater extraction should be minimized by encouraging the adoption of micro-irrigation techniques (drip and sprinklers).
 - It is also important to promote and incentivize crop diversification to less water-intensive crops.
- **Wastewater Treatment:** Treatment and reuse of wastewater practices and processes must be significantly improved and industries, municipalities should be encouraged to treat and reuse wastewater.
- **Community-based groundwater management:** Efforts should be taken to institutionalise and strengthen community-based groundwater management.
 - Generating awareness about the status of local groundwater resources, education and social mobilisation should form the core elements of community-based groundwater management.

- **Artificial Recharge:** Artificial recharge of groundwater should be focussed upon. It is important to adopt, encourage and promote rainwater harvesting structures.
- **Addressing Leakages:** It is important to have technology-based solutions to reduce leakages during water supply.
- **Prevent Pollution:** Sustained measures should be taken to prevent pollution of water bodies, contamination of groundwater and ensure proper treatment of domestic and industrial wastewater before discharging.

General Studies - 2

An Opaque Bond

Syllabus: Salient features of the Representation of People's Act.

In News: The Supreme Court last month dismissed a plea seeking stay on the sale of electoral bonds in the wake of Assembly elections in five states and union territory of Puducherry. Meanwhile, the finance ministry has launched its quarterly window for the sale of electoral bonds to political parties from April 1 to 10.

About the Case: An NGO, Association for Democratic Reforms (ADR), filed a petition. The petition demanded a stay on the sale of the Electoral bonds scheduled between April 1 and 10. The petitioner alleged that there were serious apprehensions in the electoral bonds. Further, the ADR mentioned that the sale of bonds before the elections would increase illegal and illicit funding of political parties through shell companies.

What did the Supreme Court opine?

- **On Anonymity of Buyers:** The scheme ensures that unidentified persons cannot a) purchase the bonds, or b) give them to the political parties. Under Clause 7 of the scheme, buyers have to apply in the prescribed form either physically or online, disclosing their particulars.
- **On Corporate Houses:** The Companies Act requires registered companies to file financial statements with the Registrar of Companies. Hence, the purchase and encashment of the bonds through banking channels will reflect in their financial statements. Further, it is also available in the public domain.
- **Bonds are not tradable:** The court rejected the contention that bonds can be Repurchased with Black Money. It said that under clause 14 of the Scheme, the bonds are not tradable. Moreover, the first buyer will not stand to gain anything out of such a sale except losing white money.
- **Apprehension of Foreign Influence on Elections:** The court observed that the apprehension of Foreign Influence on Elections is misconceived as under Clause 3 of the Scheme. Under this, the Bonds may be purchased only by a person who is a citizen of India or incorporated or established in India.

What are Electoral Bonds?

The Electoral Bonds are the non-interest-bearing financial instruments. These Electoral bonds allow eligible donors to pay eligible political parties using banks as an intermediary. The Electoral Bonds aim to ensure transparency in the funding of political parties.

Eligibility criteria for receiving and donating funds

- **Eligibility of Political Parties**
 - Only the political parties registered under Section 29A of the Representation of the People Act, 1951 are eligible to receive funds through Electoral Bonds.
 - Further, these registered political parties also have to receive not less than 1% votes in the last Lok Sabha elections or the State Legislative Assembly to receive funds through electoral bonds.
- **Eligibility of Donors**
 - Any citizen of India or entities incorporated or established in India can purchase these Electoral Bonds.
 - Citizens can buy electoral bonds either singly or jointly with other individuals.

Functioning of the Electoral Bond Scheme

- **The State Bank of India (SBI)** issues electoral bonds in **January, April, July, and October**.
- The electoral bonds are available in denominations from ₹ 1,000 to ₹ 1 crore.
- The donors can buy electoral bonds and transfer them into the accounts of the political parties as a donation. The name of the donor is kept confidential.
- Political parties will create a specific account. This account will be verified by the ECI. The political parties will encash the electoral bonds only in this verified account.
- The bonds will remain valid for 15 days. Within that time, the political parties have to encash the electoral bond in the designated accounts.

The rationale behind the Electoral Bond Scheme

- **Reduce anonymous cash donations:** These bonds are aimed to reduce anonymous cash donations made to political parties. In the previous system, the political parties did not disclose the donor, donations received, etc. These anonymous donations led to the generation of black money in the economy.
- **Donations of clean money:** The Electoral bonds encourage political donations of clean money. According to the government, the bonds will encourage political donations from individuals, companies, HUF, religious groups, charities, etc. Since the amount is transferred through the bank, the identity of the donor can be captured by the issuing authority.

Issues with the Electoral Bond Scheme

- **Possibility of misuse:** Recently the Supreme Court has raised a new issue of the possibility of misuse of money received by political parties for activities like funding terror or violent protests.

- **Questions over the transparency:**
 - **The anonymity of large donations:** Earlier, every transaction of more than ₹ 20,000 was reported to the Election Commission. Now even ₹ 20 crore or ₹ 200 crore could be donated anonymously.
 - **Opacity in corporate funding:** The removal of requirements for a resolution by the board of directors for a company to make donations to political parties and to declare the political donations in the profit and loss accounts is bound to perpetuate opacity.
- **Mushrooming of shell companies:** The Election Commission of India had earlier expressed that it may lead to mushrooming of shell companies to funnel black money into the political system through these bearer bonds.
- **Legalized crony capitalism:** The limit of 7.5% of its profits which a company could donate, was done away with by amending section 182 of the Companies Act, 2013.
- **Issue of foreign funding:** The government in 2016 has retrospectively amended the Foreign Contribution and Regulation Act (FCRA) 1976. The bonds can be used to channel foreign funding
 - Section 3 of the Foreign Contribution (Regulation) Act 2010 bars candidates, legislative members, political parties, and party officeholders from accepting foreign contributions.
 - Section 29B of the Representation of the People Act, 1951 prohibits all political parties from accepting any contribution from a “foreign source”.

Way forward

- **Legislative measure:** A law could be enacted as recommended by ECI to make political parties liable to get their accounts audited by the Comptroller and Auditor General (CAG) or ECI.
- **Judicial measures:** Courts can take a lead declaring the laws diluting transparency as ultra vires. For instance, the Supreme Court in 2002-03 made it compulsory for the candidates to declare their financial dealings and criminal cases.
- **Explore alternative ways of funding:**
 - **Introduce public funding of political parties:** It will be only around ₹10,000 crore every five years to fund political parties – a small price for democracy. **The Indrajit Gupta Committee on State Funding of Elections** has supported partial state funding of recognized political parties.
 - **Establish National Election Fund:** An alternative to electoral bonds is a National Electoral Fund to which all donors can contribute. The funds can be allocated to political parties in proportion to the votes they get. This will protect the identity of donors. Apart from that, it would also weed out black money from political funding.

National Covid-19 Vaccination Strategy

Syllabus - Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources

In News - Government of India announced a Liberalised and Accelerated Phase 3 Strategy of Covid-19 Vaccination from 1st May

About National Covid-19 Vaccination Strategy

- India's National Covid-19 Vaccination Strategy has been built on a **systematic and strategic end-to-end approach, proactively building capacity across R&D, manufacturing and administration** since April 2020. While pushing for scale and speed, it has simultaneously been anchored in the stability necessary to sustainably execute the **World's Largest Vaccination Drive**.
- **Empowering Front line and health care workers - Phase-I** of the National Covid-19 Vaccination Strategy was launched on 16th January 2021 and focused on protecting Health Care Workers (HCWs) and Front-Line Workers (FLWs).
- **Compassionate governance - Phase-II** was initiated from 1st March 2021 and 1st April 2021 and focused on protecting the **most vulnerable i.e., population more than 45 years of age that accounts for more than 80% Covid mortality in the country**.
- **Procurement strategy in Phase I and II** - The Centre procured the entire quantity of vaccines from the manufacturers, **Serum Institute of India (Covishield) and Bharat Biotech (Covaxin)**, and distributed it to states. The states distributed the stock to government vaccination centres, which administered the vaccine free of cost, and to private hospitals that charged recipients ₹ 250 per dose.

Significance of Phase I and Phase II of the vaccination strategy

- **Promoted multi-stakeholder approach** -The government of India has proactively engaged and coordinated with stakeholders across **the spectrum, from research institutes to national and international manufacturers, global regulators etc.**
- **Facilitating private sector** - The strength of India's **private sector vaccine manufacturing capability** has been strategically empowered through unprecedented decisive steps, from facilitating public-private collaborative research, trials and product development, to targeted public grants and far-reaching governance reforms in India's regulatory system.
- **Supporting Make in India** - Emergency Use Authorisation was granted to **two indigenously manufactured** vaccines (Serum Institute of India and Bharat Biotech), and a third **vaccine (Sputnik)**, presently manufactured abroad will eventually be **manufactured in India**.
- **Prioritizing vulnerable groups** - India is following a **dynamic mapping model based on the availability of vaccines & coverage of vulnerable priority groups** to make decisions of when to open up vaccinations to other age groups. A good amount of coverage of vulnerable groups is expected by 30th April

- **Following scientific approach** - India's approach till now has been built on scientific and epidemiological pillars, guided by **Global Best Practices, Standard Operating Procedures of WHO as well as our India's foremost experts in the National Expert Group on Vaccine Administration for Covid-19 (NEGVAC).**

About Phase III of National Covid-19 Vaccination Strategy

- **Liberalisation of vaccine strategy** - In its phase-III, the National Vaccine Strategy aims at liberalized vaccine pricing and scaling up of vaccine coverage.
- **Procurement strategy in Phase III** - From May 1, the supply will be divided into two baskets: **50 per cent for the Centre, and 50 per cent for the open market.** Through the second – non-Government of India – channel, state governments, private hospitals, and industries that have facilities to administer the vaccine, will be able to procure doses directly from manufacturers.
- **Distribution strategy in Phase III-** First, the 50 per cent basket of vaccine doses earmarked for states and private hospitals in the **open market** will be used **to vaccinate those above the age of 18 years.**
- Second, **free vaccination** would be available at all vaccination centres that receive doses from the **Government of India – with those doses, healthcare workers, frontline workers, and those above 45 will be vaccinated.**

Significance of Phase III of the vaccination strategy

- **Increased vaccine production** - Liberalisation will **incentivize vaccine manufacturers to rapidly scale up their production and on the other hand, it would also attract new vaccine manufacturers.** It would make pricing, procurement and administration of vaccines more flexible and ensure augmented vaccine production as well as wider availability of vaccines in the country.
- **Incentivising low vaccine wastage in states** - The Centre will allocate its 50 per cent share to states based on the **extent of infection (active cases) and performance (speed of administration).** Currently, states receive vaccine doses according to demand (number of registrations and walk-in vaccinations). Now, low wastage will be incentivised.

Issues with Phase III of Vaccination

- **Increase in cost of the jab** - In the first two phases, out of the ₹ 250 charged for vaccination, private hospitals received ₹ 100 for administering the jab. Since they will now be **procuring the vaccine at a higher price,** the cost of a jab is expected to be much higher than in the first three phases.
- **Competition among states for procurement in an open market** - As there is **no clarity on the mechanism that manufacturers will employ to decide among states that place orders.** And in the absence of a formula or guidelines, passing control over to private vaccine producers will mean that there will be no social basis for allotting vaccines to states.

- For example, **richer states**, which have the **ability to procure large amounts, and states with large networks of private hospitals**, are expected to receive a higher proportion of doses from the open market.
- **Open market sale of vaccines not allowed in any other country** - No other country is doing this (open market sale) as yet, because all these vaccines are still under **restricted or emergency use permissions. Meaning none of them has presented enough evidence yet on their safety and effectiveness to receive full regulatory authorisation** and has not yet been fully licensed in their countries of origin, except, in Russia.
- **Demand-supply mismatch due to limited production** - Depending on how many people in the priority groups are still left to receive their second shot by the time May 1 comes around, the country could need over 1.2 billion doses of vaccines. Given the **country's current production capacity and the delay in bringing in foreign vaccines, supply will almost certainly fall short of demand.**
 - For example, it is unclear whether **Bharat Biotech will be able to supply for the open market from May 1.** If it does, the company could potentially supply an estimated 29 million doses across states over the whole month.
- **Inscrutable and non-transparent strategy** - The national vaccination strategy remains an inscrutable and non-transparent strategy since more vaccines, including WHO-approved ones, **remains unavailable to Indians for unspecified reasons.**

Conclusion

With the aggravating **Second wave of Covid 19 India** is witnessing, the vaccination drive must be intensified, more vaccines should be approved, the private sector should be given a larger role and vaccine confidence should be promoted at the community level. This inoculation strategy should go hand in hand with **containment measures and a renewed commitment to COVID-appropriate behaviour** which will help the people in long run to deal with the deadly pandemic.

National Commission for Women

Syllabus - Statutory, regulatory and various quasi-judicial bodies

In News - According to the official data of the National Commission for Women (NCW), domestic violence complaints have increased by 2.5 times since the nationwide lockdown began in India.

About National Commission for Women (NCW)

- The National Commission for Women was formed in 1992 under the National Commission for Women Act, 1990. It is a commission having the authority to review constitutional safeguards for women in the country.
- **Powers of NCW**
 - Provide **consultation on all major policy matters** that affect women.
 - **Issuing summons** for the examination of documents and the witnesses.
 - It has power to **requisition any public record or copy thereof from any court or office**
 - Receiving **evidence on affidavits.**
 - **Discovery and production** of documents.

- **Commission** - The commission consists of a chairperson, **a member secretary and five other members**.
 - The **chairperson** of the NCW is nominated by the Central Government.
 - The Central Government also nominates the **member secretary**. The member secretary should be an expert in the field of management. He or she is an officer or organisation who is a member.
 - The **five members nominated** by the Central Government should be individuals with ability, standing and integrity.

Functions of the National Commission for women

- **Presentation of reports** - It presents reports to the central government, every year and at such other times as the commission may deem fit. The report **analyses the working of safeguards** related to women.
- **Investigation and Examination** - NCW investigates and examines all matters relating to the safeguards provided for women under the Constitution and other laws. This is related to the **protection of the rights of women**.
- **Gender justice** - It ensures there is **no violence against women** and take due care of such cases to uphold **principles of gender justice**.
- **Suo Moto Notice** - It looks into complaints, and takes Suo Moto notice of matters relating to - **deprivation of women's rights, non-implementation of the laws and non-compliance of the policy** decisions guaranteeing the welfare for women society.
- **Research** - It also undertakes promotional and educational research so as to propose ways of ensuring **due representation of the women in all fields**.

Major limitations of National Commission for Women making it toothless:

- **Lack of concrete powers** - The NCW is **only recommendatory body** and has no power to enforce its decisions. Often it takes action only if the issues are brought to light. Also, unreported cases of oppression and suppression of women are not attended to.
- **Absence of Constitutional Status** - Commission **lacks constitutional status**. Also, it has no power to take legal actions against the **Internal Complaint Committees that enable grievance redressal** of women facing harassment.
- **Less funding** - NCW's functions are dependent on the **grants offered by the central government**. Financial assistance provided to the Commission is very less to cater to its needs.
- **Political interference**: It does not have the power to choose its own members. The power selecting members is vested with the Union government leading to political interference at various levels. Till now, all governments appointed NCW chairpersons from their own parties.

Thus, the commission's composition being **highly political, the chairpersons and members have refrained from taking stand against governments in power**, or asking for their accountability, or supporting movements that raise issues of the democratic rights of citizens.

- **Lack of autonomy**- After the Delhi gangrape of December 16, 2012, the NCW neither made enough noises nor led the movement for reforms in law. The **public on its own came forward at the initiative of activists** on the streets which forced the government to enact a special law on sexual harassment in 2013. Examples such as these reflect lack of autonomy with the commission.
- **Use of outdated methods** - While women's organisations have long dropped the **terminology of "eve teasing" and "outraging the modesty"** as outdated and trivialising the whole issue of violence against women, the annual reports of the commission are still using this terminology while recording complaints that come to them.
- **Friction among members** - The position of member secretary which is occupied by an Indian Administrative Service officer from the ministry, has further given a handle to the power play between the commission and the bureaucracy. The **chairpersons have expressed their displeasure over interventions** ranging from routine matters like deciding whether the department or the commission would be the representative on programmes concerning women to asking for additional staff, and seeking clarifications about the status of the commission.

IMPORTANT COURT INTERVENTIONS

- **BHATERI GANG RAPE CASE (RAJASTHAN)**

The Commission Suo moto took up the case of Ms. Bhanwari Devi and extended its full support in going for appeal and also providing security to the victim and appointment of a special public prosecutor to argue her case. Bhanwari Devi was a "Sathin" associated with WDP in Rajasthan who was raped in retaliation for her intervention in a child marriage in September 22, 1992.

- **CAPITAL PUNISHMENT/ DEATH PENALTY (RAMSHREE'S CASE)**

Due to the timely intervention of the National Commission for Women in the Supreme Court, the order of death sentence of Ramshree (convicted for murder) was temporarily stayed. The Hon'ble Court, later on commuted the death sentence into life imprisonment.

- **OBSCENITY CASES**

- The Hon'ble High Court of Delhi put an injunction on the launching of +21 adult channel by the Ministry of Information & Broadcasting, Govt. of India.
- The NCW had moved the Hon'ble High Court of Delhi against Star TV, Zee TV, etc for showing obscene pictures on television and other media.

- **AGAINST OUT DATED CUSTOMS & TRADITIONS MAIMON BASKARI'S NUH (HARYANA) CASE**

The NCW took up the case of Ms. Maimon Baskari who was allegedly a victim of torture and rape for marrying a person of her choice.

DIVORCED MUSLIM WOMEN'S ENTITLEMENT TO MAINTENANCE BEYOND THE IDDAT PERIOD

In the matter of Fakhruddin Mubarak Shaik Vs. Jaitunbi Mubarak Shaik. The NCW has intervened in the Supreme Court of India to support the stand of Jaitunbi. The case is pending.

Way Forward

- **Objective selection of members** - Commission must be granted the **power of selecting its own members**. The members should be chosen without any prejudice and should have fair knowledge of law and understanding of the society and human behaviour.
- **Reducing power distance** - **More** awareness has to be created especially among the rural women about the existence of the Commission. The **Commission can employ a person at the district level** to bring into light the atrocities occurring at the district level.
- **Delegation of Legal powers** - Functioning of the NCW has to be strengthened and it should be given more legal powers as part of **any effort to strengthen the laws for safety of women** at the workplace.
- **Funding** - Centre must devolve more funds to NCW. NCW should have an independent budget and must not be dependent on the Women and Child Development Ministry for funds.

The commission can definitely use its position **through its mechanisms of reporting, by taking a firm stand on issues** to contribute to, guide debates at the level of society and policymakers on issues of social concerns. But as it stands today the commission is limited by its design as also by its own tendency to be **self-limiting which require time bound and efficient reforms**.

The Wellness Workforce

Syllabus : Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

In News: The National Commission for Allied and Healthcare Professions Bill, 2020, has the potential to overhaul the entire allied health workforce. This has also brought into light the state of human resources for Health in India.

Evolution of National Commission for Allied and Healthcare Professions Bill (NCAHP), 2020:

1990's	Initial efforts at regulating allied health professions were participatory.
2015	The first draft Bill was uploaded on the health ministry's website.
2018	The revised "Allied and Healthcare Professions Bill" was introduced in the Rajya Sabha.
2020	The government accepted 102 recommendations out of 110 recommendations made by health department-related parliamentary standing committee and resulting in the passing of NCAHP in Parliament.

Programmatic interventions in healthcare delivery:

- Ayushman Bharat (2017) with its two pillars of Health and Wellness Centers (HWCs) and Pradhan Mantri Jan Arogya Yojana (PMJAY) emphasizes wellness in primary healthcare and also operationalized certain critical recommendations of the National Health Policy, 2017.

Important features of NCAHP, 2020: It provides for:

- **Regulation and maintenance of standards of education and services** by allied and healthcare professionals. It recognizes 50 such professions like physiotherapist, optometrist etc.
 - Previously these professions lacked a comprehensive regulatory mechanism.
- **Classification of allied professionals:** Using the International System of Classification of Occupations (ISCO code), which facilitates global mobility and enables better opportunities for such professionals.
- **Establishes a National Commission for Allied and Healthcare Professions:** It will be supported by 10 professional councils to frame policies and standards, regulate professional conduct, prescribe qualifications, create and maintain a central register.
- **Incorporates the demands and recommendations of states:** Bill has the provision for state councils to execute major functions through autonomous boards.
 - The state councils are the implementation agencies, while the National Commission is the overarching body devising policies.

State of human resources for health

- **Diversity of providers:** India's health workforce is characterized by a diversity of providers delivering services in allopathy and alternative systems of medicine like Ayurveda, Homeopathy, Unani and Siddha.
- **Doctor: Population Ratio:** As of March 2017, there were 10.23 lakh allopathic doctors registered with the Medical Council of India or state medical councils. Assuming 80 per cent availability, it is estimated that around 8.18 lakh doctors may actually be available for active service. This gives a doctor population ratio of 1:1613.
- **Shortage of skilled nurses:** The current nurse-population ratio is 1:588. Due to the suboptimal quality of training offered by several institutions that have mushroomed over the years, limited career prospects and poor working conditions, especially in the private sector exist. There is a significant shortage of skilled nurses in the country.
- **Distribution of human resources:** The distribution of doctors and nurses across the country is uneven.
 - Urban areas have four times as many doctors and three times as many nurses as compared to rural areas.
 - Medical and nursing colleges are concentrated in a few states, e.g., Andhra Pradesh, Karnataka, Tamil Nadu, Kerala, Gujarat and Maharashtra.
- **Shortage of allied health professionals:** There are also severe shortages in the category of allied health professionals (AHPs) including medical lab technicians, optometrists and radiologists.
 - For instance, as of March 31, 2016, there was a shortfall of 13,659 lab technicians at primary health centers (PHCs) and community health centers (CHCs) across India.

Way forward

- **Need for perception change in delivering healthcare:** To address the stress of modern lifestyle, rapid urbanization, rising chronic non-communicable disease burden.
 - Increasing proportion of elderly from 5.3% in 1950 to an estimated 10% in 2020 and expected to increase to 19% by 2050).
- **Need of trained workforce:** To care for patients with mental conditions, the elderly, those in need of palliative services, and for enabling professional services for a lifestyle change.

Reinventing BIMSTEC

Syllabus: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

In News: Recently the 17th Ministerial level meeting of the Bay of Bengal Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) took place in a virtual format. India is committed to make BIMSTEC a stronger, vibrant and result-oriented grouping.

About BIMSTEC

- Established through the Bangkok Declaration of 1997.
- **Founding Members:** India, Thailand, Bangladesh and Sri Lanka. Myanmar, Nepal and Bhutan joined afterwards.
- 1st Summit meeting was held in Bangkok in 2004.
- **Secretariat:** Dhaka, Bangladesh.
- BIMSTEC region is home to around 1.5 billion people which make up for around 22% of the world's population. The region has a combined gross domestic product (GDP) of \$2.8 trillion.
- **Founding principles:** cooperation within BIMSTEC will be based on respect for the principle of sovereign equality, territorial integrity, political independence, non-interference in internal affairs, peaceful coexistence and mutual benefit.
- **Areas of Cooperation:** BIMSTEC has identified 14 priority areas where a member country takes lead.
- **India is lead country** for Transport & Communication, Tourism, Environment & Disaster Management and Counter Terrorism & Transnational Crime.
- The charter recategorizes the cooperation in 14 fields to 7 sectors: Trade, Investment & Development, Environment and Climate Change, Security, Agriculture and Food Security, People-to-People Contact, Science, technology & Innovation, Connectivity.

Unfolding rejuvenation: BIMSTEC Leaders' Retreat, followed by their Outreach Summit with the BRICS leaders in Goa in October 2016, gained international attention. Later, the 4th leaders' summit, held in Kathmandu in August 2018. It framed an ambitious plan for institutional reform to include economic and security cooperation. During the 4th summit, the decision was also taken to form the BIMSTEC charter. Today the shared goal is to aim for "a Peaceful, Prosperous and Sustainable Bay of Bengal Region".

17th Ministerial Meeting Developments

- The meeting welcomed the proposal to hold the 5th BIMSTEC Summit in Sri Lanka in the next few months.

- The ministers recommended the early adoption of the BIMSTEC charter.
- They also endorsed the rationalization of sectors and sub-sectors of activity, with each member-state serving as a lead for the assigned areas of special interest.
- They also supported the Master Plan for Transport Connectivity, which will be adopted at the next summit.
- Three MoUs / Agreements were also endorsed for signing at the next BIMSTEC Summit.
 - Mutual legal assistance in criminal matters.
 - Cooperation between diplomatic academies.
 - The establishment of a technology transfer facility in Colombo.

Opportunities missed

- Lack of deliberation on the trade and economic front.
 - The BIMSTEC Free Trade Area Framework Agreement, signed in 2004 remains unsuccessful even after 20 rounds of negotiations.
- There was no effort from the BIMSTEC leaders to expand their dialogue by involving the vibrant business communities.

Significance of BIMSTEC for India

- **Economic Integration:** BIMSTEC has the potential of becoming a significant trade bloc in Asia-Pacific. Its intra-regional trade is significantly higher than many other economic groupings in Asia-Pacific region except perhaps EAEG (East Asia Economic Grouping) and ASEAN (Association of SouthEast Asian Nations).
 - Bay of Bengal is the route for about 25 percent of global trade and has huge untapped natural resources such as natural gas.
- **Strategic Significance:** The Bay of Bengal has grown in strategic significance within the Indo-Pacific, especially due to the contest between India and China. It is now poised to become “a zone of geopolitical rivalry among major powers”.
- **South Asian Integration:** The bilateral dispute between India and Pakistan has rendered SAARC “dysfunctional”. In such a scenario, BIMSTEC as a subregional grouping of South Asia provides an opportunity for India to integrate South Asia without Pakistan.
- **Connecting South Asia and Southeast Asia:** BIMSTEC is a bridge between South Asia and Southeast Asia. Physical connectivity with BIMSTEC would also help India integrate itself with ASEAN’s Master Plan of Connectivity 2025.
- **E-Development of North eastern region:** A successful BIMSTEC Free Trade Agreement (FTA) can be instrumental in developing India’s North Eastern region as a commercial and business hub for Southeast Asia.

Challenges faced by BIMSTEC

- **Lack of political will:** Dormancy that has beset the organisation for two decades is largely due to absence of effective and sustained political will among member countries. For example, only three summits were held in the first 20 years.

- **Lack of progress on the trade:** A study by the Federation of Indian Chambers of Commerce and Industry suggested that BIMSTEC urgently needed a comprehensive Free Trade Agreement to be a real game-changer.
 - This is due to lack in the effort to engage vibrant business communities of these countries and expand their dialogue, interactions and transactions.
- **‘Over-securitization’ of BIMSTEC:** Achievements in Humanitarian Assistance and Disaster Relief and security, including counterterrorism, cybersecurity, and coastal security cooperation etc., are overshadowing other areas of engagement.
- **Spillover of bilateral setbacks:** Impact of the friction between India-Nepal, India-Sri Lanka, and Bangladesh-Myanmar ties in recent years have presented fresh challenges for the grouping.
- **Uncertainties over SAARC:** Both Nepal and Sri Lanka want SAARC to be revived, even as they work in BIMSTEC with diluted zeal.
- **Chinese intrusion in the region:** Perspective that BIMSTEC would make progress if China is accepted as its principal interlocutor and partner.
- **Military coup in Myanmar:** Brutal crackdown of protesters and continuation of popular resistance resulting in a protracted impasse.

Way Forward

- Member states should **adopt the proposed agreements** in the upcoming BIMSTEC summit. This will boost the confidence of the organization.
- Further, the organization has to **develop consensus on long-pending agreements** like the BIMSTEC coastal shipping agreement and motor vehicles’ agreement.
- Apart from that, the group has to move forward by doing **‘institutional hedging’**. This means focusing on developing collective soft and hard power for the group. Thereby, it will protect individual interests and shape up a regional order.
- Also, the group should focus on **facilitating tourism diplomacy, academic and student-exchange programmes, and cross-border public health initiatives**.
- India should project itself as a **compatriot and an equal partner** to other BIMSTEC member-countries. This will reduce the trust deficit and ensure better integration in the region.
- BIMSTEC members have to finalize the **Visa Facilitation agreement** expeditiously. This will help strengthen the interest of the common man in regional groupings. This is significant as a tide of protectionism is flowing across the world.

The year 2022 will mark the silver jubilee of the organization and would provide a symbolic opportunity to strengthen regional cooperation and multilateral ties. Considering this, India and other member states must work on 3Cs – cooperation, coordination, and collaboration that would unleash the true potential of BIMSTEC.

Should India ratify the refugee convention?

Syllabus: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

In news: The fleeing Myanmar citizens were turned away at the Indian border in the Northeast. This revived the debate about refugee protection in India. Rohingyas faced similar troubles before the Myanmar.

Refugee: A refugee is someone who has been forced to flee his or her country because of persecution, war, or violence.

Internally displaced person: An internally displaced person (IDP) is a person who has been forced to flee his or her home for the same reason as a refugee. But he/she remains in his or her own country and has not crossed an international border. Unlike refugees, IDPs are not protected by international law or eligible to receive many types of aid. Examples include South Sudan and Yemen.

Asylum seeker: When people flee their own country and seek sanctuary in another country, they apply for asylum - the right to be recognized as a refugee and receive legal protection and material assistance.

Global Initiatives to deal with refugee crisis

- **UN Refugee Convention (1951):** It defines who a refugee is, and sets out the rights of individuals who are granted asylum and the responsibilities of nations that grant asylum.
- **The Dublin agreement:** The Dublin Regulation aims to determine the Member State responsible and provides for the transfer of an asylum seeker to that Member State.
- **Nansen Initiative (2012):** A Protection agenda for people displaced across borders in the context of disasters and the effects of climate change.
- **New York declaration on migrants and refugees (2016):** It states the importance of the international refugee regime and contains a wide range of commitments by Member States to strengthen and enhance mechanisms to protect people on the move.
- **UN's Global Compact on Migration:** It covers all dimensions of international migration in a holistic and comprehensive manner.

Consequences of permitting refugees

- **Social consequences of permitting refugees:** By permitting refugees India might face many social consequences. Such as,
 - Refugees might **create an identity crisis** with the indigenous people. For example, the refugees from Bangladesh currently in Assam and Arunachal threaten to overtake the indigenous population of the region.
 - **Difficult to identify and deport** them back to their country after a few years. For example, the illegal migrants from Bangladesh and Rohingya refugees entered through North-East. But later they spread to all other states, like Haryana, Kerala, Telangana and UTs like Jammu and Kashmir, Delhi, etc. Identifying them among more than a billion Indians is a great challenge.
- **The economic consequence of permitting refugees:**
 - **Increased financial responsibility of the state.** According to the UNHCR report in 2014, there were more than 200,000 refugees in India. There are millions of illegal

immigrants in India. India at present does not have the financial capacity to satisfy all their basic needs.

- **Decreases wage level and replaces the native people.** Since illegal immigrants and refugees require food and shelter, they also work at very low wages in their settling areas. It impacts the lives of locals, as they don't get adequate jobs.
- The political consequence of permitting refugees:
 - **Issue of illegal voting:** The illegal migrants to avail the benefits, procure illegal national identity cards such as voter id. By procuring that, they also vote in elections and influence the outcome.
 - **Issue of terrorism:** These refugees, since not accepted by governments, are vulnerable to join terror outfits for work and revenue.

Legal Framework for Refugees in India

- **Article 51 of the Indian constitution:** This provision states that the state shall endeavour to foster respect for international law and treaty obligations in the dealings of organized people with one another.
- **Citizenship Act of 1955:** As per the Citizenship Act of 1955, an illegal immigrant can be of two types.
 - Foreign national who entered into India with valid travel documents but stays beyond their validity, or
 - Foreign national who entered India without any valid travel documents.
- **The Foreigners Act:** As per, **the Foreigners Act, 1946**, the central government have the right to deport any foreign national.
- **No national law on refugees:** India is not a signatory to the 1951 United Nations Refugee Convention and the 1967 UN refugee Protocol. Further, India does not have any national law on refugees.
 - So, India at present does not have any separate law to govern refugees. The refugee matters at present are dealt on a case-by-case basis.
- **Agencies responsible for dealing with refugees:** While law and order is a state subject, international relations and international borders are under the Union government. This has resulted in, both the Centre and the State government agencies, dealing with the refugee problem in India.
- **Standard Operating Procedure:** In 2011, the Union government circulated a Standard Operating Procedure to deal with foreign nationals who claim to be refugees.
- **The Citizenship (Amendment) Act, 2019:** The Citizenship (Amendment) Act, 2019 aims to provide citizenship to those who sheltered in India for religious persecution or fear of persecution in their home countries. But the Act only covers the Hindus, Sikhs, Buddhists, Jains, Parsis and Christians from Afghanistan, Bangladesh and Pakistan.

Should India join the refugee convention?**Two differing opinions:****No, it shouldn't join:**

- India has the largest number of refugees in the world even though, it was not a part of the 1951 Refugee Convention and its 1967 Protocol. India is already doing its duty.
- **No proper definition:** The definition of refugees in the 1951 convention only refers to the violation of civil and political rights, but not economic rights. If economic rights were to be included, it would pose a major burden on the developed world.
- **Security reason:** India will not be a part of refugee convention mainly because of security reasons. South Asian borders are extremely porous and any conflict can result in a mass movement of people. This will lead to strain on local infrastructure and demographic imbalance.
- **India's interests might get hurt:** India is concerned that their decision might irk the Generals in Naypyitaw. This would bring Beijing closer to the junta and they can use the opportunity to hurt India's interests in Myanmar.

Yes, it should join:

- **Same approach for refugees:** India could not adopt a policy that excluded Muslims or one that allowed refugees only from certain countries. Each member of the convention will have the same approach for refugees.
- **Lack of clarity:** The issue of refugees often gets included under illegal immigration. These two different issues get jumbled together. Policies and solutions to deal with these issues suffer from a lack of clarity. Confusion in policies is because as per Indian law, both categories of people are viewed as the same.
 - They are covered under the Foreigners Act, 1946. The definition of a foreigner in the act is a person who is not a citizen of India.
- **Political vagueness:** The absence of such a legal framework also leads to policy vagueness. It also increases the risk of the domestic politicisation of refugee protection and complicates its geopolitical fault lines. Joining Refugee convention will put an end to this.

Way Forward

- **National Immigration Commission:** The Central Government should appoint a National Immigration Commission to frame a National Migration Policy and a National Refugee Policy for India.
- **Strengthen the Foreigners Act:** The government have to strengthen the Foreigners Act 1946 and also sign bilateral agreements with neighbourhood countries regarding deportation.
- **The MHA guidelines of 2018:** Further, the state governments have to follow the MHA guidelines of 2018 to identify illegal immigrants. The recommendations are,
 - Restrictions of Illegal Migrants to specific locations as per provisions of law
 - Capturing their biographic and biometric particulars
 - Cancellation of fake Indian documents
 - Initiating legal proceedings including deportation proceedings as per provisions of law

- **Strengthening the borders:** India also needs to strengthen the border areas as the borders are porous and the neighbourhood countries are facing political vulnerabilities constantly. India can improve border surveillance, exploring the options of border fencing and smart walls, etc.
- **New domestic law:** New domestic law aimed at refugees are needed. The CAA is not the solution to this problem because of its discriminatory nature. The CAA is an act of refugee avoidance, not refugee protection.
- **Proper legal and institutional mechanisms:** The country should differentiate between temporary migrant workers, illegal immigrants and refugees. Each of them should be dealt differently through proper legal and institutional mechanisms.

The Case for a Reset

Syllabus: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

In News: Russian Foreign Minister Sergey Lavrov was in New Delhi on a two-day visit to India and held delegation-level talks with his Indian counterpart.

Background

- The year 2020 saw **numerous geopolitical events** that affected both India and Russia. For instance, the increasing rivalry between the US and China, the India-China border battle, the continuous decline in ties between the West and Russia, and now changes of leadership in the US.
- As Russia and India both want **a multi-polar world**, so they are important for each other in accomplishing each other's national interests. However, due to the changing geopolitical scenario, the relationship between both countries is not as good as it used to be in the cold war era.

Evolution of India- Russia relationship

- **Pillars of Partnership:** Traditionally, the Indo-Russian strategic partnership has been built on five major pillars: politics, defence, civil nuclear energy, anti-terrorism co-operation and space.
- **Post-1947 partnerships:**
 - A cordial relationship with India that began in the 1950s began with a visit by Indian Prime Minister Jawaharlal Nehru to the Soviet Union in June 1955 and Khrushchev's return trip to India in the fall of 1955.
 - **The Soviet Union supported Indian sovereignty:** While in India, Khrushchev announced that the Soviet Union supported Indian sovereignty over the disputed territory of the Kashmir region and Portuguese coastal enclaves such as Goa.
 - **Economic and military assistance:** The Soviet Union gave India substantial economic and military assistance during the Khrushchev period.

- **Help in negotiation:** The Soviet Chairman of the Council of Ministers, Alexei Kosygin, met with representatives of India and Pakistan and helped them negotiate an end to the military conflict over Kashmir.
- In 1965 the Soviet Union served successfully as a peace broker between India and Pakistan after an Indian-Pakistani border war.
- **Indo-Soviet Treaty:** India signed with the Soviet Union the Indo-Soviet Treaty of Friendship and Cooperation in August 1971.
- **Economic agreements:** Rajiv Gandhi, visited the Soviet Union on his first state visit abroad in May 1985 and signed two long-term economic agreements with the Soviet Union.
- **After the dissolution of the Soviet Union,** India and Russia entered into a new Treaty of Friendship and Cooperation in January 1993 and a bilateral Military-Technical Cooperation agreement in 1994.
- In 2000, both countries established a **Strategic Partnership**.

Importance of Russia to India

- **Controlling China:** The Chinese aggression in the border areas of eastern Ladakh, brought India-China relations to an enunciation point. However, it also confirmed that Russia is capable of neutralizing tensions with China.
 - Russia organized a trilateral meeting among the foreign ministers of Russia, India, and China after the fatal crashes in the Galwan Valley in the disputed territory of Ladakh.
- **Developing new sectors of economic appointment:** Apart from old areas of weapons, hydrocarbons, nuclear energy, and diamonds, new sectors of economic engagement are likely to emerge that include mining, agro-industrial, and high technology, including robotics, nanotech, and biotech.
 - India's footprint in the Russian Far East and the Arctic is set to expand. Connectivity projects may get a boost too.
- **Energy Security:** In the energy sector, Russia has built nuclear reactors in India (Kudankulam reactors), adopted a strategic vision in nuclear energy, offered oil, gas and investment opportunities in the fuel sector of Russia e.g., Sakhalin I.
 - Both are extending civil nuclear cooperation to 3rd countries, e.g., Bangladesh.
- **Fighting Terrorism:** India and Russia are working to mend the gap with Afghanistan and are calling for quick settlement of the **Comprehensive Convention on International Terrorism**.
- **Backing at Joint Forums:** In addition, Russia supports India's application for permanent membership of a reformed United Nations Security Council and the Nuclear Suppliers Group.
- **Cultural Links:** From people-to-people contacts (through programs like 'Namaste Russia') to sharing educational brilliance of both the countries through institutes like Jawaharlal Nehru Cultural Centre, both the countries have had good cultural links.

Importance of India for Russia

- **Countering China:** Russia and China are presently in a quasi-alliance arrangement. However, Russia constantly repeats that it does not see itself as anybody's junior partner. This is the reason Russia wants India to act as a balancer.
- **Developing the Far East:** Russia's Far East is a huge area that is rich in resources but is less populated and underdeveloped. Till now, its development has mainly circled around Chinese dominance. So, Russia wants to expand with the help of India to reduce Russia's increasing dependence on China.
- **Revitalizing Eurasian Economic Union:** Russia pursues to control India's soft power to gain acceptability. In the success of the Eurasian Economic Union, and re-establish its hegemony, as it was during the cold war era.
- **Diversifying strategic relationships:** On the strategic side, Russia is realising its over-dependence on China. Thus, Russia has made a conscious attempt to energise its relationship with Japan, Vietnam and other Southeast Asian countries through the East Asia Summit and ASEAN. Given India's long-term association with these countries, India can help Russia in navigating these relationships.

Focal Challenges

- **Unstable partner:** There are several instances that forced New Delhi to believe that Moscow can no longer be a stable partner. Some of those instances are:
 - The economic decline of Russia after the Soviet disintegration.
 - Its uneasy transition to a market economy.
 - The lack of institutional structures to sustain a healthy market system or vibrant democracy.
 - Its open engagement and new friendships and allies, including the US, China, and the European Union (EU) and an opening with Pakistan.
- **New aspirations:** Against this, India, with its newly acquired status as a major power and its attraction for its economic growth, market, middle class and new aspirations, now attracts the US.
- **India inclining towards the West:** China's colonialist foreign policy forced India to shed past uncertainties and vigorously chase closer ties with the West, particularly the US.
 - This is evident in a resolute restart of the Quad process and a clearer declaration of a free and inclusive Indo-Pacific.
- **Russia is inclining towards the East:** The Western countries have enforced strict economic agreements towards Russia after the annexation of Crimea in 2014.
 - Russia replied to these efforts to detach it, by accelerating up to its own "Pivot to the East".
 - The most distinct results of which are evidently better relations with China, and better ties with Turkey, Iran, and Pakistan.
 - Russia's Pivot to the East policy is not in synergy with that of the US and consequently, the relationship between India and Russia suffers.

India-Russia Trade: One Dimensional Trade

Trade has been one-dimensional i.e., defence based. The trade in 2017-18 was \$10.7 billion, which is far below potential in comparison to India's trade with China (\$89.7 billion), the United States (\$74.5 billion).

There are a number of issues that hinder India-Russia trade:

- connectivity issues;
- weak banking links;
- cumbersome regulations on both sides;
- Russia's restrictive visa regime;
- lack of involvement of the private sector;
- absence of logistics; and
- more recently, the stalling of the International North-South Economic Corridor.

Way Forward

- **India appealing Russia into Indo-Pacific plot:** India should follow and aid Russia's commitment in the Indo-Pacific. However, Russia's role in the Indo-Pacific will depend on how effective it is in dealing with the major problems obstructing its economic development.
 - Russia's active engagement in the region would contribute in making the Indo-Pacific truly "free and inclusive".
- **Highlighting RIC in Indian Foreign Policy:** India should promote a commonly beneficial trilateral cooperation between Russia, China, and India that could help in the lessening of mistrust and suspicion between India and China.
- **Cooperation at Multilateral Forums:** India and Russia continue to share a mutual strategic foundation for their relationship.
 - Apart from bilateral interactions, the two are members of various multilateral organizations including BRICS, RIC, G20, East Asia Summit, and SCO where paths for cooperation on issues of mutual importance exist.

It is evident that India & Russia still respect each other as cherished partners with a friendship built on deep mutual trust. But their foreign policy goals are taking them in different directions. However, neither India nor Russia wants to be a junior partner to China or the United States. Thus, both countries can turn back to and strengthen ties as existed before in the cold war era.

WTO peace clause

Syllabus: Important International institutions, agencies and fora- their structure, mandate.

In news: Recently, **India** has invoked the **peace clause** at the World Trade Organization (WTO), for the **second** time, for exceeding the 10 per cent ceiling on the support it offered its rice farmers.

More on news:

- India informed WTO that the value of its **rice production** in 2019-20 was \$46.07 billion while it gave subsidies of about **13.7 %** as against the permitted 10 %.
- India had **earlier invoked** the clause for 2018-19 when it became the **first country** to do so.

What is Peace Clause?

- **Aim:** The 'peace clause' said that no country would be legally barred from food security programmes even if the subsidy breached the limits specified in the WTO agreement on agriculture.
- **Temporary peace clause:** Developed countries criticised the developing and LDC's food security programmes (public stockholding programmes) as a trade-distorting subsidy. Since the negotiation went on among countries a **temporary peace clause** was introduced in **Bali Package 2013**.
 - This 'peace clause' was expected to be in force for four years until 2017, by the time a permanent solution to the problem was found.
- **The recent developments:** Members continue to conduct negotiations for further reform. In **2015 at the Nairobi Ministerial Conference**, members adopted a historic decision to abolish agricultural export subsidies and to set rules for other forms of farm export support in the future.

The agreement on agriculture and the subsidies:

- **Aim:** The Agreement on Agriculture aims to establish a **fairer trading system** that will increase market access and improve the livelihoods of farmers around the world.
- **Components:** The Agreement on Agriculture stands on three major components for fair trade systems, which are **Market Access, Domestic Support** and **Export subsidies**. The Domestic support part of the Agreement on Agriculture includes the subsidies, which are concerned with the Peace Clause.
 - **Domestic support** refers to the government **subsidies** that guaranteed Minimum Price (or Input subsidies) which are provided at the domestic level either directly or product-specific or both.
- **The Subsidies:** The subsidy regime is divided into three boxes **Blue, Amber, and Green** depending on the degree of subsidy being provided.
 - Those considered **non-distorting** are listed in the **green box**, the **minimally distorting** ones come under the **blue box** while subsidies seen as causing serious **market distortions** are categorised as **amber box** subsidies.
 - Amber box limits the subsidies like support prices or subsidies directly related to production quantities up to **5% for developed** nations and **10% for developing** ones.

Reasons for disagreement on subsidy and the peace clause at the WTO:

- **Three problematic biases in the WTO rules:**
 - **External Reference Price:** Using the **unit value of imports** or exports over a **fixed past period** (1986- 88 for most countries) as the External Reference.
 - **Price (ERP) instead of using the current price:** Because of that artificially low price, a barely above-market price today can look like a massive subsidy when compared to the outdated reference price.
 - **Price Support:** Using the **procurement price** instead of the price prevailing in the domestic market to estimate the **price support** received by the farmers. The

implicit assumption is that the public procurement price sets the domestic price whereas in many cases the quantity procured may be too small to affect the domestic price.

- **Total Production:** Using the **total production** instead of the **quantity sold** to estimate the **support** received by farmers.
 - The WTO rules mistakenly assume that farmers sell all their products without keeping back anything for their consumption. This is not the case in developing countries, especially for staple food grains.
- **Skewed nature of many agreements:** The **genesis** of the problem lies in the skewed nature of many agreements, including the AOA.
- **Box category:** Nearly all the **rich countries' subsidies** fall into the **green** box while those of **developing nations** are mostly in the **amber** box.
 - There is **no expenditure limit** on the subsidies that fall into the first two boxes (**green and blue**), while the amber box subsidies have to be **limited to 10 %** of the value of agricultural production for developing countries and 5 per cent for developed countries.
 - For example, **the USA** had shifted most of its **farm subsidies (88 per cent)** into the **green** box. Thus, the US has been subsidising its **corporate agriculture** to capture global markets while the **subsidies India** gives to an overwhelmingly large share of small and marginal farmers.
- **Unfair restrictions on developing countries:** The current **trade** rules can **prevent developing countries from adopting policies that are effective in developed countries when they were at earlier stages of development**.
 - For example, measures that India is now pursuing: supported farm prices, public stockholding, managed domestic markets, and public support for food purchases were **used in past decades** by some **developed** countries because they worked.

Reasons why India invoked the peace clause:

- **To ensure Food Security:** India ensures food security through the minimum support price (MSP) programme, and Public Distribution System and **National Food Security Act, 2013**.
 - The main objectives of the food security programmes are **ensuring MSP** to farmers.
 - **Stability** in food grain **prices** and their **equitable distribution** at affordable prices to the marginalised.
 - Maintaining an **adequate buffer** stock of food grains to deal with **unforeseen circumstances**.
- **Justified as per the Bali agreement:** India's breach of commitment for rice, under the **Agreement on Agriculture**, arises from **support** provided in pursuance of **public stockholding** programmes under the **Bali Ministerial Decision** on Public Stockholding for Food Security Purposes.

- **Not distorting international trade:** Government does **not undertake exports** on a commercial basis from public stockholdings. Additionally, **open market sales** of food grains from public stockholding are provided to the buyer with the undertaking of not exporting the purchase.
- **Agreement on Agriculture (AOA):** The Peace Clause is part of the AOA. Under the Clause, the WTO Agreement on Agriculture allows **developing countries** to provide **price support** and public stockholding for **food security** if the stocks are acquired to support low income and resource-poor producers.
 - The WTO rules allow subsidization of these food security programs as long as total domestic agricultural subsidies by developing countries **do not exceed 10% of the total agricultural output**.
- **Need for the Peace Clause:** Without this “peace clause”, countries would have greater freedom to take **action against** each other's subsidies, under the **Subsidies and Countervailing Measures** Agreement and related provisions.
 - The peace clause **protects India's food procurement** programmes against action from WTO members in case the **subsidy ceilings** of the value of food production are **breached**.

Way forward:

- **India's Proposal:** India has asked for a **permanent solution** on public stockholding for food security purposes on priority. A decision on this issue will signal **WTO's commitment** to the UN Sustainable Development Goals and the fight against **hunger** and **malnourishment**.
- **Improvement of peace clause:** The permanent solution has to be an improvement over the perpetual peace clause, which was adopted in Bali MC-9 to continue with the existing level of subsidies till the permanent solution is found.
- **Non-trade policies:** Conventional **analysis** suggests that policymakers should use **targeted non-trade** policies to **offset the potential negative** impacts of trade reform.
- **Effective institutional mechanism:** A **country's capacity** to take such a step depends on whether effective institutional mechanisms are in place and, if not, the timeframe over which they can be developed.
- **Public procurement programmes:** To **avoid over-dependency** on institutional markets, for example, public procurement programmes, **producers** can be encouraged to **graduate** from state food purchasing programs and become **more competitive** in the broader market.

General Studies - 3

Flurry against inflation targeting

Syllabus: Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment.

In news: The Government of India has decided to retain the inflation target of 4%, with a tolerance band of +/- 2 percentage points for the Monetary Policy Committee of the Reserve Bank of India (RBI) for the coming five years.

About Inflation Targeting

- RBI adopted the Inflation Targeting on the recommendations of the **Urjit Patel Committee** in 2016. Almost 5 years have passed since its adoption.
- **Definition:** Inflation Targeting is a method that focuses on adjusting monetary policy to achieve a specified annual rate of inflation.
- **Types of inflation targeting:**
 - **Strict inflation targeting (SIT)** – Under this, the central bank only focuses on keeping inflation, close to a given inflation target.
 - **Flexible inflation targeting (FIT)** – Under this, apart from inflation, the central bank is also concerned about other variables like the stability of interest rates, exchange rates, output and employment ratios.

About Flexible inflation targeting (FIT) Framework of India

- **Monetary Policy Committee:** The Finance Act, 2016 amended the Reserve Bank of India Act, 1934 (RBI Act). The amendment facilitated a statutory and institutionalized framework for a Monetary Policy Committee (**MPC**).
- **Policy interest rate:** MPC was entrusted with the task of fixing the benchmark policy interest rate (repo rate) to **contain inflation** within the specified target level i.e., inflation targeting.
- **Flexible inflation target:** A flexible inflation target (FIT) of 4% was decided with a deviation of +or - 2%.
- Further, **headline consumer price inflation** was chosen as the **key indicator**. This agreement between the centre and the RBI on inflation targeting ended on 31st March 2021.

Need of inflation targeting

- **Price stability:** Inflation targeting advocates the objective of price stability in actual monetary policy arrangement.
- **Resource allocation:** Adopting price stability creates a stable non-inflationary environment for resource allocation in the economy.
- **Inflation rate as a goal:** The RBI sets a certain inflation rate as a goal. The central bank made people believe that prices will continue to rise. This has few advantages like:

- The inflation targeting **benefits the economy** by making people buy things in the present (before they cost more).
- It **boosts investment**. The investors invest now because they are confident that the investment will give them a higher return when they sell later.
- **Stable inflation:** A credible central bank and stable inflation lower the country's risk premium and cost of borrowing in an open economy.
- **Accountability:** It also made the RBI more accountable to the government. As the RBI needs to give a proper explanation, in case it breaches the inflation targeting tolerance range (2-6%).

Performance of Inflation Targeting so far

- **Inflation in control:** In these 5 years periods (2016-2021) after inflation targeting was introduced, RBI managed to keep inflation in control. The inflation rate has remained within the prescribed band of 2% to 6%. According to the RBI, inflation was above 9% before the introduction of Inflation Targeting in India.
 - Also, the RBI has been successful in anchoring inflationary expectations. As the **estimated response coefficient** to RBI is higher for India than it is for other countries.
 - **The estimated response coefficient** is the relationship between the bank response and the unexpected rise in Inflation.
- **Improved anti-inflation credibility:** The household expectations of inflation continue to consistently exceed actual outcomes. As a result, increases in actual inflation now do less to excite inflation expectations and thus, improving anti-inflation credibility.
- **Robust monetary policy framework:** The working of MPC has seen the expression of independent viewpoints from both external and internal members. This has helped in making the monetary policy framework more robust.

Issues in inflation targeting

- **Assumption of correct output level:** The model of Inflation targeting is based on the assumption that inflation means overheating the economy (i.e., output or production is greater than natural level output/production.)
 - However, it is impossible to observe the level of output in an economy. Hence, setting policy rates based on the assumption that the economy is overheated, is unscientific.
- **Global variable:** Inflation depends on global variables, and it is not dependent upon one single factor. So, using an inflation targeting mechanism will not effectively control inflation.
 - **For example**, 2000-04 has been the golden period of inflation all over the world even in India. During this time, inflation rate targeting was not in place in India, yet inflation was very low.

- **Limited power of RBI:** The belief that RBI can successfully control inflation using Inflation targeting is not completely true.
 - During the lockdown, **food inflation peaked even when the inflationary targeting mechanism was in force.** It was mainly **due to supply chain disruption** during the lockdown.
 - Sometimes the band was breached as well. In June 2020, the upper threshold of 6% was breached due to the COVID-19 lockdown.
- **Inflation control:** Evidence suggests that countries that did not adopt inflation targeting were able to control inflation better than the countries that used inflation.
 - **For example,** India's inflation was around 5.2% (2015-19) for the same period it was 2.4% for economies that did not adopt inflation rate targeting.
- **Adverse impact on other sectors:** The cases of IL&FS, PMC Bank, PNB and YES Bank suggest that **poor management and maladministration** in the financial sector can escape RBI scrutiny as they tend to focus more on inflation targeting.
 - RBI has **kept the interest rates high** to manage inflation. This has **discouraged private investment** thereby reducing employment and export potential.

High real repo rates for almost three years 2017-2019 are the primary cause of **the GDP growth decline in India.** The GDP declined from 8 per cent (pre- Inflation targeting) to 5 per cent (post - Inflation targeting) due to high real repo rates.
- **Poor monetary transmission:** Inflation targeting requires several pre-conditions such as independence of central banks, well developed financial markets, flexible exchange rate, etc.
 - The results of not fulfilling these preconditions could be that the transmission mechanism of the Inflation targeting system in the country may not be very strong.
 - For example, sometimes change in Repo Rate by RBI is not effectively transmitted to change in inflation levels.
- **Global Nature of inflation:** Inflation is global as the price level of a good is determined by millions of producers across the world. Research by economic experts has also pointed out the international influence on the inflation level. Further, they mention points like,
 - No one producer or one country can influence the price of any item or the general price level.
 - For instance, the average inflation rate among EM (emerging markets) targetters during 2000-04 were 4 per cent, and it was 3.8 per cent among the non-targeting countries.

Way Forward

- **Aligning the shut period:** The Reserve Bank of India (RBI) in its **Currency and Finance (RCF)** report has called for aligning the shut period with global practices. The RBI predicts that this will provide better monetary policy transmission.
 - **Shut down period** is the period, in which MPC members maintain complete silence, i.e., no media coverage. It is observed before a few days of a policy decision,

till few days after the decision. It ensures no sudden volatility in the market and effective market transmission.

- **Enhance accountability:** To enhance accountability and credibility, the transcripts of the MPC meetings may be recorded. Further, the transcripts may be **released in the public domain with a lag of 5-7 years**.
- **Improvement of Regular measurement of CPI:** This includes **a frequent update of the basket and its weights** along with changing times.
- **Expansion in the ambit of MPC is also needed:** For instance, the inclusion of liquidity issues (liquidity adjustment facility, changes in reverse repo, and OMOs) in the discussion may result in greater transparency and effective procedures.

The RBI's **Currency and Finance Report** has indicated the central bank's preference to maintain flexible Inflation Targeting in the range of 2-6% for the next five years. This will build confidence in the broader economy that is still prone to both supply shocks and sudden demand shrinkage. Nonetheless, some reforms are desired in the Inflation targeting procedure to achieve optimum outcomes.

Food insecurity during pandemic

Syllabus: Issues of buffer stocks and food security

In news: Food insecurity is rising among the most vulnerable populations due to 2nd wave of the pandemic. Hence, the government needs to take some precautionary steps to save millions from hunger and food insecurity.

State of Food insecurity in India

- **Global Hunger Index 2019:** Even before the pandemic, India's efforts to tackle the food security crisis have been below par. For example, India ranks 102 among 117 countries in the Global Hunger Index 2019.
- **Impact of covid-19:** The economic shock produced by the COVID-19 pandemic has added to the already rising food insecurity.
- **Rapid Rural Community Response:** The data collected by the Rapid Rural Community Response (a collective of over 60 NGO's) provides crucial evidence on the nature of food and financial insecurity among the poor in rural areas.
- **The state of food security and nutrition in the world (SOFI) report:** The report provides **three-year average estimates of the number of food-insecure people for South Asia as a whole and South Asia (excluding India)**. By taking a difference between the two, one can derive the estimates for India.
 - The number of food-insecure people grew from **42.65 crores in 2014-16 to 48.86 crore in 2017-19**. While the PMSFI increased in India by 3.7 percentage points during this period, it fell by 0.5 percentage points in the rest of South Asia.
 - The per capita dietary energy supply in India increased by 3.8% between 2011-13 and 2015-17.

- The consumption survey data that became available through a media leak showed that **the average consumption expenditure (covering food and other expenses) fell by 3.7% between 2011-12 and 2017-18.**

Causes of food insecurity during pandemic

- **Nutrition intake:** The data suggest a reduction in nutrition intake. For instance, the poor and the socially marginalized people are forced to cut down on food intake (especially nutritious food) during the lockdown period. For example,
 - Households reported nearly 80% cut down on nutritious food such as milk, vegetables, pulses, and oil.
 - These reductions in nutritious intake will hamper India's effort to provide adequate nutrition to children as per the **National Family Health Survey (2019-20)** and the **Global Food Policy Report, 2021.**
- **Vulnerability of the migrant community:** The food and financial insecurity among the migrant's community increased due to lack of universal access to government welfare schemes.
 - For instance, among the poorest, households with migrants were more likely to seek work than those without (43% versus 32%). But only half were employed under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).
- **Absence of public distribution system:** In the absence of an effective public distribution system of food, reduction of incomes has been pushing people into deprivation of food and leading to hunger.
 - Nutritional items of diet like milk, eggs, dal, vegetables, fruit, meat are being foregone.
 - Only cereal-based diet (rice and roti) is being consumed in lesser quantities.
 - Halting of midday meal scheme due to school closures is depriving nutrition to children. Further, child labour is rising, to meet the income and food needs of households.
- **Impact of poverty on food security:** The Rapid Rural Community Response data suggests that food insecurity is rising among poor households.
 - Reasons for that are job losses, lack of income, lack of access to government welfare schemes, etc.
 - According to **Pew Research Center**, the middle-class population in India has shrunk by over 32 million households.
 - The UN estimates that 40 crore people will fall into extreme poverty (less than \$1.9 per day) especially in South, South East and East Asia. Further due to a lack of efficient public food distribution support, 25 crore people will face acute hunger globally.
- Ineffective government responses:

- **Reduced food availability:** Ending of universal food support after lockdowns have reduced food availability for new poor who lost their livelihoods. Only those with ration cards are being able to access the rations.
- **Dilution of labour laws has reduced protection to workers:** Increased working hours (up to 12 hours), suspension of safeguards will weaken the bargaining power of workers and pose health risks. This will make the livelihoods more vulnerable and hence, risks rise in poverty and hunger.
- **Transportation challenges:** Various researchers have pointed out issues in governance as well.
 - Interstate transport of goods faces many problems. At many places, local police and administration are prohibiting the movement of trucks and carts carrying essential food items.
 - Truck drivers are being frisked at lockdown checkpoints and casual laborers for loading and unloading are in short supply. As a result, perishables are not reaching mandis, processing units and households.
 - It is imperative that food moves seamlessly across state borders, which can happen only if the states work together.

Steps taken to address food insecurity during the pandemic

- Finance Minister Nirmala Sitharaman declared a relief package worth INR 1.7 lakh crore under **Pradhan Mantri Garib Kalyan Yojana** for the poor to help them fight the battle against Corona Virus. It included provisions to provide food to the poor, such as: 80 crore poor people to get 5 kg wheat or rice and 1 kg of preferred pulses for free every month for the next three months, etc.
- **Kerala:** Kerala announced that everyone in need – whether the below poverty line (BPL) or not – will get free rice. As anganwadis shut down, the state government ensured home delivery of mid-day meals.
- **Haryana:** The Haryana Government decided to provide all BPL families their monthly ration for April free of cost. All government school children and those enrolled in anganwadis were to be given dry rations.
- **The Chhattisgarh Government** issued an order to provide dry ration instead of hot-cooked meals to children aged between three and six years and who were registered with anganwadi centres.
- The **Indian Council of Agricultural Research (ICAR)** issued state-wise guidelines for farmers to be followed during the lockdown period. The advisory mentioned specific practices during harvest and threshing of various rabi (winter sown) crops as well as post-harvest, storage and marketing of the farm produce.

The Way forward

- **PMGKAY scheme:** The government's willingness to restart the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)** for the next two months is a step in a good direction.

However, the government needs to include nutritious foods like pulses in the **PMGKAY scheme**.

- **Community kitchens:** Community kitchens similar to **Amma canteens** need to be set up across all urban cities to support migrants stuck in cities without work.
- **Assessing the impact of a pandemic:** India must conduct a national survey on food insecurity to assess the impact of the COVID-19 pandemic on the food security of different sections of the population.
- **Sustained efforts:** State and civil society must move with haste to prevent this emerging humanitarian crisis of poverty and hunger. Only by sustained efforts can we regain progress towards goals of Zero poverty (SDG-1) and Zero Hunger (SDG -2).
- **Authoritative indicators of food insecurity:** The status of food security and nutrition in the world report presents the most authoritative evaluation of hunger and food insecurity in the world every year. Since 2017, SOFI presents two key measures of food insecurity:
 - The conventional measure called the Prevalence of Undernourishment (PoU) and a new measure called the Prevalence of Moderate and Severe Food Insecurity (PMSFI).
 - PoU is focused on estimating the proportion of the population facing chronic deficiency of calories and the PMSFI is a more comprehensive measure of the lack of access to adequate and nutritious food.
 - The Food Insecurity Experience Scale (FIES) and the PMFSI have been widely adopted by countries across the world because of the solid conceptual foundations of this methodology and the ease of collection of data.

Production-Linked Incentive (PLI) Scheme: A Step towards Atmanirbharta

Syllabus: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

In news: The Union Cabinet has approved two PLI schemes for white goods (air-conditioners and LED lights) and high-efficiency solar photovoltaic modules.

More on news:

- Recently the Ministry of Commerce & Industry submitted the **Status of Production-Linked Incentive Schemes** in India. In the Union Budget 2021, the finance minister announced an outlay of **INR 1.97 Lakh Crores** for PLI Schemes in **13 key sectors**.
- So far 9 of the 13 PLI schemes are notified and another four **schemes** are in process.

About the Production-Linked Incentive (PLI) Schemes

- **PLI scheme:** The PLI Scheme was launched as a part of the National Policy on Electronics 2019 to give incentives of 4-6% to electronic companies. It especially focused on the companies that were manufacturing electronic components like mobile phones, diodes, transistors, etc.

- **Aim:** The **major aim** of the scheme is to invite foreign investors to set up their manufacturing units in India. Similarly, the PLI scheme aims to promote the local manufacturers to expand their manufacturing.
- **Features of the Scheme:**
 - Companies will get incentives on **incremental sales** from products manufactured in domestic units.
 - The scheme is **outcome-based**, which means that incentives will be disbursed only after production has taken place.
- **Implementation:** The scheme is implemented by the concerned ministries/departments.
- **PLI Scheme for White Goods:** It shall provide an incentive of 4% to 6% on incremental sales of goods manufactured in India. The scheme is for five years for the manufacturers of Air Conditioners and LED Lights.
- **PLI Scheme for High-Efficiency Solar PV (Photovoltaic) Modules:** Under the scheme, Solar PV manufacturers will be selected through a transparent competitive bidding process. The incentives will be disbursed for 5 years post commissioning of solar PV manufacturing plants on sales of high-efficiency solar PV modules. A Manufacturer will get the reward for higher efficiencies of solar PV modules and also for sourcing their material from the domestic market. Thus, the **PLI amount** will increase with increased module efficiency and increased local value addition.

Need for PLI Scheme

- **Support Sunrise industries:** These are relatively new industries but growing fast at present. Further, these are expected to become important in the future. For Example, Solar energy industries, Food Processing Industries, etc.
- **Build export base:** India despite dominating the services sector, contributes very little to the **global supply chain**. PLI scheme can help India to build an export base.
 - For example, according to a Parliamentary report, the **minimum production** in India due to PLI Schemes is expected to be **over US\$ 500 billion in 5 years**.
- **Reduce Chinese demands:** At present, there is a growing demand for **diversification of supply chains**, especially to avoid the dominance of China. The PLI Scheme, by increasing production, can reduce Chinese demands.
- **Attract the global investment to India:** India is a consumer-based economy. By providing incentives, the PLI scheme attracts more foreign investment to India.

Potential Benefits of PLI Schemes

- **Utilizing the Comparative advantage:** In some sectors the domestic industry has a comparative advantage over other countries, focusing on these sectors could generate higher returns.
 - For example, the Indian Textile Industry is one of the largest in the world. India is the second-largest producer of steel. Introducing the PLI Scheme in these sectors will further expand these sectors.

- **Low-cost indigenous products:** India is striving to have a USD 1 trillion digital economies by 2025. The projects like Smart City Mission and Digital India require huge investments. India at present imports the equipment and raw materials.
 - On the other hand, the PLI Scheme will provide low-cost indigenous products. So, the cost associated with other projects will also come down.
- **Reduced government expenditure:** The government cannot make sustained investments in capital-intensive sectors because they have a longer gestation period.
 - The PLI Scheme, based on incremental output is more effective than the **other grant-based input subsidy schemes** like Mega Food Parks, etc. This will reduce government expenditure.
- **Increasing strategic autonomy:** Efforts have been made to become '**Atmanirbhar**' in sectors that are of strategic importance.
 - For instance, India aspires to become a major telecom original equipment manufacturer of telecom and networking products. It would be a critical and strategic element of building secured telecom infrastructure.
- **Generate employment opportunities:** The sectors such as textile, steel is labour-intensive. By increasing manufacturing in these sectors, India can **reduce the unemployment ratio and also create skilled manpower**.
- **Encouraging local manufacturing units:** The scheme aims to develop local industries. Further, the scheme also facilitates **innovation and research, development and up-gradation of technology** of Indian firms. Thus, the local manufacturing units can become globally competitive in the long run.

Challenges associated with the PLI Schemes

- **Financial cap:** The scheme contains a financial cap on incentives. This makes an over-performing company not reap the benefits of its over achievements.
- **High effective cost:** In India for the majority of the PLI Scheme focused sectors the effective cost of manufacturing is higher than the competitors.
 - For example, **Ernst & Young Study** shows that if the cost of production of one mobile is ₹ 100. Then the effective cost of manufacturing the mobile is 79.55 in China, 89.05 in Vietnam, and 92.51 in India (including PLI). So, the investors will prefer other countries despite the PLI scheme.
- **Fails to address the core challenges:** Apart from that, the scheme did not address the core challenges faced by the Sunrise industry manufacturers. Such as,
 - **Low presence of domestic firms:** As the international players can invest their revenues and produce in India and take domestic market share. Thus, the domestic manufacturer will be in a disadvantageous position. For example, about **99% of Xiaomi phones sold in India were made in India**. So, Indian firms might face challenges in getting market share.

- **The problem of cheap imported material:** Domestic firms may also face competition from cheap imports. Especially from Chinese in Solar PV Modules, White Goods etc.
- **Lack of cutting-edge technology:** India so far not focused on adequate R&D development and raw machinery. This resulted in poor talent retention and eventually 'brain drain'. So, the development of industries under the PLI Scheme is questionable.
- **Gradual withdrawal of scheme critical to long-term development:** The incentives should be well-crafted and temporary so that the industries receiving support can mature and become economically viable without protection. Keeping them in place for too long may slow down, rather than accelerate growth in these sectors.
- **Skewed allocation of resources:** The limited resources of the economy in the form of capital and human resources will be nudged towards incentivized sectors thus, indirectly disincentivizing other sectors.

Way Forward

- **Focus on supply chain co-location:** The government has to encourage the foreign firms under the PLI policy to co-locate (placement of several entities in a single **location**) with their established industrial ecosystems.
 - This will reduce government expenditure to invest and develop the ecosystems for the investor. This will bring the assemblers and component manufacturers together. So that, it reduces the effective cost of manufacturing.
- **Focus on the service industry:** Further, the government must focus on the service industry also. As other countries like China focus on the development of both Manufacture and Service sectors simultaneously in the long run.
- **Focussing on the manufacturing sector:** India also needs to focus on other key challenges of the manufacturing sector through initiatives such as:
 - **Reduction in costs:** India also needs to consider reducing its factor costs of power and logistics.
 - **Encouraging states to be competitive** and not indulge in trade-restrictive practices like Job reservation for locals, etc.
 - Further, implementing structural reforms such as Land reforms, etc.
 - Also, India needs to improve human capital to meet the demands of the sunrise industries.
- **Profiting from Anti-Chinese Sentiments:** The global players including the USA, Australia aims to diversify their supply chains and also raise allegations against China. India should utilize this golden opportunity to act fast to attract outgoing investment from China.
- **Pre-defined Sunset clause on the scheme:** It will not only be beneficial for the sector in the long-term, but it will also encourage the individual players to see it as a one-time opportunity for capacity building.

The River of Life

Syllabus: Conservation, environmental pollution and degradation, environmental impact assessment.

In News: The holistic approach adopted under the 'Namami Gange' project brings together public policy, technology intervention, and community participation to restore the Ganga's purity and biodiversity.

Status of Ganga Pollution

- Approximately 12,000 million liters a day (MLD) of sewage is generated in the Ganga basin, for which there is currently a treatment capacity of just 4,000 MLD.
- Uttar Pradesh has the highest pollution load followed by Bihar, West Bengal, and Uttarakhand.

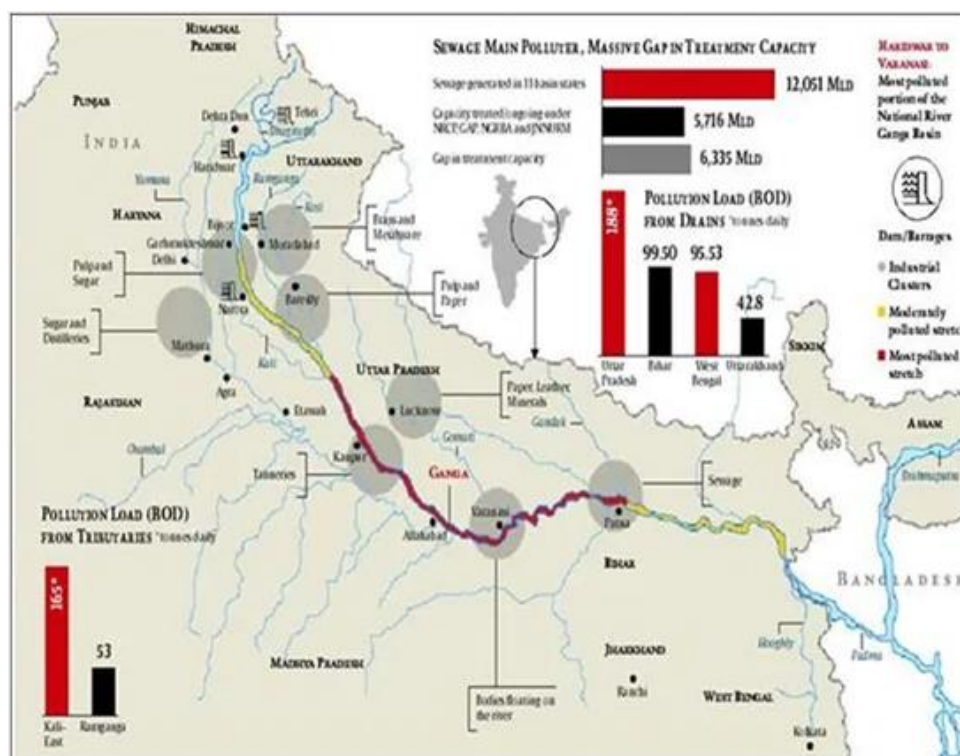


Fig. Ganga Basin

- Urban Sewage:** Untreated sewage from Tier I and Tier II towns like Kanpur, Allahabad, and Varanasi flow directly to the river.
- Rural Sewage:** About 1,650 gram panchayats lie directly on the banks of the Ganga. The sewage they generate is entirely untreated. Open defecation is also rampant.
- Polluting Industries:** There are 764 grossly polluting industries on the banks of the Ganga, mostly in Uttar Pradesh. These include tanneries, paper and pulp industries, sugar mills, dyeing factories, distilleries, and cement plants. Effluents from all these flow untreated into the river.
- Human habits:** An analysis of the Ganges water in 2006 showed significant associations between water-borne/enteric disease occurrence and the use of the river for bathing, laundry, washing, eating, cleaning utensils, and brushing teeth.

- **Pollution due to irrigation/agricultural waste:** Excess use of pesticides, fertilizers, chemicals increases the pollution in agricultural waste and subsequently increases the pollution in river water.
- **Religious Issues:**
 - Due to religious reasons, dead bodies are cremated on the riverbank especially in Varanasi, Garhmukteshwar & Haridwar, and the ashes and remains are dumped in the river. It is a huge source of pollution in the river.
 - While worshipping the Ganges, flowers and other material used for worship should not be thrown in the Ganges.

Vision of Namami Ganga Programme

The vision is to restore the wholesomeness of the river by ensuring Aviral and Nirmal Dhara and maintaining its geo-hydrological and ecological integrity. It is sought to be implemented by **Integrated River Basin Management (IRBM) approach**.

Approach

Integrated River Basin Management (IRBM) approach is followed with multi-sectoral and multiagency interventions such as:

Nirmal Ganga: Pollution abatement,

Aviral Ganga: Improving ecology and flow,

Jan Ganga: Strengthen people-river connect and

Gyan Ganga: Facilitate diversified research, scientific mapping, studies, and evidence-based policy formulation.

Role of NMCG: An apostle of a 'Sangam Approach'

- **'Sangam Approach':** The 'Namami Gange' project's holistic approach brings together **public policy, technology intervention, and community participation** to rejuvenate River Ganga.
- **Public policy:** In 2016, the government authorized the National Mission for Clean Ganga (NMCG) to exercise powers under the Environment (Protection) Act, 1986.
 - The NMCG issued directions to authorities wherever required, after regularly conducting the surprise checks on sewage treatment plants (STPs).
 - It also issued directives on regulating the mining activities on river banks, prohibiting encroachment, and regulating activities like the immersion of idols.
- **Technology intervention:**
 - NMCG adopted cutting-edge technologies like satellite imagery, remote sensing, and geospatial solutions, which facilitated real-time monitoring of pollutants in Ganga and its tributaries.
 - Scientific forecast models were deployed for designing new sewage treatment infrastructure.
- **Easing private partnerships:** NMCG has adopted a hybrid annuity model for project implementation, thereby entrusting long-term responsibility for operations and maintenance to the project executors.

- **Community participation:** Through community involvement, the government seeks to transform “Jal Chetna” into “Jan Chetna” and turn it into a “Jal Andolon”.
- **Collaboration with premier institutes:** NMCG is actively working together with premier institutes like the Wildlife Institute of India, Dehradun, ICAR-Central Inland Fisheries Research Institute, Kolkata, and the Centre for Environment Education, Ahmedabad, to restore the river’s biodiversity.
- **Association with the Ministry of Agriculture** to promote organic farming in villages of Uttarakhand, Uttar Pradesh, Bihar, and Jharkhand.
- A long-term **Intensive and Scientific Afforestation Plan** is under implementation in the river along with the Forest Research Institute, Dehradun.

Issues with Namami Gange Programme:

- **Unused funds:** According to CAG (Comptroller and Auditor General) report the Government had only used \$260 million of the \$1.05 billion earmarked for the flagship program between April 2015 and March 2017.
- **Pollution has rarely been an electoral issue:** Elected leaders have few incentives to take on either the big polluters (which include the government’s own companies and power stations) or the small-scale firms in industrial clusters that serve as vote-banks.
- **Absent water:** There is a diminished flow of water in India’s rivers. Along the Ganga, for example, so much water is diverted for irrigation and hydro-power that the flow of the river is reduced to a trickle, particularly in the hot summer months.
- **Lack of civil society or citizen participation:** The CAG report highlights that there is almost no mention of civil society or citizen participation, particularly for monitoring and sustainability of the operations.
- **Hydroelectric projects:** According to a report published by Wildlife Institute of India in May 2018, 16 existing, 14 ongoing, and 14 proposed hydroelectric projects on the Bhagirathi and Alaknanda river basins have turned the upper stretch of the Ganga “ecological deserts”.
- **Sludge control:**
 - A staggering 99.93 percent of villages lying on the banks of Ganga, also known as Ganga Grams, have been declared open defecation free (ODF) by the government under the Swachh Bharat Mission (SBM).
 - However, the CAG report said the state government was to verify the ODF status through its teams or a third party. Moreover, more than 1000 villages of UP and Bihar did not get it done.
- **Sewage treatment:** Sewage treatment plants (STPs) have been at the center of Ganga pollution abatement but the implementation of projects is way behind the targets.
 - As per Namami Gange targets, STPs with over 2,000 million liters a day (MLD) capacity had to be rehabilitated of which only 328 MLD have been done.

- As far as sewage infrastructure projects are concerned, 68 projects were sanctioned after the Namami Gange was approved by the cabinet and only six were completed.
- Reasons cited:
 - land acquisition and other related activities,
 - Biological oxygen demand (BOD) and Total Suspended Solids (TSS) levels of the effluent are higher than the norms because industrial waste and chemicals are illegally mixed with the influents in a plant not meant to treat industrial pollutants.
 - STPs are not able to get the total amount of influents, primarily due to a lack of sewerage network in the city.

Conclusion

Nature can regenerate itself if human interventions are controlled and the same was witnessed during the national lockdown period. People's participation is key to transformation.

Ganga Rejuvenation is critical for the implementation of the **2030 agenda of SDGs**. Namami Gange has developed a framework for river rejuvenation which is now being followed for several rivers beyond the Ganga basin

Redefining Combatants

Syllabus: Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security

In News: A report in The New York Times blamed Chinese cyber hackers for the October 2020 breakdown of the Mumbai power distribution system points. This has put the focus on the contextualizing cyber-attacks and the state of cyber security architecture of India.

Need for Cybersecurity in India

- **Security Aspect:** Cyberspace has emerged as the 5th arena of war (after land, air, water and space). Further, Cyberspace has also allowed the terrorist groups to stay anonymous and propagate their nefarious activities (for example-propagating anti-state propaganda by radicalizing the public). Thus, secured cyberspace is an integral part of strategic and national security.
- **Privacy of the users:** As per the Kantar report, India's internet base has breached the 500 million mark. It is likely to reach 627 million by the end of 2019. This will generate huge volumes of data. Hence, there is a need to protect the data and privacy of data of millions of users.
- **Increasing cyber-crimes:** As per a report by the internet solutions provider Symantec, India is the third most vulnerable country in the world in terms of cybersecurity threats.
 - As per CERT-IN, India experienced one cybercrime in every 10 minutes in the first half of 2019.

- Further, A National Crime Record Bureau report has also pointed out that cybercrimes reported in India rose by 19 times between 2005 to 2014.
- **Digital Economy:** India aims to be a digital economy. India also has the third largest ecosystem for technology-driven startups in the world.
 - Promotion of innovation and entrepreneurship through the startups and enabling services (e.g- Aadhaar, MyGov, Government eMarket, DigiLocker) through cyberspace requires a secure cyberspace.
- **E-commerce boom:** The Indian E-commerce market is expected to reach US\$ 200 billion by 2026. This increases the vulnerability of the consumers to online frauds (identity thefts, credit card frauds etc).
- **Protecting the critical infrastructure:** Critical infrastructure systems such as finance, defence, transport, telecommunication etc requires security of networks to function efficiently.
- **Lack of regulatory safeguards:** The NITI Aayog report has pointed out that the regulatory framework for cyber security is inadequate in India. This has resulted in hacking and denial-of-service attacks which have led to disruption of services and security breaches in public and private organisations.
- **Age of IoT:** As we move into the 4th Industrial Revolution, the rise of the Internet of Things, artificial intelligence, machine learning etc would see a more connected environment. This would require the communication systems to be secure.

Do the cyber-attacks need to be redefined in the International Security Architecture?

- The definition of combat and combatants has undergone fast mutation.
- **The Lieber Code of 1863** has defined a combatant as “So soon as a man is armed by a sovereign and takes the soldier’s oath of fidelity, he is a belligerent...”.
- **The 1899 Hague Convention has tried to bring** clarity of what constitutes a regular force.
 - Force should be commanded by a person responsible for his subordinates.
 - It must have a distinctive emblem recognisable at a distance.
 - It must carry arms openly.
 - It must conduct operations in accordance with laws and customs of war.

Thus, those who conducted Mumbai cyberattack on power systems 2020 or 2007 attack on Estonia’s banking system did not meet any conditions. Hence, the definition of a combatant needs to be redefined due to the following reasons:

- A cyber ‘army’ **need not be uniformed and may consist of civilians**; For instance: A rogue nation could well turn these non-uniformed people into cyber ‘warriors’.
- Cyber ‘warriors’ **do not carry arms openly**. Their arms are malicious software that is invisible.
- The **source of the attack** could be a software nerd who does not have a leader and is up to dirty tricks for money, blackmail or simply some fun.
- **Limitations of sanctions:** In 2014, the USA for the first time initiated sanctions against foreign nationals. In the absence of a common definition of a cyber attack, a risk exists that this may escalate to covert and/ or over kinetic retaliation in future.

- **Question of self-defence:** If the cyber-attackers are considered as combatants, does any country have the right to self-defence as an act of pre-emption in order?

India's stand: India has given its view of the **right to self-defence**. In February 24, 2021, UN Arria Formula meeting held on 'Upholding the collective security system of the UN Charter'.

- India has argued that "...a State would be compelled to undertake a pre-emptive strike when it is confronted by an imminent armed attack from a non-state actor operating in a third state."

Issues in India's cyber security architecture

- **Dealing with data colonization:** India is a net exporter of information, however data servers of the majority of digital service providers are located outside India.
- **Policy Issues:** The National Cyber Security Policy has outlined the various principles to be followed in the cyber security ecosystem. However, it does not lay down a comprehensive broad framework.
- **Legal Systems:** A single IT Act is inadequate to deal with the different aspects of cyber security: Cyber Law, Cyber Security, Cyber Crimes etc.
- **No unified national security architecture:** Each law enforcement agency/armed force has its own cyber security agencies which makes it difficult to act in a coordinated manner.
- **Lack of R&D in cyberspace:** Basic research, technology demonstration, skill enhancement of manpower has been lacking in the field of cyberspace. This has resulted in low levels of development of the indigenous cyber security solutions.
- **Lack of adequate cyber security experts:** Shortage of trained experts in various aspects of cyberspace, such as- social engineering, breaking encrypted platforms etc. makes the implementation of policies difficult.
- **Absence of a comprehensive data protection law:** The government's push for e-governance, the ever expanding e-commerce sector and the booming social media platforms have generated large volumes of data of Indian citizens. But India still lacks a comprehensive data protection law.
- **Heavy import dependence:** Lack of an indigenous electronic manufacturing base has led to heavy dependence on imports for electronics and IT hardware. Further, there is no coherent certification mechanism to check the standards of the imported products. This directly poses a threat to national security.
 - For instance, India continues to import most of its hardware from China despite a 2018 National Security Council Secretariat (NSCS) report suggesting 35% of cyber-attacks against India were attributed to China.

Various Measures by the Government of India

PROGRAMMES AND INITIATIVES	
Cyber Surakshit Bharat Initiative	It is the first public-private partnership of its kind that will utilise the expertise of the IT industry in cybersecurity to train

	the various IT officers across the central and state government departments, banks, PSUs etc.
Pradhan Mantri Gramin Digital Saksharta Abhiyan(PMGDISHA)	It is a component of the Digital India Programme and aims to make 6 crore rural households digitally literate.
The Cyber Warrior Police Force(CWPF)	In January 2018, the government had announced its plans to introduce CWPF. The CWPF is likely to operate under National Information Security Policy and Guidelines wing of MHA's CIS division. It is proposed to be raised on lines of Central Armed Police Force (CAPF).
Crisis Management Plan	Crisis Management Plan has been formulated for countering cyber attacks and cyber terrorism which will be implemented by all Ministries and Departments of the Centre and the state governments in critical sectors.
Indian Cyber Crime Coordination Centre Scheme(IC4 Scheme)	The scheme has the following objectives : <ul style="list-style-type: none"> • To act as a nodal point in the fight against cybercrime, • To prevent misuse of cyberspace for furthering the cause of extremist and terrorist groups, • Suggest amendments, if required, in cyber laws to keep pace with changing technologies etc.
LEGISLATIVE MEASURES	
Information Technology Act, 2000 (amended in 2008)	It provides legal recognition to electronic documents. It also provides a legal framework for e-commerce transactions and to deal with cyber crimes. Some of the important sections of the act include : Section 43 : Data Protection, Section 66 : Hacking, Section 66C : Identity Theft, Section 69 : Cyberterrorism etc.
National Cyber Security Policy 2013	Key Features: <ul style="list-style-type: none"> • To create a secure cyberspace in the country. • Operating a National Critical Information Infrastructure Protection Centre (NCIIPC). • To create cyber security workforce. • To develop suitable indigenous security technologies. • To enhance global cooperation, etc.
Draft National Encryption Policy, 2015	It aims to secure transactions in Cyber Space for individuals, businesses, Government including nationally critical information systems and networks. [Note: Encryption is the process of encoding messages or information in such a way that only authorized parties can read it. The purpose of encryption is to ensure that only

	somebody who is qualified to access data (e.g. a text message or a file) will be able to read it, using the decryption key.]
INTERNATIONAL MEASURES	
Cyber-diplomacy	Indian government has entered into cyber security collaborations with countries such as the USA, European Union and Malaysia. For eg- U.S.-India Cyber Relationship Framework
Participating in Global Conference on Cyber Space	It is a prestigious global event where international leaders, policymakers, industry experts, think tanks, cyber wizards etc. gather to deliberate on issues and challenges for optimally using cyberspace. The fifth Global Conference on Cyberspace (2017) was held in Delhi under the theme "Cyber4All: A Secure and Inclusive Cyberspace for Sustainable Development".
Global Centre for Cybersecurity	It was launched by the World Economic Forum (WEF) to serve as laboratory and early-warning think tank for future cybersecurity scenarios and help build a secure global cyberspace.

Way Forward

- **Offensive cyber deterrence** : The government should work towards building systems to intercept and exploit communication and digital networks.
- **Developing PPP models** : Tech start-ups and private industry should be encouraged to work with government agencies. The focus should be on developing artificial intelligence and quantum computing products that could help deter cyber threats.
- **Cyber Command** : India should develop a fully operational cyber command.
- **Cyber specialists** : The government should draft recruitment guidelines to develop a cadre of cyber specialists.
- **Collaborative approach** : Strengthening the National Cybersecurity Coordinator (NCC) to ensure collaboration among the various institutions of the government to deal with cyber security in an integrated manner.
- **Sensitization of businesses** : The businesses should be sensitized to dedicate a larger budget for undertaking cybersecurity measures, such as: adoption of a cybersecurity plan, purchase of cyber insurance, appointment of a data security officer.
- **Signing the Budapest Convention** : The Budapest Convention (The Convention on Cybercrime) is the first international treaty dealing with cybercrimes. India should sign the treaty for effective international collaborations.
- Implementing Gulshan Rai Committee recommendations:
 - Establishing a new Indian Cyber Crime Coordination Centre and linking it to NATGRID and CCTNS (Crime and Criminal Tracking Network System) to deal with cyber-crimes.
 - Reducing the dependence on foreign servers by creating one dedicated secure gateway for all government communication.

- Amending the Evidence act as per current requirements.

Tackling Naxal Threat

Syllabus - Linkages between development and spread of extremism

In News - 22 uniformed officers, including CoBRA commanders of the specially trained battalion, lost their lives in Chhattisgarh's Naxal affected Bastar region.

Introduction

In 2008, Prime Minister Manmohan Singh warned, **"Naxalism is the greatest threat to our internal security."**

- **Origin** - The birth of Naxalism is pinpointed to the Naxalbari uprising of spring 1967. **Naxalbari is the village** where it started. It was the site where peasant revolted against the landowners under the leadership of **Communist leader Charu Majumdar**.
- **Objective** - Naxalites seek to **overthrow the state through violent means**. They openly proclaim a lack of faith in the democratic means of the ballot and adhere to the violence as a means of achieving their ends. Naxal affected areas in India are known as the 'Red Corridor' or 'Left-Wing Extremism' areas.

Features of Naxalism

- **Promotes fear** - Naxalites have continuously **discouraged civilians from engaging with authorities and have resorted to executions of so-called police informants**, hence instilling fear.
 - For instance, between 2004 to 2020, 8380 people have been killed by the LWE in different parts of India. The majority of the civilians killed are tribal, often branded as 'Police informers' before being brutally tortured and killed.
- **Wide geographic coverage** - The States of Chhattisgarh, Jharkhand, Odisha, Bihar, West Bengal, Andhra Pradesh, Telangana, Maharashtra, Madhya Pradesh, Uttar Pradesh and Kerala are considered LWE affected, although in varying degrees.
- **Disrupt developmental activities** - By **attacking development and infrastructure projects**, Naxalites directly impede the development of India's economy, while themselves perpetuating the cycle of poverty and marginalisation of rural populations.
- **Mistrust for the state** - Some raids on Maoist controlled areas have resulted in **extrajudicial killings and executions by the state**, thus leading to the mistrust of authorities.
- For example, one such case is the alleged 2012 killing of 17 Adivasis, including 7 children, by the CRPF who claimed these villagers were Maoists. In 2017, a judicial inquiry found this claim to be untrue, the killing unprovoked and hence extra-judicial.
- **Orientation towards organised crime** - Following the crackdown of cross-border drug cartels along the Afghan-Pakistan trafficking route, **Naxalites had seized the opportunity to merge into the drug trafficking network**.

- For example, Jharkhand is one of the Indian states heavily affected by the Maoist insurgency and the Maoists have been using opium cultivation as a source of revenue since 2007.
- **Large women cadre** - Most local parents do not want to part with their children. But faced with **coercion and threats**, many poor Adivasi parents prefer to part with the girl child. This inhuman practice by the Maoists is the reason behind a large number of young girls/women being present among the Maoist cadres.
- **Presence of front organisations** - The Front Organizations are the off-shoots of the parent Maoist party, which professes a **separate existence to escape legal liability**. The Front organizations carry out propaganda/disinformation for the party, recruit 'professional revolutionaries' for the underground movement, raise funds for the insurgency, assist the cadres in legal matters and also provide safe houses and shelters to underground cadres.

Causes for the spread of Naxalism

- **Land Related factors** - Failure of land reforms, for example, **evasion of land ceiling laws and the existence of special land tenures** (enjoying exemptions under ceiling laws) gave rise to Naxalism in the 1960s. Post 1991 liberalisation, **alleged encroachment and occupation of community lands (even the water-bodies) by powerful sections** of society lead to more discontent among tribal.
- **Displacement and forced evictions** - Eviction from lands traditionally used by tribal for mining and power-related projects has resulted in the displacement of local peoples. Large scale land acquisition and displacement for 'public purposes' **without appropriate compensation or rehabilitation made the cycle of poverty more vicious**.
- **Governance Related Factors** -
 - **Lack of development of human capital**- **Corruption and poor provision/non-provision** of essential public services including primary health care and education has resulted in poor human capital. **Lack of skills and employment opportunities** for the youth lures them towards the Naxals. Apart from economic security, it gives them a sense of empowerment and dignity.
 - **Poor governance**- **Incompetent, ill-trained and poorly motivated** public personnel who are alleged to be mostly absent from their place of posting has led to unethical and poor governance.
 - **Lack of credibility**- **Misuse of powers by the police** and violations of the norms of law has resulted in power distance with tribals.
- **Social marginalisation and exclusion**- Continued practice of untouchability in various forms leads to denial of dignity. **Poor implementation of special laws such as the Scheduled Caste and Tribes (Prevention of Atrocities) Act, 1989, Protection of Civil Rights Act, 1955 and Bonded Labour System (Abolition) Act, 1976** etc has aggravated the marginalisation.

Steps taken by the Government of India

- **Security Related Expenditure (SRE) Scheme** - Under the Security Related Expenditure (SRE) Scheme, expenditure of 90 districts relating to **training and operational needs of security forces, ex-gratia payment to the family of civilians/security forces killed/injured in LWE violence, compensation to Left Wing Extremist cadres** who surrendered in accordance with the surrender and rehabilitation policy of the concerned State Government, community policing is being reimbursed.
- **Civic Action Programme (CAP)** - CAP in LWE affected areas is being implemented since 2010-11 to bridge the **gaps between Security Forces and local people** through personal interaction and bring the human face of SFs before the local population.
- **Modernisation of police forces**
 - **Scheme of Fortified Police stations:** The Ministry of Home Affairs had sanctioned the construction of 400 Fortified Police Stations in 10 LWE affected States.
 - **Assistance to Central Agencies for LWE management Scheme-** Under the Scheme, assistance is provided to Central Agencies (CAPFs/IAF etc) for **strengthening of infrastructure and hiring charges for Helicopters.**
 - **Media Plan-** The Maoists have been **misguiding and luring the innocent tribals/** local population in LWE affected areas by their **so-called poor-friendly revolution** through petty incentives or by following their coercive strategy. Under the scheme activities like Tribal Youth Exchange programmes organised by **NYKS, radio jingles, documentaries, pamphlets etc. are being conducted.**
- **Infrastructure development**
 - **Road Requirement Plan-I (RRP-I) for LWE affected areas-** This Scheme is being implemented for **improving road connectivity in LWE** affected districts of 8 States. This scheme envisaged the construction of 5,362 km roads lengths in LWE affected States, of which 4,980 km roads have been completed.
 - **Road Connectivity Project for LWE affected areas (RRP-II)-** Under the scheme, 9286 km of roads and 389 bridges are sanctioned.
 - **Special Central Assistance (SCA) for 30 most LWE affected districts-** The main objective of the Scheme is to fill the **critical gaps in public infrastructure and services**, which are of emergent nature.
 - **LWE Mobile Tower Project-** To improve mobile connectivity in the LWE areas, the Government in 2014 approved the installation of mobile towers in LWE affected States and **2335 mobile towers have been installed in Phase-I.** Under phase II, 4072 mobile towers, has been approved by the Government of India.
 - **Aspirational District-** The Ministry of Home Affairs has been tasked with the monitoring of Aspirational districts programme in 35 LWE affected districts.
- **SAMADHAN doctrine** - It is the one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels. SAMADHAN stands for-
 - **S-** Smart Leadership,

- Aggressive Strategy,
- **M-** Motivation and Training,
- Actionable Intelligence,
- **D-** Dashboard Based KPIs (Key Performance Indicators) and KRAs (Key Result Areas),
- **H-** Harnessing Technology,
- Action plan for each Theatre,
- **N-** No access to Financing

Conclusion

The Government's approach is to deal with **Left Wing Extremism holistically**, in the areas of security, development, ensuring rights and entitlements of local communities, improvement in governance and public perception management. In dealing with this decades-old problem, it has been felt appropriate, after various high-level deliberations and interactions with the State Governments concerned, that an **integrated approach involving active citizen participation** aimed at the relatively more affected areas would deliver results.

An ordinary citizen can do the following things to ensure peace and promote the human rights of affected people:

- **Condemn the violent and brutal atrocities** being perpetrated by the CPI (Maoist) and other LWE groups on innocent civilians in any available forum including social media.
- **Sensitize fellow countrymen** to the dangers of outdated, failed and deeply flawed Maoist ideology to the nation-building process.
- **Learn to recognize the propaganda war** unleashed against the Indian state by the Maoist Front Organizations and Maoist ideologues/sympathizers.
- **Cherish and nurture the democratic way of life** deeply enshrined in our Constitution, as opposed to the totalitarian and oppressive nature of the Maoist ideology and percepts.

Regulating FinTech

Syllabus- Indian Economy and issues relating to Mobilization of Resources

In News: Financial regulators need to keep up with the technological evolution of fintech companies to address threats of price discrimination, market domination, and instability to violations of privacy.

About Fintech

- **FinTech** stands for financial technology and describes technologically enabled financial innovations. It is applied in financial services to help companies manage the financial aspects of their business including new software and applications, processes and business models.

How is the FinTech model of lending better than the traditional lending models?

Fintech lending is gaining popularity in the world of business as it has eased off the complexities of the age-old lending system of banks.

- **Easy accessibility:** Fintech lending is easily accessible for all, irrespective of one's financial background as it operates through online platforms and covers a large portion of population even in rural areas.
- **Hassle-free:** Fintech lending does not require too much documentation and follows a simple and transparent procedure for lending.
- **Use of technology:** Use of artificial intelligence and data science for risk-assessment and analysis results in quicker and better decision-making. It uses alternate data, which is not directly related to a business plan, but is a helpful tool for assessing overall risk.
- **Quicker:** Fintech lending procedure is too fast and borrowers receive money instantly, this enables smooth running of a business.
- **Lower interest rates:** Peer to peer lending procedure lowers the rate of interest, making it highly affordable.

Prospects of Fintech

- **Maintaining supply chains:** The accessibility, ease, flexibility and affordability offered by fintech lending are encouraging many sustainability-driven innovations, fuelling India's Sustainable development program.
 - The entire supply chain of a business can be maintained through the advanced tools used by Fintech lenders in their process.
- **Fuels Make in India movement:** Fintech lending also provides the perfect backdrop for the "Make in India" movement which is gaining tremendous popularity in the present context.
 - The economies of nations across the globe have been badly hit by the COVID-19 pandemic and the recent anti-China movements are adding to the need to create new business spaces in India.
 - India can make most of this opportunity by encouraging sustainability driven start-ups and small business and power its sustainability strategy.
- **Serving unique needs:** Fintech lending would prove to be very helpful in this process by serving to the unique needs and special circumstances required for India's sustainable development program.
- **Linking SDG targets:** The UN SDGs are an important tool for the practical implementation of sustainability practices. Some SDG targets can be directly linked to Fintech as it fulfils the conditions required to meet the targets.

Constraints in Adopting Fintech

- **Lack of financial literacy:** A large proportion of the population (such as: rural households, low-income households and small informal businesses) depend on the informal sources of credit due to a lack of financial literacy among them.
- **High cost of transactions:** Adopting Fintech models in remote areas add to the operational cost of the banks. This has acted as a disincentive for the banks to move to remote regions.

- **Lack of credit information:** Facilitating access to credit is one of the many utilities of Fintech. Lack of information to determine the credit-worthiness of low-income households and informal businesses with the formal creditors acts as a constraint while lending. This results in high cost of credit.
- **Rigid financial instruments:** Commercial banks have resorted to offer standard instruments which are designed for the salaried segments of the society like recurring deposit schemes.
- **Technological Issues:** Frequent machine breakdowns, lack of internet connectivity and problems with hand-held devices have continued to deter the financial inclusion of unserved and under-served areas.

Challenges faced by Financial Regulators because of the rising FinTech:

- **Operative risks:** This happens where a single company networks payment for the whole country.
 - **For example,** the M-Pesa company in Kenya manages payments for the majority of a country's population and if it fails, it can crash the entire economy.
 - Therefore, it becomes essential to make sure the protection of customer data (financial data and other personal data) to which Big Tech companies are aware.
- **User management:** Big Tech firms can harvest and analyze data on consumer preferences. They have an improved ability to target the behavioural biases of their customers.
 - There exists a moral threat where these biases can cause some borrowers to take the unwarranted risk.
 - For example, Chinese regulators now need the country's Big Techs to use their balance sheets to fund 30% of any loan extended through co-lending partnerships.
- **Expense discriminations:** The governments have laws and regulations in place to prevent discrimination based on factors like race, gender etc. Regulators will have to efficiently differentiate between cost discrimination based on group characteristics and price discrimination based on risk.
 - The factors will be changing nonstop with the advent of new data points as Big Tech companies with artificial intelligence-based algorithms replace loan officers.
- **The problem of bias:** The data used to sequence the algorithm may be biased and the training itself may be biased, with the AI algorithm 'learning' to use the data in biased ways. The location of the problem is hardly clear given the black-box nature of algorithmic processes.
- **Threats to the opposition:** Banks and fintech firms rely on cloud computing services operated by Big Tech firms, rendering them dependent on their most formidable competitors.
 - By providing a range of interlocking services, they can prevent their customers from switching providers (described as consumer lock-in).

- While the regulators have replied with open banking rules that need financial firms to share their customer data with third parties once customers consent, these measures are not enough.

The way forward

- **Watch over Cybercriminals:** India mainly depends on import of offensive and defensive cybersecurity capabilities. Given the growing scale of adoption of technology, it is important for India to attain Atma-Nirbharta (Self-Sufficiency) in this domain.
- **Informing Consumers:** Educating and training customers to spread awareness about the benefits of fintech and guard against cyberattacks will also help in democratisation of FinTech.
- **Data Protection Law:** It introduced fintech sandboxes by RBI to evaluate the implications of technology in the sector is a step in the right direction. There is a requirement for a strong data protection framework in India.
 - The personal data protection bill, 2019, must be passed after thorough debate and deliberation.

The dark side of India's solar gamble

Syllabus- Infrastructure: Energy

In News- The ministry of new and renewable energy had proposed a 20% basic customs duty (BCD) on the solar module and cell imports. After three months, it has gone up to a proposed duty of 40% on solar photovoltaic (PV) modules and 25% on solar photovoltaic cells from April 2022.

What are the issues related to the solar energy sector in India?

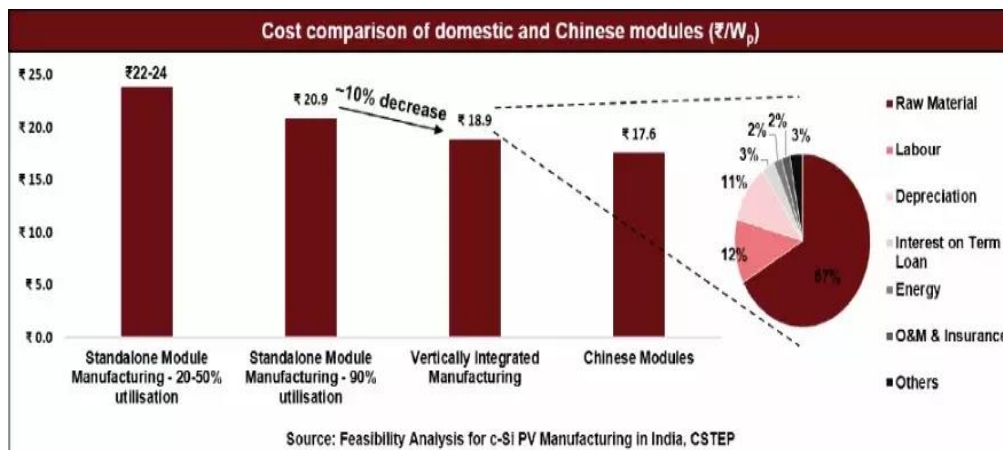
- **Manufacturing incapability:** Solar manufacturing in India currently operates largely in the downstream activities of the value chain and primarily depend on imports of ingots and wafers as raw materials.
 - Despite the policy focus on solar plant installation, India is still not a solar panel manufacturer. There is no real plan in place to ensure solar panel manufacture.
 - India lacks **manufacturing base** for solar components and systems. The share of all manufacturing in GDP was 16% in 1991; it stayed the same in 2017.
- **Dependence on Imports:** Heavy reliance on imports of upstream components results in foreign suppliers having substantial control on the prices, restricting the ability of domestic manufacturers to cut costs and be price-competitive in the global market.
 - Over the years, Chinese solar PV equipment has been more competitively priced, and this market pressure has deterred new investors entering the domestic manufacturing industry. Imports, mostly from China, accounted for 90% of 2017 sales, up from 86% in 2014.
- **Silicon production:** Most Indian companies are engaged only in module assembly or wafer manufacturing as silicon production is more capital intensive. No Indian company is involved in silicon production, although a few are making steps towards it.

- According to the Ministry of New and Renewable Energy (2018), India has an annual solar cell manufacturing capacity of about 3 GW while the average annual demand is 20 GW. The shortfall is met by imports of solar panels.
- **Issue of Renewable Purchase Obligation (RPO):** There is a lack of enforcement of RPO regulations and the absence of penalties when obligations are not met.
 - Many of the state DISCOMs (distribution companies) do not comply fully with their RPO targets.
- **Rooftop Solar:** Homeowners at large have not been installing solar panels at the rooftop. This is because small deployments naturally cost more than grid-scale farms. Homeowners do not generally consume all the energy it generates and is being unable to sell it.
 - This is primarily because most of the states do not have net metering policy-allowing selling electricity back to the grid.
- **Investment:** Issues such as uncertainty around import duties and future tax rates around purchasing power agreements (PPAs) have hampered investment.
 - Another issue that decreases investment is state governments trying to renegotiate PPAs due to lower tariffs post-signing of PPAs
- **Technological challenges:** For example, temperature sensor failures in PV cells, grid instability.
- **Lack of land area:** Land scarcity has hindered the establishment of large solar parks.
- **Fall in prices:** Due to government incentives, the price of solar power has been falling. This has disincentivised the producers.

Lessons to be learnt by India from China

- **Core competence:** The six largest Chinese manufacturers had core technical competence in semiconductors before they turned to manufacture solar cells at the turn of the century. It takes time for companies to learn and put into action new technologies.
 - Experts suggest that the human and technical learning curve could be five to 10 years. Indian companies had no learning background in semiconductors when the solar industry in India began to grow in 2011.
 - State governments need to support semiconductor production as part of a determined industrial policy to develop this capacity for the future.
- **Government policy:** The Chinese government has subsidised land acquisition, raw material, labour and export, among others. None of this is matched by the Indian government.
 - The commitment by the government to procure over the long run is important because without that the investment in building up the design and manufacturing for each of the four stages of production of solar power equipment would come to zero.

- **The cost of capital:** The cost of debt in India (11%) is highest in the Asia-Pacific region, while in China it is about 5%. Remaining dependent on imports only leads to short-term benefits for India.
 - A continuation of the current approach means India's energy sector will be in the same condition as its defence industry, where enormous amounts of money have been spent procuring weaponry.
 - India has been the world's second-largest importer of defence equipment for years.



Steps taken by India: Solar Sector

- **Installing solar generation plants:** The target of installing 100 GW of solar energy capacity by December 2022 was announced by the union minister.
- **Green energy corridor:** The Green Energy Corridor project has been put in place to support the grid integration of large-scale solar and other renewable energy capacity addition.
- **Exempted from charges:** Solar projects commissioned up to December 2022 shall be exempted from Inter State Transmission System (ISTS) charges and losses for inter-state sale of solar power.
 - Further, up to 100% Foreign Direct Investment (FDI) has also been permitted under the automatic route.
- **Bidding guidelines:** Distribution licensees would be notified about standard bidding guidelines to aid them in procuring solar and wind power at competitive rates in a cost-effective and transparent way. Norms for following the Renewable Purchase Obligation (RPO) up to 2022 are also declared.
- **Schemes:** Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan Yojana (PM-KUSUM), CPSU (Government Producers) Scheme - Phase II and Solar Rooftop Phase II program aimed at the improvement of the generation of solar energy in the country have been introduced.

The way forward

- **India needs a solar manufacturing strategy:** Perhaps like the Automotive Mission Plan (2006-2016), which is credited with making India one of the largest manufacturers of two-wheelers, three-wheelers, four-wheelers and lorries in the world.
 - This would also be a job-generating strategy for an increasingly better-educated youth, both rural and urban.
- **Growth in creating capacity:** India has made noteworthy growth in creating capacity for solar energy generation in the last few years. The Prime Minister's stress since 2014 has given a new boost to solar power installation. The unit costs of solar power have fallen, and solar energy has become increasingly competitive with alternative sources of energy.
 - India expanded its solar generation capacity eight times from 2,650 MW on May 26, 2014, to over 20 GW on January 31, 2018, and 28.18 GW on March 31, 2019. The government had an initial target of 20 GW of solar capacity by 2022, which was achieved four years ahead of schedule. In 2015, the target was raised to 100 GW of solar capacity by 2022.
- **Public procurement:** The government is still free to call out bids for solar power plants with the requirement that these be made fully in India. This will not violate any World Trade Organization commitment.

National digital currency

Syllabus: Awareness in the Field of IT and Cybersecurity

In news: Recently, the Supreme Court lifted the ban imposed by the Reserve Bank of India (RBI) on virtual currency trading, including cryptocurrencies.

Background

- **CBDC:** A Central Bank Digital Currency (CBDC), or **national digital currency**, is simply the digital form of a country's fiat currency. Instead of printing paper currency or minting coins, the central bank issues electronic tokens.
 - This token value is backed by the full faith and credit of the government.
- **Countries with national digital currency:** According to the Bank for International Settlements, more than 60 countries are currently experimenting with the CBDC. Few countries already rolled out their national digital currency. Such as,
 - **Sweden** is conducting real-world trials of their digital currency (**krona**)
 - **The Bahamas** already issued their digital currency "**Sand Dollar**" to all citizens
 - **China** started a trial run of their digital currency **e- RMB** amid pandemic. They plan to implement pan-china in 2022. This is the first national digital currency operated by a major economy.
- **Cryptocurrency in India:** With the growth of digital currencies worldwide, various start-ups dealing with cryptocurrency have come up in India, such as Unocoin in 2013 and Zebpay in 2014. Further, their volatility is a cause of concern for India.

- **Possibility of digital currency:** The growth of cryptocurrencies such as Bitcoin, Dogecoin, Ethereum etc raised challenges to fiat currencies. Along with their other vulnerabilities made the central bank of each country explore the possibility of introducing their digital currencies.
- **SC Garg committee:** So, the government-appointed SC Garg Committee for suggestions. The committee recommended banning cryptocurrencies and allow an official digital currency. Further, the committee also drafted a bill banning the Cryptocurrency & Regulation of Official Digital Currency Bill.

Crypto-currency: State of legal status

Uncertainty of legal status: There is uncertainty over the legal status of digital currencies in India. An unofficial estimate mentions that Indian investors holding around \$1.5 billion (₹ 10,000 crore) in digital currencies.

- **IMC suggestion:** The inter-ministerial committee (IMC) suggested a ban on private digital currencies, but it favoured RBI-backed National Digital Currency or central bank digital currency (CBDC).
- **Cryptocurrency and Regulation of Official Digital Currency Bill:** The draft Cryptocurrency and Regulation of Official Digital Currency Bill, 2021 aims to prohibit all private cryptocurrencies. The Bill also aims to lay down the regulatory framework for the launch of an “official digital currency”.

Reasons of banning cryptocurrencies earlier:

- **No legal framework:** The Minister of State for Finance Anurag Thakur highlighted the difficulty in the regulation of cryptocurrencies. **Regulatory bodies** like RBI and SEBI etc **don't have a legal framework** to directly regulate cryptocurrencies.
- **Difficult to regulate:** Cryptocurrencies are difficult to regulate as they are neither currencies nor assets or securities or commodities issued by an identifiable user.
- **Growing users:** Cryptocurrencies have a growing client base in India despite having legal uncertainty. Their attraction may only grow now as Bitcoin has hit new peaks in price and is gaining influential followers such as Tesla founder Elon Musk.

Important recommendations of the SC Garg panel:

- **Banning cryptocurrencies:** The panel recommended banning anybody who mines, hold, transact or deal with cryptocurrencies in any form. Further, the panel recommend a jail term of one to 10 years for exchange or trading in digital currency.
 - The panel also recommended completely banning all private cryptocurrencies in India.
- **Monetary penalty:** The panel also proposes a monetary penalty of up to three times the loss caused to the exchequer or gains made by the cryptocurrency user whichever is higher.

- **Potential issuance of cryptocurrency:** However, the panel said that the government should keep an open mind on the potential issuance of cryptocurrencies by the Reserve Bank of India.
- **Exit period before the ban:** Post submitting the panel report and the draft bill the government held discussions with stakeholders and conduct Inter-ministerial discussions. The government decided to provide a 3-6 months exit period before banning the trading, mining, and issuing of cryptos. The RBI also already started working on CBDC.

Challenges with non-state digital currency

- **Safety and security of cryptocurrencies:** This is one of the key issues with cryptocurrency. **Mt Gox bankruptcy case** is a highlight of this. Mt gox is a Tokyo-based cryptocurrency exchange. After the cyberattack, several thousands of bitcoins went lost and the company is yet to settle the claim.
- **No investor protection:** Since the cryptocurrency transactions are anonymous, there is no investor/consumer protection in cryptocurrencies.
- **Conflict of interest:** Globally, crypto-currency exchanges act as both custodian and a regulator. So, their interest and consumer protection get into conflict.
- **Non-regulation: Some cryptocurrency regulators often indulge** in money laundering and terrorism financing. Further, they are immune to the Central Bank regulation of various countries.
- **The volatility of cryptocurrency:** Many cryptocurrencies have only a limited number of coins. For example, Bitcoins fixed the maximum possible number as 21 million. This creates an increase in demand with each passing day and creates instability in exchange rates. This made the cryptocurrency more volatile.

Advantages of rolling out National Digital Currency

- **Improving efficiency in the financial system:** As the currency in digital form, it can provide an efficient way for financial transaction. Further, digital currency also solves the challenges with Cash and coins. Cash and coins require expenses in storage and have inherent security risks like the recent heist in the RBI currency chest.
- **Reducing systemic risk:** There are about 3,000 privately issued cryptocurrencies in the world. According to IMF, the key reason for considering national digital currency is to counter the growth of private forms of digital money. There is a possibility of these companies going bankrupt without any protection.
 - This will create a loss for both investor and creditor. But the National Digital currency has government backing in case of any financial crisis.
- **Opportunity to private players:** As the state-backed digital currency can provide investor/consumer protection, the private can confidently invest in the associated infrastructure without any doubts over its regulation. This will improve the services to people.

- **Reduce volatility:** The national digital currency will be regulated by the RBI. So, there will be less volatility compared to other digital currencies.
- **Helps in better macroeconomic management:** Current RBI's work on inflation targeting can be extended to national digital currency also. Since, India is planning to ban other cryptocurrencies, the RBI can better regulate digital and fiat currency. Thus, upgrading to digital currency and balancing the macroeconomic stability.

Challenges in rolling out National Digital Currency

- **Potential cyber-security threat:** India is already facing many cybersecurity threats. With the advent of digital currency, cyber-attacks might increase and threaten digital theft like the **Mt Gox bankruptcy case**.
- **Lack of digital literacy of population:** Introduction of digital currency is technological advancement. But as per Digital Empowerment Foundation in 2018 report, around 90% of **India's** population is digitally illiterate.
 - So, without creating enough literary awareness introduction of digital currency will create a host of new challenges to the Indian economy.
- **Challenge in regulation and taxation:** Introduction of digital currency also creates various associated challenges in regulation, tracking investment and purchase, taxing individuals, etc.
- **Threat to Privacy:** The digital currency must collect certain basic information of an individual so that the person can prove that he's the holder of that digital currency. This basic information can be sensitive ones such as the person's identity, fingerprints etc.

Way Forward

- **Imposing tax:** The government can follow the western concept of **treating digital currency as property** and imposing capital gains tax.
- **Enhance digital literacy:** The government has to create enough awareness campaigns and inform people about identifying fraudulent methods. This will reduce India's digital divide.
- **Creation of adequate cybersecurity methods:** Before the introduction of National Digital currency, the government has to create certain important things, such as,
 - Training of law enforcement agencies on handling any threats
 - Creating a **policy of basic information** assessed while issuing, verifying someone's digital currency.

APPENDIX 1 | FACTLY MAGAZINE

Indian Economy

"HSN code" Made Mandatory for Certain Category of GST Taxpayers**What is the News?**

The Government has made the 6-digit HSN (Harmonized System of Nomenclature) code mandatory for a GST taxpayer having a turnover of more than Rs 5 crore in a financial year. This rule comes into effect from April 1, 2021.

About HSN Code:

- **The HSN Code** is a six-digit identification code. The World Customs Organization (WCO) developed this code in 1988.
- **Purpose:** It is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes.
- The code, also called the universal economic language for goods, is a multipurpose international product nomenclature.
- **The HSN code currently comprises** around 5,000 commodity groups. Each Code is a unique six-digit code that has numbers arranged in a legal and logical structure. There are well-defined rules to achieve uniform classification.
 - Of the six digits, the first two denote the HS Chapter, the next two give the HS heading, and the last two give the HS subheading.
- **Significance:** HSN Code helps in harmonizing customs and trade procedures. Thus, it reduces the costs of international trade.

Railways Completes Arch Closure of "Chenab bridge"

What is the News? The Indian Railways completes the Arch closure of the iconic Chenab Bridge.

About Chenab Bridge:

- **Chenab Bridge** is an Indian railway steel and concrete arch bridge. It is under the construction between Bakkal and Kauri in the Reasi district of Jammu and Kashmir.
- **Length:** The bridge is being constructed over the Chenab River. It is 1315 m long and at a height of 359 m over the river bed level.
- **Part of:** The bridge is a part of 272 km Udhampur-Srinagar-Baramulla rail link project (USBRL). The Northern Railway is constructing it.
- **Features:**
 - The steel arch is an important part of the bridge. It consists of steel boxes. It will be filled with concrete to improve stability.
 - The bridge will be able to withstand earthquakes with a magnitude of up to eight and high-intensity blasts.
 - The bridge can withstand high wind speeds up to 266 km per hour.
- **Significance:** Once completed, the bridge will be the World's highest railway bridge.

IBC Amendment Ordinance 2021 Allows "Pre-Pack Insolvency Resolution"

What is the news? The President of India has promulgated the IBC Amendment Ordinance 2021. It allows the use of Pre-Pack insolvency resolution.

About Insolvency and Bankruptcy Code (Amendment) Ordinance, 2021:

- **IBC Amendment Ordinance 2021** amends the Insolvency and Bankruptcy Code, 2016.
- **The Amendment** allows the use of Pre-Packaged insolvency resolution as an alternative resolution mechanism for MSMEs. The threshold limit to trigger the Pre-Packaged insolvency resolution is between Rs 10 lakh to 1 Crore.

What is Pre-Pack insolvency resolution?

- A pre-pack resolution is a form of restructuring that allows creditors and debtors to work on an informal plan and then submit it for approval.
- **Under this system**, financial creditors will agree to the terms of a potential investor. Further, they will seek approval of the resolution plan from the National Company Law Tribunal (NCLT).
- **However, the resolution plan cannot be submitted directly to NCLT.** It requires **approval of a minimum of 66% of financial creditors** that are unrelated to the corporate debtor before submission of a resolution plan.
- **Further**, NCLTs also require to consider any application for a pre-pack insolvency proceeding before considering a Corporate Insolvency Resolution Process (CIRP).
 - **CIRP** is the process of resolving corporate insolvency according to the provisions of the Insolvency and Bankruptcy Code, 2016.

Benefits of Pre-Packs over CIRP:

Quicker Resolution:

- **One of the key criticisms** of the CIRP is the time taken for resolution. At the end of December 2020, over 86% of the ongoing insolvency resolution proceedings crossed the 270-day threshold.
- **In contrast, the pre-pack resolution process** is limited to a maximum of 120 days. Further, only 90 days are available to the stakeholders to bring the resolution plan to the NCLT.

Management Control:

- **Another key difference between pre-packs and CIRP** is that the existing management retains control in the case of pre-packs. Whereas a resolution professional takes control of the debtor as a representative of financial creditors in the case of CIRP.

India on US's "Currency Watch list"

What is the News?

The US treasury has placed India along with 10 other countries on its currency watch list.

What is Currency Manipulator:

- **Current Manipulators** are countries engaging in “unfair currency practices” by deliberately devaluing their currency against the dollar.
- The practice would mean that the country in question is artificially lowering the value of its currency. By that, it aims to gain an unfair advantage over others.
- This is because the devaluation would reduce the cost of exports from that country. Thus, more exports will result in a reduction in trade deficits.

Criteria: US places a country on Currency Watch List if it is meeting any two of the below three criteria. This includes:

- A **“significant” bilateral trade surplus with the US** – at least USD 20 billion over a 12-month period.
- A current account surplus equivalent to at least 2% of gross domestic product (GDP) over a 12-month period.
- **“Persistent”, one-sided intervention** – when net purchases of foreign currency totals at least 2% of the country’s GDP over a 12-month period. Further, it is conducted repeatedly, in at least six out of 12 months.

Impact: The designation of a country as a currency manipulator does not immediately attract any penalties. However, it lowers the confidence about a country in the global financial markets.

Why was India included in the Currency watch list?

- **India has met two of the three criteria** – the trade surplus criterion and the “persistent, one-sided intervention” criterion.
- **Further**, the other 10 countries on the list with India are China, Japan, Korea, Germany, Ireland, Italy, Malaysia, Singapore, Thailand, and Mexico. All of these, except Ireland and Mexico were on the December 2020 list.

Pointly for Economy

- **National Startup Advisory Council:** The Minister of Commerce & Industry chaired the first meeting of the National Startup Advisory Council(NSAC). **National Startup Advisory Council NSAC** was constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). It advises the Government on measures required to build a strong ecosystem for nurturing innovation and startups in the country.
- **Sudarshan Sen Committee:** The Reserve Bank of India(RBI) has set up the Sudarshan Sen committee to review the working of Asset Reconstruction Companies (ARCs) Comprehensively. It will recommend suitable measures for enabling them to meet the growing requirements. The committee will be headed by Sudarshan Sen, the former executive director, Reserve Bank of India (RBI).
- **Global minimum corporate income tax:** The US Treasury Secretary has urged the world’s 20 advanced nations to move in the direction of adopting a Global minimum corporate income tax. It is a type of corporate tax. Under this, if a company moves some of its operations to another country having low-tax jurisdiction, then the company have to pay

the difference between that minimum rate and whatever the firm paid on its overseas earnings.

- **Niti Aayog's Version 2.0 of "India Energy Dashboards":** Niti Aayog has launched the India Energy Dashboards Version 2.0. Version 1.0 of the Dashboard was launched in May 2017. **India Energy Dashboards (IED)** aims to provide single-window access to the energy data for the country. The dashboard compiles Energy data published/provided by various sources. Like the Central Electricity Authority, Coal Controller's Organisation and Ministry of Petroleum and Natural Gas.
- **Currency Chest:** A **currency chest** is a place where the Reserve Bank of India (RBI) stocks the money meant for banks and ATMs. The RBI administers these chests. These chests are usually situated on the premises of different banks. The money present in the currency chest belongs to the RBI. But the money kept in the strong room outside the currency chests belongs to the bank.
- **NITI Aayog Releases "Investment Opportunities in India's Healthcare Sector" report:** NITI Aayog released a report titled, 'Investment Opportunities in India's Healthcare Sector'. The report outlines the range of investment opportunities in various segments of India's healthcare sector. This includes hospitals, medical devices and equipment, health insurance, telemedicine, home healthcare, and medical value travel.
- **Regulations Review Authority 2.0:** Recently, the [Reserve Bank of India](#) (RBI) announced the setting up of a new Regulations Review Authority (RRA 2.0). The RBI earlier set up the first RRA for a period of one year from April 1, 1999. This is for reviewing the regulations, circulars, reporting systems, based on the feedback from the public, banks and financial institutions. **Regulations Review Authority (RRA 2.0)** will streamline the regulatory instructions, reduce the compliance burden of the entities under regulations. The RRA 2.0 will achieve this by simplifying procedures and reduce reporting requirements wherever possible.

Polity

Justice N.V. Ramana - the next "Chief Justice of India (CJI)"

What is the News?

The President of India appointed [Justice N.V. Ramana](#) as the next Chief Justice of India.

Appointment of CJI and other Judges:

The Chief Justice of India (CJI) and the other judges of the [Supreme Court](#) are appointed by the President of India under Article 124(2) of the Constitution.

Constitution on appointment of CJI:

- The Constitution of India **does not have any specific provision** for criteria and procedure for appointing the CJI.

- **Article 124(1) and the 2008 amendment** of the Indian Constitution states that there shall be a Supreme Court of India consisting of a Chief Justice of India and no. of judges as prescribed by Parliament.
- Initially, the prescribed no. of judges was 7 excluding CJI. Now the no. is 34 judges including the CJI.
- The closest mention is in **Article 126**. It deals with the appointment of an acting CJI.

Convention for appointment of the CJI

- When the incumbent CJI retires (all Supreme Court judges retire at the age of 65), the **senior-most judge** in the SC becomes the CJI.
- Seniority is **not defined by age** but by the number of years an individual has served as a judge of the apex court.

Salary and Allowance of CJI and other Judges:

- The Constitution of India given the power to the Parliament to decide the salaries, allowances, privileges, leave and pension of the judges. This includes both the Judges and the CJI of the Supreme Court.
- However, his terms and conditions cannot alter to their disadvantage after they get appointed. It can be altered only when there is a financial emergency.

Administrative Powers of CJI:

- The Chief Justice of India is the “**first among equals**” in the Supreme Court. He has the “exclusive prerogative” to allocate cases and constitute Benches. Hence, **he is known as the master of the roster**.
- **The Chief Justice** decides the number of judges that will hear a case. Thus, he can influence the judgement by simply choosing judges favouring a particular outcome.
 - The CJI can exercise such administrative powers without collegium consensus. Further, he/she cannot state any reasons for such change.
- **Appointment** of court officials and general and miscellaneous matters relating to the supervision and functioning of the Supreme Court.

Darbar Move Tradition of Jammu and Kashmir

What is the News?

Darbar move tradition in Jammu and Kashmir has been discontinued from this year. The move aims to take only sensitive records from Jammu to Srinagar, starting this summer. This is a shift from previous years. Earlier, the entire administration and records would get shifted.

About Darbar Move Tradition:

- **Darbar move** is the name for the bi-annual shift of the secretariat and all other government offices between Jammu and Kashmir. In Summers, shifting was to take place

from Jammu to Srinagar and vice versa in winters. This is done as J&K has two capitals: Kashmir during summer and Jammu during winter.

Who started the Darbar move tradition?

- **Origin:** IN 1872, the **Dogra King Maharaja Ranbir Singh**, started the Darbar move practice.
- The practice aims to take the administration to the doorstep of the people of Kashmir. The move also enabled a greater interaction and bonding among the people of Jammu, Kashmir, and Ladakh.

Jammu and Kashmir(J&K) High Court on Darbar move:

- Firstly, the Jammu & Kashmir High Court observed that there was no legal justification or constitutional basis for the Darbar Move tradition.
- Secondly, the court said that the practice resulted in wastage of tremendous amounts of time, effort, and energy. Further, the court also held the move as inefficient and unnecessary activity.
- Therefore, the court recommended that instead of the move, the resources and time can get utilized towards the welfare and development of the people. Also, the amount can address issues like food shortage, unemployment, and healthcare.

Centre Releases New Guidelines for "OCI Cardholders"

What is the News?

The Central Government released new guidelines related to the Overseas Citizen of India (OCI).

What is the current Procedure for the OCI card?

- Currently, the Overseas Citizen of India (OCI) card is required to be re-issued each time. Generally, the re-issue will occur two times.
 - One, when issuing a new passport after 20 years of age.
 - Other, when issuing a new passport after completing 50 years of age.
- This is in view of capturing the biological changes in the face of the applicant.

What are the New Guidelines?

- A person who is registered as an OCI cardholder prior to attaining the age of 20 years will get the card re-issued only once. (after completing his or her 20 years of age). This is to capture his or her facial features on attaining adulthood.
- If a person has obtained an OCI card after attaining the age of 20 years, then there will be no requirement of re-issue of an OCI card.

Other New Guidelines: To update the data regarding new passports obtained by the OCI cardholder, it has been decided that:

- OCI Cardholder shall upload a copy of the new passport containing along with the latest photo on the online OCI portal. He/She has to do this each time a new passport is issued up to 20 years of age and once after completing 50 years of age.

- OCI cardholder shall upload the documents within three months of receipt of the new passport.
- However, the spouses of the OCI cardholders will have to upload a copy of their passport along with a declaration whenever a new passport is issued. The declaration has to include that their marriage is still subsisting.

Who can apply for an OCI Card? :

- A foreign national who was a citizen of India at the time of, or at any time after 26th January 1950; or
- Foreign national eligible to become a citizen of India on 26th January 1950; or
- A foreigner who belonged to a territory that became part of India after 15th August 1947; or
- A foreign national who is a child or a grandchild or a great-grandchild of such a citizen; or
- A foreigner who is a minor child and whose both parents are citizens of India or one of the parents is a citizen of India
- Besides, a spouse of foreign origin of a citizen of India or a spouse of foreign origin of an OCI Cardholder is also eligible. But their marriage has to be registered and has a continuous period of not less than two years.

Note: If the applicant had ever been a citizen of Pakistan or Bangladesh, he/she will not be eligible to be registered as OCI.

Benefits to OCI Cardholders

- OCI cardholders can enter India multiple times, get a multi-purpose lifelong visa to visit India. Further, they are also exempt from registering with Foreigners Regional Registration Office (FRRO).
- If an individual is registered as an OCI for a period of five years, he/she is eligible to apply for Indian citizenship.
- OCI cardholders can open special bank accounts in India, buy a non-farm property and exercise ownership rights. They can also apply for a Permanent Account Number (PAN) card.

Restrictions:

- OCI cardholders do not get voting rights, cannot hold a government job. They also cannot purchase agricultural or farmland.

Supreme Court Sets timeline for Appointment of Judges**What is the News?**

The Supreme Court of India has set a timeline for the Centre to clear names recommended by the Collegium.

What was the case?

- The issue of judicial vacancies came up when the Supreme court was hearing a petition seeking transfer of a case from the Orissa High Court due to the lawyers' strike there.
- The Supreme Court said that the High Courts are in a crisis-like situation. There are almost 40% vacancies in the High Courts. Many of the larger High Courts are working under 50% of their sanctioned strength.
- Furthermore, the SC collegium has cleared several names for the appointment to various high courts. But the law ministry is yet to clear the names. Importantly, the Memorandum of Procedure (MoP) does not prescribe any time limit to make the decision for the Central Government.

What is the timeline set by the Supreme Court?

- Firstly, the **Intelligence Bureau (IB)** should submit its report/ inputs within 4 to 6 weeks. Duration will start from the date of recommendation of the High Court Collegium to the Central Government.
- Secondly, the **Central Government** shall forward the recommendations to the Supreme Court within 8 to 12 weeks. The duration would start from the receipt of views from the State Government and the report/ input from the IB.
- Further, after the Supreme Court collegium clears the names for appointments, the Central Government can proceed to make the appointment immediately.
- However, if the Government has any reservations on the suitability or in the public interest, It can send back the recommendations to the Supreme Court Collegium.
- But if the Supreme Court Collegium, **after reconsideration** still reiterates the recommendation(s) unanimously, such appointment should be processed. Appointments should be made within 3 to 4 weeks.

USCIRF Recommends "Country of Particular Concern" Tag for India

What is the News? The USCIRF (US Commission on International Religious Freedom) has recommended classifying India as a Country of Particular Concern(CPC). It is due to the worst violations of religious freedom in India in 2020.

Reasons for recommendations:

- **USCIRF has recommended** India to be put on a Countries of Particular Concern(CPC) list because of:
 - Religiously Discriminatory Citizenship Amendment Act
 - Seeming police complicity in the Delhi riots
 - During the COVID-19 pandemic, disinformation and hateful rhetoric including from government officials targeted religious minorities.
 - Efforts to prohibit interfaith marriage – such as those in Uttar Pradesh and Madhya Pradesh among other reasons.

Suggestions by USCIRF:

- Firstly, the US administration should impose targeted sanctions on Indian individuals and entities for 'severe violations of religious freedom'.
- Secondly, the US administration should promote interfaith dialogue and the rights of all communities at forums such as Quadrilateral [the Quad].
- Thirdly, the US Congress should raise issues in the U.S-India bilateral space by hosting hearings, writing letters, and constituting Congressional delegations.

Other Recommendations of USCIRF:

- **Other new recommendations by USCIRF** for the CPC list 2021 are Russia, Syria, and Vietnam.
 - Moreover, countries already on the CPCs list and recommended by USCIRF for re-designation are Burma, China, Eritrea, Iran, Nigeria, North Korea, Pakistan, Saudi Arabia, Tajikistan, and Turkmenistan.
- **Special Watch List Countries:** Comoros, Cuba, Nicaragua, and Russia.

About Country of Particular Concern(CPC):

- **USCIRF** recommends the **Country of Particular Concern (CPC)** designation to the US State Department. It recommends countries engaged in severe violations of religious freedom under IRFA (International Religious Freedom Act) 1998.
 - **The IRFA 1998** promotes religious freedom as a foreign policy of the United States.
- **Why is the country given the CPC designation?** The countries that receive this designation either engage in or tolerate systematic, ongoing, glaring violations of religious freedom.
- **In addition to its CPC recommendations,** the USCIRF established a **Special Watch List** countries. **The list** includes countries which does not fit in the CPC criterion, but still engage in or tolerate severe violations of religious freedom.

Note: The recommendations given by the USCIRF are non-binding on the US Government.

Pointly for Polity

- **Report on Racial Discrimination against Northeast People:** Indian Council of Social Science Research (ICSSR) has released a study on racial discrimination and hate crimes against people from the northeastern States. The Centre for Criminology and Victimology at the National Law University (NLU), Delhi conducted the study, under the aegis of the ICSSR. The study analysed the prevalence of hate crimes against the people of the North East region in six metropolitan cities – Mumbai, Pune, Delhi, Chennai, Bengaluru and Hyderabad.
- **Online Grievance Management Portal for Scheduled Castes:** National Commission for Scheduled Castes (NCSC) has launched an Online Grievance Management Portal for Scheduled Caste. **The Online Grievance Management Portal** will allow submission of

complaints about atrocities against the Scheduled Castes. The portal also allows users to track the progress of their complaints. **The portal was developed** in collaboration with the Bhaskaracharya Institute for Space Applications and Geoinformatics (BISAG-N), a Centre of Excellence under the Ministry of Electronics and Information Technology (MeitY).

Environment

"Nacaduba Sinhala" - the new butterfly species

What is the News?

A group of lepidopterists discovered a new species of butterfly. It is called "Nacaduba Sinhala Ramaswamii Sadasivan".

Note: A lepidopterist is a person who specializes in studying butterflies and moths.

About the Nacaduba Sinhala Butterfly Species:



- **Nacaduba Sinhala** is a Line Blue Butterfly Species that belongs to the Nacaduba genus group.
 - **Line Blues** are small butterflies belonging to the subfamily Lycaenidae. Their distribution ranges from India and Sri Lanka to the whole of southeastern Asia, Australia and Samoa.
- **Where was it discovered?** This butterfly species was discovered in the Agasthyamalai in the Western Ghats a decade ago. But now it found a place in the Journal of Threatened Taxa.
- **Significance:** It is the first time that a butterfly species was discovered by an all-Indian research team from the Western Ghats.

About Journal of Threatened Taxa(JoTT):

- **Journal of Threatened Taxa (JoTT)** is an open-access peer-reviewed, monthly international journal on conservation and taxonomy.
- **Published by:** The journal is published by the wildlife conservation and research NGO Zoo Outreach Organisation (ZOO).

New findings about Antarctica's "Thwaites Glacier" Melting

What is the News? Researchers at Sweden's University of Gothenburg released a new finding related to the melting of the Thwaites Glacier. They found that the melting was worse than previously thought.

About Thwaites Glacier:



- **Thwaites Glacier** is a 120 km wide, fast-moving glacier located in Antarctica.
- **Size:** Because of its size (1.9 lakh square km), it contains enough water to raise the world sea level by more than half a meter.
- **Melting:** Its melting already contributes 4% to global sea-level rise each year. It is estimated that it would collapse into the sea in 200-900 years.
 - Studies have found the amount of ice flowing out of it has nearly doubled over the past 30 years.
- **Significance:** Thwaites Glacier is important for Antarctica as it slows the ice behind it, from freely flowing into the ocean. However, because of the risk it faces — and poses — Thwaites is often called the **Doomsday Glacier**.

About the Study:

- **Gothenburg study** used an uncrewed submarine called “Ran” to go under the Thwaites' glacier front to make observations.
- **The researchers** measured the strength, temperature, salinity, and oxygen content of the ocean currents that go under the glacier.
- **Findings:** The study found that warm water is approaching the glacier from all sides. It is impacting the locations where the ice connects to the seabed and where the ice sheet finds stability. This has the potential to make things worse for Thwaites, whose ice shelf is already retreating.

"Indian Rhino Vision 2020" - Last 2 Rhinos Translocated

What is the News?

Indian Rhino Vision 2020 (IRV 2020) came to an end with the release of two rhinos. An adult male and a female rhino transported to Assam's Manas National Park from Pobitora Wildlife Sanctuary about 185 km east.

Indian Rhino Vision Plan 2020:

- Indian Rhino Vision Plan 2020 was launched in 2005.
- Vision: The vision of IRV is to:
 - Increase the Rhino Population in Assam from about 2000 to 3000 by 2020.
 - Ensure that **one-horned rhinos** are spread over seven protected areas in the Indian state of Assam by the year 2020.
- **Seven Protected Areas:** The seven protected areas are Kaziranga, Pobitora, Orang National Park, Manas National Park, Laokhowa wildlife sanctuary, Burachapori wildlife sanctuary, and Dibru Saikhowa wildlife sanctuary.
- **Implementation:** The Department of Environment and Forest, Assam in partnership with Bodo Autonomous Council implemented the plan.
- **Supported by:** WWF India, WWF areas (Asian Rhino and Elephant action strategy) program, the international rhino Foundation (IRF), US fish and wildlife service, and others support the plan.

Achievements of Indian Rhino Vision Plan 2020:

- The Indian Rhino Vision Plan 2020 has likely achieved its target of attaining a population of 3,000 rhinos in Assam.
- However, the plan to spread the one-horned rhinos across four protected areas beyond Kaziranga National Park, Orang National Park, and Pobitora could not materialize.

National Climate Vulnerability Assessment Report**What is the News?**

The Department of Science and Technology (DST) has released the National climate vulnerability assessment report.

About National Climate Vulnerability Assessment Report:

- **The National Climate Vulnerability Assessment Report** identifies the most vulnerable states and districts in India, as per the current climate risk and key drivers of vulnerability.
- **Indicators:** Several key drivers of Vulnerability used by the report for the assessment, For instance: 1) percentage of the population living below the poverty line; 2) income share from natural resources; 3) Also, the proportion of marginal and small landholdings, 4) women's participation in the workforce, and; 5) the density of healthcare workers among others.
- **Participation:** Around 24 states and 2 Union Territories participated in the exercise. The DST and the Swiss Agency for Development & Cooperation (SDC) organized it jointly.

Key Findings:

- **Firstly, High Climate Vulnerable States:** The report identifies eight eastern states as highly vulnerable to climate change: Jharkhand, Mizoram, Odisha, Chhattisgarh, Assam, Bihar, Arunachal Pradesh and West Bengal.
 - These states are mostly from the eastern part of the country. Thus, they require prioritization of adaptation interventions.
- **Secondly, Lower-middle Vulnerable States:** Himachal Pradesh, Telangana, Sikkim, and Punjab.
- **Thirdly, Low Vulnerable States:** Uttarakhand, Haryana, Tamil Nadu, Kerala, Nagaland, Goa and Maharashtra.
- **Fourthly, Climate Vulnerable Districts:** The report also identifies Climate Vulnerable districts. According to it, among all states, Assam, Bihar, and Jharkhand have over 60% districts in the category of highly vulnerable.

PM Addressed "Leaders Summit on Climate"

The Prime Minister of India has addressed the Leaders Summit on Climate virtually.

About Leaders Summit on Climate:

- **Leaders Summit on Climate** is a conference hosted by the United States (US) President on Earth Day.
- **The summit coincides** with the fifth anniversary of the opening of the **Paris Agreement** on climate change for signature.
- **Further, the summit** is also a precursor to the United Nations Climate Change Conference (COP26) that will take place later this year in Glasgow.

Objectives of the Summit: The summit brings together 40 leaders of major economies. Its main objectives are:

- Firstly, to get the world's major economies to reduce emission in this decade while also getting the public and private sector involvement.
- Secondly, to see how climate action can have economic and social benefits.
- Thirdly, to use the technology available to reduce emissions and adapt to Climate Change.
- Fourthly, to use nature-based solutions to achieve net-zero emissions by 2050.

Key Takeaways from the Summit:

- **India has taken steps** on clean energy, energy efficiency, afforestation and bio-diversity. That is why it is among the few countries whose **Nationally Determined Contributions(NDCs)** are 2-degree-Celsius compatible.
- **India's per capita carbon footprint is 60% lower** than the global average. It is because India's lifestyle is still rooted in sustainable traditional practices.

India-U.S. climate and clean energy Agenda 2030 partnership:

- India-U.S. climate and clean energy Agenda 2030 Partnership was announced at this Leaders Summit on Climate.

- Goals of the Partnership:
 - Firstly, to mobilise finance and speed clean energy deployment;
 - Secondly, to demonstrate and scale innovative clean technologies needed to decarbonise sectors including industry, transportation, power, and buildings.
 - Thirdly, to build capacity to measure, manage and adapt to the risks of climate-related impacts.
- Tracks: The partnership will proceed along two main tracks: the strategic clean energy partnership and the climate action and finance mobilisation dialogue, which will build on and subsume a range of existing processes.

Commitments by US:

- The United States has announced its target to achieve a 50-52% reduction from 2005 levels in economy-wide net greenhouse gas pollution in 2030.
- This will be the US new Nationally Determined Contribution(NDCs) under the Paris Agreement.

"Blue Nature Alliance" launched to restore oceans in five years

What is the News?

Blue Nature Alliance has been launched with a goal to restore 7 million square miles of ocean in five years.

About Blue Nature Alliance:

- **Blue Nature Alliance** is a global partnership. It was founded and led by Conservation International, Pew Charitable Trusts, Global Environment Facility (GEF), Minderoo Foundation and Rob & Melani Walton Foundation.
- **Aim:** To safeguard global ocean biodiversity, build resilience to climate change, promote human well-being and enhance ecosystem connectivity.
- **Targets:** The alliance has a target to:
 - Conserve 18 million square kilometres of ocean in five years.
 - Protect 5% of the world's ocean in five years.
 - Help the world achieve 30% ocean conservation by 2030.
- **Target Oceans:** The Alliance has started by targeting seven ocean locations. This includes Antarctica, Fiji, Canada, Seychelles, Palau, the Western Indian Ocean and Tristan da Cunha, an island in the South Atlantic Ocean.
- **The alliance will begin work** by working with local communities and national leaders. It aims to establish new marine protected areas (MPAs) and improve the management of existing ones.

About Conservation International (CI):

- **Conservation International (CI)** is an American nonprofit environmental organization. It was founded in 1987.
- **Objective:** Its mission is to spotlight and secure the critical benefits that nature provides to humanity. Such as food, freshwater, livelihoods and a stable climate, etc.
- **Headquarters:** Virginia, USA.

"Global Forest Goals Report 2021" and "United Nations Strategic Plan for Forests"

The Department of Economic and Social Affairs of the United Nations has released the Global Forest Goals Report 2021.

About Global Forest Goals Report 2021:

- It is the first evaluation of the global status of implementing the United Nations Strategic Plan for Forests 2030.
- **Purpose:** The report provides an overview of progress towards achieving the United Nations Strategic Plan for Forests 2030. The plan has six Global Forest Goals and 26 associated targets for forests.
- **Data:** The report draws upon data from 52 voluntary national reports and 19 voluntary national contributions. Together they represent 75% of forests in the world.

United Nations Strategic Plan for Forests 2017-2030 (UNSPF):

- The first-ever UN Strategic Plan for Forests was adopted at a special session of the UN Forum on Forests held in 2017.
- The plan contains a set of six Global Forest Goals and 26 associated targets to be reached by 2030. All these are voluntary in nature and universally applicable.
- It also includes a target to increase forest area by 3% worldwide by 2030. This is an increase of 120 million hectares, an area over twice the size of France.

Pointly for Environment

- **GloLitter Partnerships Project:** GloLitter Partnerships Project was launched by the International Maritime Organization (IMO) and the Food and Agriculture Organization of the United Nations (FAO). The Government of Norway provided initial funding for the project. The project aims to help the maritime transport and fishing sectors to adapt to a low-plastic future. To achieve this goal, this initiative will assist developing countries to apply best practices for prevention, reduction, and control of marine plastic litter from those sectors. 30 Countries will be participating in the project. India is one of the participating countries.
- **State of the Global Climate Report 2020:** The World Meteorological Organization (WMO) has released its annual State of the Global Climate Report 2020.
- **World Earth Day:** World Earth Day was celebrated on April 22, 2021. 'Restore Our Earth'. The theme focuses on natural processes, emerging green technologies and innovative thinking to restore the world's ecosystems. **World Earth Day** is celebrated every year on 22nd April. It was celebrated for the first time in the year 1970. Earth Day was first observed

in the year 1970. Gaylord Nelson, a US senator from Wisconsin, USA came up with the idea of commemorating such a day.

International Relations

WEF released "Global Gender Gap Report 2021"

What is the News?

WEF releases the Global Gender Gap Report 2021.

About Global Gender Gap Report:

- The World Economic Forum (WEF) publishes the **Global Gender Gap Report** annually since 2006.
- **Parameters:** The report ranks 156 countries on their progress towards gender parity in four dimensions. Namely,
 - Economic Participation and Opportunity
 - Educational Attainment
 - Health and Survival
 - Political Empowerment.

Findings of Global Gender Gap Report 2021 related to India:

- **Ranking:** India's ranking on the Index drops 28 places to 140 amongst the 156 nations. In 2020, India was ranked at 112th place in the report.
- **Gender Gap:** India has closed 62.5% of its gender gap to date. However, the gender gap increased by 4.2% compared to 2020. This explains why India has fallen 28 places in the ranking.
- **India is the third-worst performer** in the South Asia region. Only Pakistan and Afghanistan rank below India in this region.

"E9 Initiative" to Accelerate Digital Learning

What is the News? The Minister of State for Education will attend a consultation meeting of Education Ministers of E9 countries called the E9 Initiative.

About the E9 Initiative:

- **Theme of the Meeting:** "E9 initiative: Scaling up digital learning to accelerate progress towards Sustainable Development Goal 4"
- **The initiative will aim** to accelerate recovery and advance the Sustainable Development Goal 4 agenda by driving rapid change in education systems.
- **The initiative will also focus** on three of the 2020 Global Education Meeting priorities namely: (i) support to teachers; (ii) investment in skills and (iii) narrowing of the digital divide.

About E9 Partnership:

- **Launched in:** 1993 at the UNESCO's Education For All (EFA) Summit in New Delhi.
- **Member Countries:** The United Nations is spearheading the initiative with nine countries namely Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria, and Pakistan.
- **Purpose:** The E9 forum aims to achieve the goals of UNESCO's Education For All (EFA) initiative. It strengthens political will and collective effort to ensure quality education and lifelong learning opportunities for all.

About Education For All(EFA) Summit:

- **Education For All (EFA)** is a global movement led by UNESCO (United Nations Educational, Scientific and Cultural Organization) with the aim to meet the learning needs of all children, youth, and adults.
- **EFA** was adopted by The Dakar Framework in 2000 at the World Education Forum in Senegal, Africa.

"Freedom of Navigation operation"(FONOP) and the "Exclusive Economic Zone"**What is the News?**

The US Seventh Fleet has announced that one of its warships, USS John Paul Jones (DDG 53) has carried out a Freedom of Navigation operation (FONOP). The FONOP operation carried out approximately 130 nautical miles west of Lakshadweep Islands. This is inside India's exclusive economic zone. But the US never received India's prior consent to conduct such an operation.

What is Freedom of Navigation Operations (FONOP)?

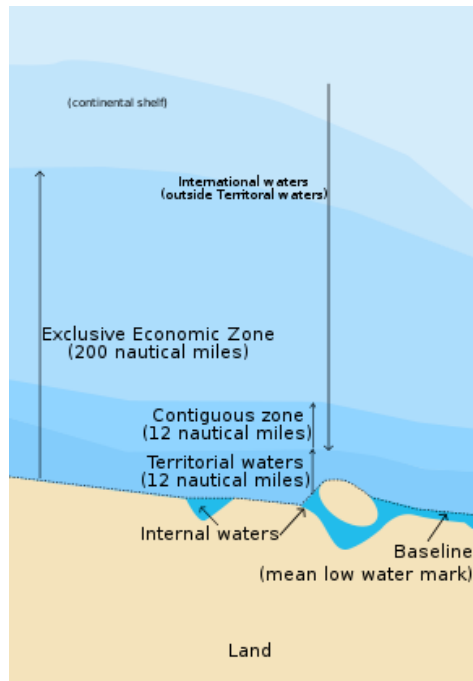
- **Freedom of Navigation Operations** involves passages conducted by the US Navy. The US Navy will conduct such operations in the exclusive territorial waters of coastal nations.
- **Purpose:** These operations denotes that the United States did not agree to the exclusive maritime claims of coastal nations. Thus preventing those claims from becoming accepted in international law.
- **According to the US Department of Defense (DoD)**, the FONOP Program has existed for 40 years. So far, the program continuously reaffirmed the US policy of exercising and asserting its navigation and freedom rights around the world.

India's Response:

- India has protested the U.S. decision to conduct a patrol in the Indian Exclusive Economic Zone (EEZ) in the western Indian Ocean.
- Further, India also said that the United Nations Convention on the Law of the Sea (UNCLOS) does not authorise other States to carry out military exercises in the EEZ. Especially those exercises involving the use of weapons or explosives without the consent of the coastal state.

Note: India has ratified the United Nations Convention on the Law of the Sea (UNCLOS) in 1995. However, the United States(US) is not a signatory.

What is the Exclusive Economic Zone (EEZ)?



- According to UNCLOS, **Exclusive Economic Zone (EEZ)** is an area of the sea in which a sovereign state has special rights regarding the exploration and use of marine resources. This includes energy production from water and wind. It stretches from the baseline to 200 nautical miles from the coast of the country.

India's EEZ law:

- **India has legally** defined the concept of EEZ in its "Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976".
- **The Act also says that** all foreign ships shall enjoy the right of **innocent passage** through the territorial waters. However, it is with the exception of warships including submarines and other underwater vehicles.
 - **Territorial waters** refer to 12 Nautical Miles from the baseline. In this area, the coastal country is free to set laws, regulate the use and also use their resources.
 - **The innocent passage** refers to the passing through the waters which are not harmful to the peace and security of India.

Japan to release "Fukushima Radioactive Water" into sea

What is the News?

Japan is planning to release more than 1 million metric tons of Fukushima radioactive water from the damaged Fukushima nuclear power plant. The Japanese government planned to release this water into the ocean after two years.

About Fukushima Nuclear Power Plant:

- **Fukushima Nuclear Power Plant** is located in the town of Okuma, Japan. The reactor is located on the country's east coast. It is about 220 km north-east of the capital Tokyo.
- The 2011 Earthquake, destroyed the Fukushima Nuclear Power Plant's electricity and cooling capacity. Since then, Japan is struggling with the piling-up of contaminated water from the nuclear plant.

How is Japan treating the Fukushima Radioactive Water?

- Japan is using an extensive pumping and filtration system known as "ALPS (Advanced Liquid Processing System)". The ALPS process is used to extract tonnes of newly radioactive water each day. Further, it also filters out most radioactive elements.
- The ALPS process removes most of the radioactive isotopes. It will make the nuclear content in water levels lower than the international safety guidelines for nuclear plant wastewater.
- However, **it cannot remove some radioactive isotopes. Such as tritium**, a radioactive isotope of hydrogen.

Release of Fukushima Radioactive Water:

- Japan is planning to release the contaminated water containing tritium into the ocean.
- Tritium considered to be relatively harmless because it does not emit enough energy to penetrate human skin. But when ingested tritium can create cancer risks.

"Raisina Dialogue" 2021 -Prime Minister addresses the Inaugural Session

What is the News? The Prime Minister has delivered a video address at the Inaugural Session of the Raisina Dialogue.

About Raisina Dialogue:

- **Raisina Dialogue** is an annual multilateral conference on geopolitics and geoeconomics. The Ministry of External Affairs and the Observer Research Foundation have been jointly organizing it since 2016.
- **Purpose:** The conference discusses cooperation on the most challenging international policy matters.
- **Participation:** The dialogue involves a variety of global policymakers including heads of state, cabinet ministers, and local government officials.
 - In addition, the Dialogue also welcomes major private sector executives, as well as members of the media and academia.
- **Significance:** The design of the dialogue follows Singapore's Shangri-La Dialogue.
- **In 2021**, the conference was hosted in a hybrid format with in-person conversations and digital discussions.
- **Theme for 2021:** #ViralWorld: Outbreaks, Outliers, and Out of Control".

Observer Research Foundation (ORF): Observer Research Foundation (ORF) is an independent think tank based in New Delhi. It has three centres in Mumbai, Chennai and Kolkata.

UNFPA Releases "State of World Population Report 2021"

What is the News? The United Nations Population Fund (UNFPA) has released its flagship report "State of World Population Report 2021" titled 'My Body is My Own'.

About State of World Population Report 2021:

- **The State of World Population** is an annual report. The United Nations Population Fund (UNFPA) publishes it.
- **The focus of the Report: Bodily autonomy** is the first time the focus of the report. Bodily autonomy defined as the power and agency to make choices about your body without fear of violence or having someone else decide for you.
- **Examples of Violation of Bodily Autonomy:** Some examples of violation of bodily autonomy include:
 - child marriage
 - female genital mutilation
 - lack of contraceptive choices leading to unplanned pregnancy,
 - unwanted sex exchanged for a home and food
 - when people with diverse sexual orientations and gender identities cannot walk down a street without fear of assault or humiliation.

Key Findings of the Report:

- **Nearly half the women from 57 developing countries** do not have the right to make decisions regarding their bodies. Decisions including using contraception, seeking healthcare, or even on their sexuality.
- **Choices over Health Care:** Only 55% of women are fully empowered to make choices over health care, contraception, and the ability to say yes or no to sex.
- **Maternity Care:** Only 71% of countries guarantee access to overall maternity care
- **Access to Contraception:** Only 75% of countries legally ensure full, equal access to contraception.
- **Sexual health:** Only about 80% of countries have laws supporting sexual health and well-being.
- **Sexuality Education:** Only about 56% of countries have laws and policies supporting comprehensive sexuality education.

About United Nations Population Fund(UNFPA):

- UNFPA is the United Nations sexual and reproductive health agency. It aims to deliver a world where every pregnancy is wanted, every childbirth is safe, and every young person's potential is fulfilled.
- **Headquarters:** New York, United States.

EU Council Approves "EU's Indo-Pacific Strategy"

What is the News? The Council of the European Union has approved the EU's Indo-Pacific Strategy for cooperation in the Indo-Pacific.

About EU Indo-Pacific Strategy:

- **The Indo-Pacific region** spans from the east coast of Africa to the Pacific Island States. It has the world's two most populous countries, which are also huge economies -- India and China.
- **Aim:** The strategy aims to contribute to the stability, security, prosperity, and sustainable development of the Indo-Pacific Region. Basis of strategy are the promotion of democracy, rule of law, human rights, and international law.

Key Features of the Strategy:

- **Security and Defence:** The strategy aims to develop partnerships with the Indo-Pacific countries in the areas of security and defence. Areas include addressing maritime security, malicious cyber activities, emerging technologies, terrorism, and organised crime.
- **Rules-Based Order:** The strategy will be based on upholding democracy, human rights, the rule of law, and respect for international law.
- **On Covid-19:** EU will work with countries to mitigate the economic and human effects of the Covid-19 pandemic. It will also ensure an inclusive and sustainable socio-economic recovery.

About Council of the European Union:

- **Council of the European Union** was established in 1967. It is one of the Institutions of the European Union (EU) as listed in the Treaty on European Union.
- **Functions:** It is tasked with:
 - **Firstly, Negotiating and adopting EU laws** (in most cases together with the European Parliament)
 - **Secondly, Coordinating EU member states' policies**
 - **Thirdly, Developing the EU's common foreign and security policy,**
 - **Fourthly, Concluding international agreements and**
 - **And Lastly, Adopting the EU budget** (together with the European Parliament).

USCIRF Recommends "Country of Particular Concern" Tag for India

What is the News? The USCIRF (US Commission on International Religious Freedom) has recommended classifying India as a Country of Particular Concern (CPC). It is due to the worst violations of religious freedom in India in 2020.

Reasons for recommendations:

- **USCIRF has recommended** India to be put on a Countries of Particular Concern (CPC) list because of:

- Religiously Discriminatory Citizenship Amendment Act
- Seeming police complicity in the Delhi riots
- During the COVID-19 pandemic, disinformation and hateful rhetoric including from government officials targeted religious minorities.
- Efforts to prohibit interfaith marriage – such as those in Uttar Pradesh and Madhya Pradesh among other reasons.

Suggestions by USCIRF:

- Firstly, the US administration should impose targeted sanctions on Indian individuals and entities for 'severe violations of religious freedom'.
- Secondly, the US administration should promote interfaith dialogue and the rights of all communities at forums such as Quadrilateral [the Quad].
- Thirdly, the US Congress should raise issues in the U.S-India bilateral space by hosting hearings, writing letters, and constituting Congressional delegations.

Other Recommendations of USCIRF:

- **Other new recommendations by USCIRF** for the CPC list 2021 are Russia, Syria, and Vietnam.
 - Moreover, countries already on the CPCs list and recommended by USCIRF for re-designation are Burma, China, Eritrea, Iran, Nigeria, North Korea, Pakistan, Saudi Arabia, Tajikistan, and Turkmenistan.
- **Special Watch List Countries:** Comoros, Cuba, Nicaragua, and Russia.

About Country of Particular Concern(CPC):

- **USCIRF** recommends the **Country of Particular Concern (CPC)** designation to the US State Department. It recommends countries engaged in severe violations of religious freedom under IRFA (International Religious Freedom Act) 1998.
 - **The IRFA 1998** promotes religious freedom as a foreign policy of the United States.
- **Why is the country given the CPC designation?** The countries that receive this designation either engage in or tolerate systematic, ongoing, glaring violations of religious freedom.
- **In addition to its CPC recommendations**, the USCIRF established a **Special Watch List** countries. **The list** includes countries which does not fit in the CPC criterion, but still engage in or tolerate severe violations of religious freedom.
- **Note:** The recommendations given by the USCIRF are non-binding on the US Government.

India hosted the 5th session of "Codex Committee on Spices and Culinary Herbs"

What is the News? The fifth session of the Codex Committee on Spices and Culinary Herbs (CCSCH) has been virtually inaugurated.

About Codex Committee on Spices and Culinary Herbs (CCSCH):

- **The Codex Committee on Spices and Culinary Herbs (CCSCH)** was established in 2013. It was established with the support of more than a hundred countries under the Codex Alimentarius Commission (CAC).
- **Purpose:**
 - To develop and expand worldwide standards for spices and culinary herbs.
 - To consult with other international organisations in the standard development process.
- **Host Country:** India is the host country. Spices Board India acts as the Secretariat for organising the sessions of the committee.
- **Significance:** Since its inception, the Committee has been successful in developing harmonised global Codex standards for spices and herbs.

"Supply Chain Resilience Initiative or SCRI" launched by India, Japan and Australia

What is the News? India, Japan, and Australia have launched the SCRI or Supply Chain Resilience Initiative in a virtual Trilateral Ministerial Meeting.

What do you mean by Supply Chain Resilience?

- It is the capability of the supply chain of a country to handle any kind of disruption and function normally in difficult times. One approach is diversifying the source of supply across a group of supplying nations instead of being dependent on just one or a few.
- **Need:** Disruption of supplies from a particular country can happen due to natural calamities such as pandemics or man-made events such as armed conflicts. It can adversely impact the destination country's economic activities.
- **Example:** Japan imported \$169 billion worth from China in 2019 accounting for 24% of its total imports. However, Japan's imports from China fell by half in February 2020 that impacted Japan's economic activity.

About Supply Chain Resilience Initiative:

- **Aim:** The initiative aims to create a virtuous cycle of enhancing supply chain resilience to attain strong, sustainable, balanced, and inclusive growth in the region.
- **Projects:** The initial projects under the SCRI will be:
 - Sharing of best practices on supply chain resilience and
 - Organizing Investment promotion events and buyer-seller matching events. It will provide stakeholders an opportunity to explore the possibility of diversification of their supply chains.
- **Policy Areas:** The possible policy measures may include:
 - supporting the enhanced utilization of digital technology and
 - supporting trade and investment diversification.

- **Meeting:** The meeting by the trade ministers of three countries will be convened at least once a year. It will be helpful in the implementation of the SCRI as well as to consult on how to develop the Initiative.

Pointly for International Relations

- **Exercise La Perouse:** The Indian Navy Ships INS Satpura (with an integral helicopter embarked) and INS Kiltan along with P8I Long Range Maritime Patrol Aircraft are participating in Exercise La P rouse. **Exercise La P rouse** is a multilateral maritime exercise led by the French Navy. The exercise will witness complex and advanced naval operations. It includes surface warfare, anti-air warfare and air defence exercises, weapon firing exercises, cross deck flying operations, and seamanship evolutions such as replenishment at sea.
- **Project DANTAK:** Project DANTAK is commemorating its Diamond Jubilee i.e 60 years in Bhutan. **Project DANTAK** was established in 1961 under the leadership of the Third King of Bhutan and then Indian Prime Minister Jawahar Lal Nehru.
- **Energy Transition Index 2021:** The World Economic Forum (WEF) has released the Energy Transition Index, 2021. **Energy Transition Index** is an annual report by the World Economic Forum (WEF). It prepares the report in collaboration with Accenture.
- **UN Food Systems Summit 2021:** The Ministry of Agricultural and Farmers Welfare conducted a National Dialogue on UN Food Systems Summit 2021. The first-ever UN Food Systems Summit 2021 is expected to hold in September 2021. For that, the **United Nations Secretary-General** has called for members to participate. The summit will strategize the actions for positive change in Agri-food systems in the world. It will help to realize the vision of the 2030 Agenda for Sustainable Development.
- **State of the Global Climate Report 2020:** The World Meteorological Organization (WMO) has released its annual State of the Global Climate Report 2020.
- **E-2025 initiative:** WHO has launched the E-2025 initiative. Under this initiative WHO Identifies 25 countries with the potential to be malaria-free by 2025.
- **World Press Freedom Index, 2021:** The World Press Freedom Index 2021 was released. **It was published by** Reporters Sans Front eres (RSF) or Reporters Without Borders since 2002. The purpose of the Index is to rank 180 countries and regions according to the level of freedom available to journalists. However, the index neither ranks public policies and nor is it an indicator of the quality of journalism in each country or region.
- **Global Youth Mobilization Initiative:** United Nations agencies, youth organisations, and WHO have come together to launch the Global Youth Mobilization Initiative for local Solutions. The aim is to address the negative impact of the pandemic on young people and support them to build back better.
- **Global Food Policy Report 2021:** The International Food Policy Research Institute (IFPRI) released the Global Food Policy Report, 2021. **Theme:** "Transforming Food Systems After COVID-19".

- **Inclusive Internet Index, 2021:** Facebook Commissions the Inclusive Internet Index, 2021, and The Economist Intelligence Unit will develop the index. It seeks to measure the extent of accessibility and affordability of the Internet. Also, the internet should be able to enable positive social and economic outcomes at the individual and group levels. The index assesses the performance of 120 countries representing 98% of global GDP and 96% of the global population.
- **Global Diabetes Compact:** The [World Health Organization](#) (WHO) launches a Global Diabetes Compact Initiative. **Global Diabetes Compact** aims to reduce the **risk of diabetes**. It will ensure that all people diagnosed with diabetes have access to equitable, comprehensive, affordable, quality treatment and care. **This initiative launched** at the Global Diabetes Summit. WHO and the government of Canada Co-hosted the summit with the support of the University of Toronto.

Security

"Paris Call for Trust and Security in Cyberspace" - Microsoft Urges India to Join in

What is the News? The Microsoft president urged India and the U.S. to join the Paris Call for Trust and Security in Cyberspace. The Paris call for Trust and Security now has 75 countries on board. It deals with the new cybersecurity threats faced in the world.

About Paris Call for Trust and Security in Cyberspace:

- **The Paris Call for Trust and Security in Cyberspace** was announced in 2018 by the French President. It was announced during the Internet Governance Forum held at UNESCO and the Paris Peace Forum.
- **Purpose:** It is a non-binding declaration. It calls states, private sector and civil society organizations to work together to promote security in cyberspace, counter disinformation. Also, it aims to address new cyber threats endangering citizens and infrastructure.

Pointly for Security

- **Exercise "Shantir Ogroshena-2021":** Indian Army will participate in a Multinational Military Exercise named "Shantir Ogroshena-2021" in Bangladesh. **Exercise Shantir Ogroshena** (Front Runner of the Peace) is a multinational military exercise. **The 2021 edition** of the Exercise will be held in Bangladesh. It is held there to commemorate the birth centenary of Bangladesh's 'Father of the Nation' Bangabandhu Sheikh Mujibur Rahman. The theme of the exercise is "Robust Peacekeeping Operations". The participants of the Exercise are:
 - The DOGRA Regiment of the Indian Army
 - A contingent of Royal Bhutan Army
 - Sri Lankan Army

- Bangladesh Army.
- **Exercise VARUNA 2021:** The 19th edition of the Indian and French Navy bilateral Exercise VARUNA 2021 was conducted in the Arabian Sea. **Exercise Varuna 2021** is a bilateral naval exercise between India and France. The aim is to develop interoperability between the two navies. Further, it aims to foster mutual cooperation by learning from each other's best practices to conduct joint operations.
- **Exercise Khanjar:** India and Kyrgyzstan Special Forces started a military exercise named "Exercise Khanjar" in Bishkek, Kyrgyzstan. The exercise aims to boost the strategic partnership between India and Kyrgyzstan. It also focuses on high-altitude, mountains and counter-extremism drills.

Science and Technology

NITI Aayog launches "AIM-PRIME" to support science based startups

What is the News?

Atal Innovation Mission (AIM), NITI Aayog in association with Bill & Melinda Gates Foundation (BMGF) launch AIM-PRIME (Program for Researchers on Innovations, Market-Readiness & Entrepreneurship).

About AIM-PRIME:

- **AIM-PRIME** Program aims at promoting science-based, deep technology. For that, it will provide training and guidance over a period of 12 months.
- **Implementation by:** Venture Center – a non-profit technology business incubator.
- **Eligibility:** The program is open to:
 - Technology developers (early-stage deep tech start-ups, and scientists/ engineers/ clinicians) with strong science-based deep tech business ideas.
 - CEOs and Senior incubation managers of AIM Funded Atal Incubation Centers that are supporting deep tech entrepreneurs.

About Deep Technology:

- Deep techs are very high cutting-edge and disruptive technologies. These technologies base on scientific discoveries, engineering, mathematics, physics, and medicine.
- **Examples:** A new medical device or technique fighting cancer, data analytics to help farmers grow more food, or a clean energy solution trying to lessen the human impact on climate change.

Health Ministry Releases "National Policy for Rare Diseases 2021"

What is the News?

The caretakers of patients with 'rare diseases' are not satisfied with the National Policy for Rare Diseases 2021. The Union Health Ministry recently released the policy.

Rare Diseases: WHO defines a rare disease as a lifelong disease or disorder that often highly weakens an individual. It has a prevalence of 1 or less per 1000 population. Example: Haemophilia, Thalassemia, Sickle cell anaemia, auto-immune diseases among others.

- However, every country has its own definition for rare diseases.
- The US defines rare diseases as a disease or condition that affects fewer than 200,000 patients in the country.
- Likewise, the EU defines rare diseases as life-threatening or chronically debilitating (weakening) condition. It should affect no more than 5 in 10,000 people.

About National Policy For Rare Diseases, 2021:

- **Aim:** The policy aims to lower the incidence and prevalence of rare diseases based on an integrated and comprehensive preventive strategy. The strategy includes awareness generation, counselling programmes, providing affordable Health Care among others.

Key Features of the National Policy For Rare Diseases, 2021:

- **Categorisation:** The policy categorizes rare diseases into three groups:
 - **Group 1:** Disorders amenable to one-time curative treatment;
 - **Group 2:** Diseases requiring long term or lifelong treatment; and
 - **Group 3:** Diseases for which definitive treatment is available, but challenges are to make an optimal patient selection for benefit.
- **Government Support:**
 - **The government will provide Financial support of up to Rs. 20 lakh** under the Umbrella Scheme of Rashtriya Arogya Nidhi for treatment of those rare diseases listed under Group 1.
 - **Moreover, Beneficiaries for such financial assistance** would not be limited to BPL families. About 40% of the population, eligible under Pradhan Mantri Jan Arogya Yojana, will also be eligible for assistance.
 - **Further, for group 2, the State Governments** can consider supporting specific patients. It includes a rare disease that can be managed with special diets or hormonal supplements or other relatively low-cost interventions (Diseases listed under Group 2).
- **Voluntary Crowdfunding:** The government has said that it will assist in voluntary crowd-funding for the treatment of Group 3. It is because it will be difficult to fully finance the treatment of high-cost rare diseases of Group 3.

"NASA's InSight lander" Detects Massive Quakes on Mars

What is the News? NASA's InSight lander detects two strong quakes on Mars. The lander is a part of NASA's InSight mission to Mars, launched in 2018.

About NASA's InSight Mission

- InSight is short for Interior Exploration using Seismic Investigations, Geodesy and Heat Transport. It is a NASA Mission.
- The Mission aims to study the deep interiors of Mars. It is the first program to analyze the interior of the Red Planet, beneath its surface i.e. its crust, mantle, and core.
- Part of: InSight mission is part of NASA's Discovery Program (1992).
 - Discovery Program is a series of Solar System exploration missions. NASA funds these missions through its Planetary Missions Program Office.

About InSight Mission Lander:

- NASA launched the lander under NASA's InSight mission in 2018.
- **Purpose:** It is a robotic lander designed to study the deep interior of Mars to learn how all celestial bodies with rocky surfaces, including Earth and the Moon, formed.
- **Manufactured by:** The lander was manufactured by Lockheed Martin Space Systems. NASA's Jet Propulsion Laboratory manages it. Further, European agencies built most of its scientific instruments.
- **Scientific Instruments:** The scientific instruments used for the mission are:
 - seismometer for detecting quakes;
 - sensors for gauging wind and air pressure;
 - magnetometer and a heat flow probe designed to take the planet's temperature.

ARIES Tracked "Supernova explosion" in Wolf-Rayet stars

What is the News?

Aryabhata Research Institute of Observational Sciences (ARIES) tracks a rare supernova explosion. They traced the supernova explosion to one of the hottest kinds of stars called Wolf-Rayet stars or WR stars.

ARIES is an autonomous institute under the Department of Science & Technology.

About the Supernova Explosion

- Astronomers studied the supernovae explosion called SN 2015dj. The explosion happened in the galaxy NGC 7371 in 2015.
- The ARIES calculated the mass of the star collapsed to form the supernovae.
- Based on that, they have found that the original star was a combination of two stars. One of them is a massive WR star. The other one is a star much less in mass than the Sun.

About Wolf-Rayet stars:

- **Wolf-Rayet stars** are highly luminous objects. The surface temperature of WR stars is a thousand times more than the Sun.
- They are massive stars. Further, they have completely lost their outer hydrogen. So the WR stars fusing helium or heavier elements in the core.
- The study of certain types of massive luminous supernovae explosion can help probe these stars that remain a mystery for scientists.

What is Supernova?

- Supernovae (SNe) are highly energetic explosions in the Universe releasing an enormous amount of energy.
- Long-term monitoring of these explosions helps us understand the nature of the exploding star as well as the explosion properties. It can also help calculate the number of massive stars.
- A supernova is the explosion of a star. It is the largest explosion that takes place in space. Supernovas are often seen in other galaxies. But supernovas are difficult to see in our own Milky Way galaxy because dust blocks our view. Further, a supernova happens where there is a change in the core or center of a star.

CSIR-CMERI develops "Oxygen Enrichment Unit"**What is the News?**

Central Mechanical Engineering Research Institute (CMERI) develops an oxygen enrichment unit (OEU) that could provide crucial support to COVID-19 patients.

CMERI is an apex R&D institute for mechanical engineering that functions under the Council of Scientific and Industrial Research (CSIR). It is located in West Bengal.

What is the Oxygen Enrichment Unit(OEU)?

- **An oxygen enrichment unit** is a device that concentrates the oxygen from the surrounding air. For that, it selectively removes nitrogen to supply oxygen-enriched air.
- **The concentrated Oxygen** is delivered to the patients having respiratory diseases through an oxygen mask or nasal cannula.
- **Uses:**
 - Firstly, the device is useful in remote places, homes, or hospital-like facilities for patients with chronic obstructive pulmonary diseases (COPD), chronic hypoxemia, and pulmonary edema.
 - Secondly, it may also be used as an adjunct treatment for severe sleep apnea (in conjunction with a continuous positive airway pressure unit).

About Oxygen Enrichment Unit(OEU) developed by CMERI:

- **The Oxygen Enrichment Unit (OEU)** of CMERI is indigenous.
- **Principle:** The unit works on the principle of pressure swing adsorption (PSA). It utilizes zeolite columns to selectively remove nitrogen from air under certain pressure thereby increasing the oxygen concentration.

Benefits of this Oxygen Enrichment Unit(OEU):

- **This unit** is capable of delivering up to 30 Litres Per Minute (LPM) Oxygen enriched air, which is absent in the other commercially available units.

- **The available Oxygen Enrichment Units** generally work till 8000 ft from sea level. However, this unit can work up to the altitude of 14000 ft. Thus, it is very handy for usage in the high-altitude terrain battlefield in contingencies.
- **Further, this unit** will help in High Flow Oxygen Therapy. This therapy is a better method in the treatment and management of COVID-19 patients.
 - **High-flow oxygen therapy** is a form of respiratory support in the hospital. In this therapy, the oxygen in conjunction with the compressed air and humidification travels at a higher rate of flow compared to normal methods.

WHO guidelines to control Transmission of "Zoonotic Diseases"

What is the News? The World Health Organization (WHO), World Organization for Animal Health and United Nations Environment Programme jointly released guidelines to control "Zoonotic Diseases" for governments. Guidelines ask to reduce the risk of transmission of zoonotic pathogens to humans in food production and marketing chains.

What are Zoonotic Diseases?

- **Zoonosis** is an infectious disease that jumps from a non-human animal to humans.
- **Zoonotic pathogens** may be bacterial, viral, or parasitic. They can spread to humans through direct contact or through food, water, and the environment.

Key Guidelines issued by WHO:

- **Firstly, Countries should suspend the sale of live animals** captured from the wild in food markets. This is an emergency measure as they are the leading source of emerging infectious diseases like the coronavirus.
- **Secondly, strengthening the regulatory base** for improving standards of hygiene and sanitation in traditional food markets. This will reduce the risk of transmission of zoonotic diseases.
- Thirdly, Adequately training **food inspectors** to ensure businesses comply with regulations to protect consumers' health.
- **Fourthly, Strengthening animal health surveillance systems** for zoonotic pathogens. This includes both domestic and wild animals. This will provide an early warning for pathogen emergence. Further, it will also help in developing the control measures.
- **Fifthly, Developing and implementing food safety information campaigns.** The campaign should create awareness to market traders, stallholders, consumers, and the wide public. These campaigns should communicate the principles of food safety and the risks of transmission of zoonotic pathogens.

India to Import "Medical Oxygen" to cater demand

What is the News? A number of states are reporting shortages of medical oxygen for a growing number of Covid-19 patients. This is why, India is planning to import 50,000 metric tonnes of medical oxygen to cater to the rising demand.

About Medical Oxygen:

- **Medical oxygen** is high purity oxygen suitable for use in the human body. So, it is used for medical treatments.
- **No other types of gases** are present in the medical oxygen cylinder. This is to prevent contamination.

Applications in the medical field:

- **Firstly, Provide a basis** for virtually all modern anesthetic techniques.
- **Secondly, Restore tissue oxygen tension** by improving oxygen availability in a wide range of conditions such as shock, severe hemorrhage, carbon monoxide poisoning, major trauma, cardiac/respiratory arrest
- **Thirdly, Aid resuscitation** (action or process of reviving someone from unconsciousness or apparent death)
- **Fourthly, Provide life support** for artificially ventilated patients, etc.

Manufacturing and distribution of Cylinders

- Manufacturers prepare Medical oxygen cylinders with 99.5% high purity liquid oxygen.
- Using the Pressure Swing Adsorption (PSA) plants the companies manufacture medical oxygen. PSA is a technology used to separate some gas (here oxygen) from a mixture of gases under pressure.
- Manufacturers **prepare oxygen in liquid form**. Later they store this liquid oxygen in jumbo tankers or transport it in cryogenic tankers at a specified temperature.
- At the distributor level, they perform the process of regasification. After that, they store oxygen gases in jumbo cylinders and dura cylinders.

Challenges:

- **Oxygen poses a fire risk:** Oxygen is highly inflammable. So, the lab or Oxygen cylinder has to be smoke-free and avoid using any flammable materials nearby when using oxygen.

Why is there a need for Medical Oxygen?

- **During diseases such as Covid-19**, oxygen levels are low. It results in low oxygen levels in the cells in the body, not sufficient to do their normal function.
- **If the oxygen levels are low** for a long time without any treatment then the cells themselves stop working completely and can actually die.
- **This may impact the organs** such as the brain, heart, lungs, and kidney which may start malfunctioning, Hence, it is useful as a life-saving treatment in these extreme cases.

How medical oxygen is different from others?

There is a big difference between regular oxygen, medical oxygen and industrial oxygen.

- Firstly, **atmospheric oxygen**: In the atmosphere, dry air contains **78.09%** nitrogen, **20.95%** oxygen, **0.93%** argon, 0.04% carbon dioxide, and small amounts of other gases. So in atmosphere Oxygen content is approximately 21% only.
- Secondly, **industrial oxygen**: It is used in industrial plants especially in combustion, oxidation, cutting and chemical reactions. The industrial oxygen **purity levels are not appropriate for human use**. It contains impurities from dirty equipment or industrial storage that could make people ill. Industrial oxygen is used in the iron and steel industry, the manufacture of vials, the glass industry, etc

"NASA's Mars Helicopter Ingenuity" Makes First Flight on Another Planet

What is the News? NASA's Mars Helicopter Ingenuity successfully flies on Mars. It is the first powered flight on another planet.

About NASA's Mars Helicopter Ingenuity

- **Ingenuity** is the first helicopter to fly on Mars. NASA's rover called Perseverance carried it to the Red Planet.
- **Purpose**: The helicopter's main task is to carry out a technology demonstration to test the first powered flight on Mars. Further, it also aims to collect samples from the locations on Mars where the rover cannot reach.
- **Features**: NASA's Mars Helicopter Ingenuity is able to fly using counter-rotating blades that spin at about 2,400 rpm. It also has a wireless communication system and is equipped with computers, navigation sensors, and two cameras. Moreover, it is also solar-powered and is able to charge on its own.
- **Note**: The Ingenuity helicopter's mission is experimental in nature and is completely independent of the Perseverance rover mission.

DRDO Develops SpO2 Based "Supplemental Oxygen Delivery System"

What is the News?

The Defence Research and Development Organisation (DRDO) launches the SpO2 (Blood Oxygen Saturation) supplemental Oxygen Delivery System. It will be useful for soldiers in extreme high-altitude areas.

About DRDO's Supplemental Oxygen Delivery System:

- **Purpose**: The system delivers supplemental oxygen based on the SpO2 (Blood Oxygen Saturation) levels. Thus, it prevents the person from going into a state of Hypoxia.
 - Hypoxia is a state in which the amount of oxygen reaching the tissues is inadequate to fulfil all the energy requirements of the body.
- **Developed by**: Defence Bio-Engineering & ElectroMedical Laboratory (DEBEL), Bengaluru of DRDO
- **Significance**: This system will also be helpful in the current Covid-19 pandemic. It is useful for household care for moderate Covid patients for Oxygen flow therapy.

Key Features of the System:

- The system has been indigenously developed. It has dual qualities of being robust & cheap.
- Further, this system reads the blood oxygen saturation levels of the subject from a wrist-worn pulse oximeter. After that, the system delivers the required oxygen.
- Moreover, the system can function at extreme altitudes featuring low barometric pressures, low temperatures, and humidity.
- The system also has software safety checks in the system to ensure the functional reliability of the system in field conditions.

What is "Dogecoin" cryptocurrency?

What is the News? Dogecoin's value has risen phenomenally this week– adding around \$19.9 billion in the last 24 hours and now valued at \$34 billion.

About Dogecoin:

- **Dogecoin** is a **Cryptocurrency** created in 2013 by software engineers Billy Markus and Jackson Palmer. It was created as a faster alternative to Bitcoin.
- **Origin:** The starting of Dogecoin was as a satire on the numerous fraud crypto coins that had sprung up at the time. It takes its name and logo from a Shiba Inu meme that was viral several years ago.
- **How is it different from Bitcoins?** Bitcoins fixed the maximum possible number as 21 million. It is a figure that is estimated to be reached by 2040. But the Dogecoin numbers do not have an upper limit and there are already more than 100 billion in existence.
- **The reason behind Dogecoin's Rise:** The main reason believed to be behind Dogecoin's rise is its listing on Coinbase (Coinbase is the most popular virtual currency exchange in the US).
- **Concerns:** Cryptocurrencies can be highly volatile and may crash as fast as they rise. This is because they do not have any intrinsic value such as land or gold. Further, they are also susceptible to manipulation by small groups who often hold large numbers of virtual currency in circulation.

ISRO's "RESPOND Programme" to support joint research projects of IIT-D

What is the News? The Indian Space Research Organisation (ISRO) announced its support to 8 joint research projects of Space Technology Cell (STC), IIT-Delhi. ISRO will support these projects under its RESPOND programme.

About RESPOND Programme:

- **ISRO** launched the **RESPOND (Research Sponsored)** programme in the 1970s.
- **Objective:** The objective is to establish strong links with premier academic institutions through financial assistance to carry out R&D projects relevant to space. Further, ISRO will derive useful outputs of such R&D projects and use that in ISRO programmes.

- **Financial Support:** Under the Programme, ISRO provides financial support for conducting research and development activities. Projects related to space science, space technology and space applications in universities and academic institutions in India will get such financial support.
- **Administered by:** The programme is under the administration of the Physical Research Laboratory (PRL). PRL is an autonomous unit under the Department of Space.
- **Significance:** The research studies conducted under the programme will focus on some future Space activities of ISRO. Further, it will also act as a good supplement to various missions undertaken by ISRO.

"Harlequin Ichthyosis" - Odisha's First Case

What is the News? Odisha reported its first-ever case of a baby born with harlequin ichthyosis. It is a rare genetic condition.

Note: India's first recorded case of a baby born with harlequin ichthyosis was in 2016, at a private hospital in Nagpur, Maharashtra. Such cases were also reported in Delhi, Patna, and West Bengal.

About Harlequin ichthyosis:

- **Harlequin ichthyosis** is a severe genetic disorder that mainly affects the skin.
- **Cause:** The disease is caused due to mutations in the ABCA 12 gene inherited from the parents.
 - **The ABCA12 protein** plays a major role in transporting fats in cells that make up the outermost layer of skin.
- **Severe mutations** in the ABCA12 gene lead to the absence or partial production of the ABCA12 protein.
 - This results in a lack of lipid transport. As a result, severity of the mutation affects skin development.
- **Impact on Skin:** The disease creates large diamond-shaped plates across the body that are separated by deep cracks (fissures). The skin becomes dry and scaly almost like fish skin and hence the term 'ichthyosis', derived from 'ikthus', Greek for fish.
- **Cases:** The disease affects one in three million births.
- **Treatment:** There is no cure for harlequin ichthyosis yet. And, the current treatment is centred around protecting the skin and preventing infection.

"Oxygen Express" Trains - Railways Waive off Few Charges

What is the News?

Indian Railways has decided to waive certain charges on 'Oxygen Express' trains. This decision is important due to the increase in demand for Liquid Oxygen from major hospitals across the country.

Oxygen Express:

- **Oxygen Express** is a special train transporting liquid medical oxygen to states and Union Territories in cryogenic tankers.

- It was started to meet the high demand for liquid Medical oxygen gas for the treatment of coronavirus patients.

Why Transport of Liquid Oxygen through train?

- Transportation of oxygen through trains is faster over long distances than road transport.
- Transportation through rail takes 2 days. On the other hand, transportation through the road takes 3 days.
- Further, trains can run 24 hours a day but truck drivers need to take halts.

Challenges:

- **Oxygen** in a cryogenic state is a hazardous chemical. Hence, Railways have to avoid sudden acceleration, deceleration to check pressures in between especially when it is in a loaded condition.

CSIR-CMERI Indigenously Developed "Oxygen Enrichment Technology"

What is the News? CSIR-CMERI in association with MSME-DI has indigenously developed Oxygen Enrichment Technology.

About Oxygen Enrichment Technology:

- It is a device that concentrates the oxygen from the air around us by selectively removing nitrogen to supply oxygen-enriched air.
- **The concentrated Oxygen** is delivered to the patients, having respiratory diseases, through an oxygen mask or nasal cannula.
- **Uses:**
 - The device can be used in remote places, homes, or hospital-like facilities for patients with chronic obstructive pulmonary diseases (COPD), chronic hypoxemia and pulmonary edema.
 - It may be used as an adjunct treatment for severe sleep apnea.

Key Features of the Oxygen Enrichment technology developed by CSIR-CMERI:

- **Firstly, the unit works on the principle** of Pressure Swing Adsorption (PSA). It utilizes Zeolite Columns to selectively remove nitrogen from air under certain pressure thereby increasing the Oxygen Concentration.
- **Secondly, the unit** is capable of delivering medical air in the range of up to 15 Litres Per Minute (LPM) with oxygen purity of more than 90%. If required, this unit can even deliver up to 70 LPM at a purity of around 30%. It is way better in comparison to other commercially available devices.
- **Thirdly, the commercially available Oxygen Enrichment Units** generally work till 8000 ft from sea level. However, this unit can work up to the altitude of 14000 ft. Therefore, it makes it very handy for the usage at high altitude terrain battlefield in contingencies.

Note: Pressure swing adsorption (PSA) is the process by which atmospheric air passes through an internal filtration system (e.g. a molecular sieve [zeolite granules or membranes]). This system has a large enough total surface area to separate nitrogen(N₂) from the air concentrating the remaining oxygen (O₂) to a known purity.

"Deep Time Project": Volunteers Leave Cave After 40 Days in Isolation

What is the News? The **Deep Time project** in France's Lombrives Cave has come to an end.

About Deep Time Project:

- **The Deep Time Project** was led by the scientists of the Human Adaptation Institute in partnership with labs in France and Switzerland.
- **Aim:** The project aimed to test how people adapt to changes in living conditions and environments.
- **As part of the Project**, 15 participants lived in the Lombrives cave in France for 40 days with no phones, clocks or sunlight. They slept in tents, made their own electricity, and had no contact with the outside world.
- **The group also had to organise** tasks without having deadlines measured with time. Instead, they had to rely on their body clocks and sleep cycles to structure their days.

Significance of the study:

- Firstly, the project will help scientists understand how people can adapt to extreme living conditions.
- Secondly, the brain activity and cognitive function of volunteers were analysed before they entered the cave. This data is used for comparative studies after they leave the cave.
- Further, the purpose of the study has particular relevance during the coronavirus pandemic, as millions of people live in lockdown induced isolation.

Pink Moon 2021: This year's first Supermoon

What is the News? People around the world on 26th April 2021 witnessed the first Supermoon or Pink Moon

What is Supermoon?

- The Astrologer Richard Nolle in 1979 coined the term **Supermoon**.
- **The supermoon** is a full moon or a new moon that nearly coincides with a perigee (A point of the Moon's orbit closest to Earth).
- **The supermoon makes** the moon appear a little bigger and looks brighter than usual. However, to our own eyes, the differences are indistinguishable.

Why call it 'Pink Moon'?

- The moon will not be originally pink. It got its name from the pink wildflowers (Wild Ground Phlox). These flowers bloom in the spring and are native to North America.

- Further, there are many other names for this moon. Such as Sprouting Grass Moon, the Egg Moon, the Paschal moon, and the Fish Moon.

Other definitions: Blue Moon: When two full moons appear in the same calendar month, the second is termed a "blue moon".

Blood Moon:

- **The meaning of a "blood moon"** is based on its red glow of the moon. The blood moon occurs during a total lunar eclipse.
- **During a total lunar eclipse**, Earth lines up between the Moon and the Sun. This hides the Moon from the sunlight.
- **When this happens**, the only light that reaches the Moon's surface is from the edges of the Earth's atmosphere.
- **The air molecules from Earth's atmosphere** scatter out most of the blue light. The remaining light reflects onto the Moon's surface with a red glow making the Moon appear red in the night sky.

Note: The name "**blood moon**" is also sometimes used for a Moon that appears reddish because of dust, smoke or haze in the sky.

Pointly for Science and Technology

- **Ladakh Ignited Minds project:** The Indian Army has launched the Ladakh Ignited Minds Project - A Centre of Excellence and Wellness. The project aims to provide better training and educational facilities to disadvantaged Ladakhi students. Also, the projects aim to give them the opportunity to study in the best educational institutes. The fire and Fury Corps of the Indian Army will implement the project. They will also have a partnership with Hindustan Petroleum Corporation Limited (HPCL) and National Integrity and Educational Development Organization (NIEDO), an NGO.
- **NEO-01:** The Chinese government has launched a robot prototype named 'NEO-01' in the Low Earth Orbit through its Long March 6 rocket. **NEO-01** is a robot prototype developed by China-based space mining start-up 'Origin Space'. The aim is to observe small celestial bodies in deep space and to experiment with a novel approach to clearing up space debris.
- **Breakthrough Infection:** The union health ministry has said that the breakthrough infection rate is low for both Covaxin and Covishield vaccines. **Breakthrough infection** is a case of illness in which a vaccinated individual becomes sick from the same disease for which the vaccine was administered.
- **ProrIISe Software:** Indian Institute of Science, Bengaluru, (IISc) and Prorigo Software Pvt. Ltd. jointly developed the ProrIISe Software. **The ProrIISe Software** aims to automate the legal and bureaucratic part of the patent process. It will be helpful for registering intellectual property developed by Indian academicians.

Miscellaneous

India is 3rd Highest Military Spender in 2020: SIPRI

What is the News? Stockholm International Peace Research Institute (SIPRI) released a report titled “**Trends in World Military Expenditure Report, 2020**”. The report provides data related to the military expenditure by countries in 2020.

Note: SIPRI is an independent international institute established in 1966 in Stockholm, Sweden. Its functions are to research into conflict, armaments, arms control, and disarmament.

Key Findings Related to India:

- **Firstly, India was the 3rd largest military spender** in the world in 2020 behind only the US and China.
- **Secondly, India's military expenditure** was \$72.9 billion in 2020. This is an increase of 2.1% since the year 2019.
- **Thirdly, India's military spending** is 2.9% of its Gross Domestic Product (GDP).
- **Fourthly, India accounted** for 3.7% of the money spent on the military globally.

Other Key Findings:

- **The five biggest spenders in 2020** were the United States, China, India, Russia, and the United Kingdom. These countries together accounted for 62% of world military spending.
- **The United States** accounted for 39% of the money spent on the military globally. It spent \$778 billion on the military in 2020 representing an increase of 4.4% over 2019.
- **Whereas, China accounted** for 13% of the money spent on the military globally with \$252 billion on the military in 2020, representing an increase of 1.9% over 2019.

India will move towards mandatory "gold hallmarking"

What is the News? The government said that it is fully prepared to implement the mandatory hallmarking of gold jewellery and artefacts from June 1, 2021.

What is Gold hallmarking?

- **Gold hallmarking** is a purity certification of precious metal. At present, It is voluntary in nature.

Gold Hallmarking in India:

- In 2019, as per the Government announcement, hallmarking of gold jewellery and artefacts became mandatory across the country.
- The government had given jewellers more than a year to shift to hallmarking and register themselves with the Bureau of Indian Standards (BIS).

Key Features of Gold Hallmarking:

- **Firstly, Hallmarked gold jewellery** will only available in three grades – 14-carat, 18-carat and 22-carat. Currently, it is available in ten grades.

- **Secondly, The Hallmarked Gold jewellery** will contain four marks. Such as BIS mark, purity in carat, assay centre's name and jewellers' identification mark.
- **Thirdly, Applicability:** The rule is applicable only to sales by retailers and not to consumers. However, it is available for consumers if they want to get their old jewellery hallmarked.
- **Fourthly, Penalty:** Anybody found violating the provision, will have to pay a minimum fine of Rs 1 lakh or 5 times the price of the article.

Note: India is the largest importer of gold. In volume terms, the country imports 700-800 tonne of gold annually.

CJI launches "SUPACE Portal"– AI-driven Research Portal

What is the News? The Chief Justice of India launches the Supreme Court's "SUPACE Portal".

About SUPACE Portal:

- **Full-Form:** SUPACE stands for Supreme Court Portal for Assistance in Court's Efficiency.
- **Purpose:** It is an artificial intelligence-based portal. It will make the research work easier for judges, thereby easing their workload.
- **Key Features of the Portal:**
 - The portal collects relevant facts and laws and makes them available to a judge.
 - The portal is not designed to make decisions. It only processes facts and makes them available to judges, looking for input for a decision.

What is Artificial Intelligence?

- Firstly, Artificial Intelligence is a branch of computer science concerned with making computers behave like humans.
- Secondly, it refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning, problem-solving and decision-making.

Note: During the inauguration of Portal, CJI has said that: "Artificial Intelligence (AI) is to the intellect, what muscle memory is to the mind".

IEVP or International Virtual Election Visitors Programme (IEVP) 2021

What is the News? The Election Commission of India hosted the International Virtual Election Visitors Programme (IEVP) 2021.

About International Virtual Election Visitors Programme (IEVP) 2021:

- The Election Commission of India (ECI) organized **IEVP 2021**.
- **Attended by:** Election Management Bodies (EMBs)/ Organisations from 26 countries and three International Organisations attended it.
- **Focus of the programme:** The programme aims to provide the participants with an overview of:
 - The large canvas of the Indian electoral process.

- The ECI will take new initiatives on voter facilitation, transparency and accessibility of the electoral system.
- ECI's response to the changing needs of training and capacity building and New formats necessitated by COVID-19
- insights into the elections underway in different states.

About Association of World Election Bodies (A-WEB):

- **Association of World Election Bodies(A-WEB)** was established in 2013 in South Korea. It is the largest association of Election Management Bodies (EMBs) worldwide.
- **Purpose:** The purpose is to **achieve sustainable democracy** around the world.
- **Chaired by:** India is currently chairing A-WEB for the 2019-21 term.
- **Members:** At present A-WEB has 115 EMBs as Members & 16 Regional Associations/Organisations as Associate Members.
 - ECI is very closely associated with the process of formation of A-WEB since 2011.
- **Secretariat:** Seoul, South Korea.
- **Programmes:** A-WEB undertakes Election Visitor and Observation Programmes in various countries. These programs aim to study various election management practices and share knowledge with other Member of EMBs.

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