



# CURRENT AFFAIRS JANUARY 2021

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# Current Affairs January-2021

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## **1. United Nations World Tourism Organization (UNWTO):**

- Recently, the United Nations World Tourism Organization (UNWTO) has highlighted that the year 2020 the worst year on record.
- The UNWTO has made this statement in the light that global tourism suffered massively because of the international travel bans that was into force in order to contain the COVID-19 outbreak.
- As per the report, the international arrivals have dropped by 74 percent. The destinations across the world allowed 1 billion fewer international arrivals than it was in 2019.
- The report further highlights that, the restrictions in the international travel has resulted in the loss of USD 1.3 trillion in export revenues.
- This loss in the export revenues is more than 11 times the loss that occurred during the global economic crisis in 2009.
- As per the report, the COVID-19 crisis has an impact on 100-120 million direct tourism jobs. Many of them are in the small and medium-sized enterprises.
- Report highlighted that, the nature of pandemic is evolving due to which many countries are reintroducing the stricter travel restrictions such as changes in the quarantine rules, mandatory testing and complete closure of borders in some countries.

## **UN World Tourism Organization (UNWTO):**

- UNWTO is the United Nations specialized agency. The agency is involved in the promotion of responsible, sustainable and universally accessible tourism. It is headquartered in Madrid, Spain. UNWTO is the leading international organization in the field of tourism. It promotes the tourism as a driver of economic growth. The agency serves as a global forum for tourism policy issues.

## **2. UAE's new Citizenship Policy:**

- Recently, the United Arab Emirates (UAE) has announced its new citizenship policy. The government has planned to offer citizenship to a select group of foreigners. The UAE has thus become the first Gulf Arab nation that formalized the process of giving expatriates a bigger stake in the economy.
- The Foreign residents accounts for more than 80% of the total population of UAE. The residents are thus the mainstay of UAE's economy since decades.

### **Aim of the policy:**

- The new citizenship policy has been announced with the aim of attracting the talent to the UAE in order to boost the growth. The country is considering longer residency and limited citizenship for foreigners because it seeks to attract the investment and diversify from oil.
- UAE earlier used to give citizenship in the UAE to some foreigners in special cases. They were given citizenship for providing service to the state.

### **The government has formulated following conditions to provide citizenship:**

- Investors should own a property in the UAE.
- They are required to obtain one or more patents approved by the UAE Ministry of Economy or any other reputable international body.
- Doctors and specialists should be specialised in a unique scientific discipline or the scientific principles that are highly required in the UAE.

- Scientists should be an active researcher in a university or research center. They should have practical experience of at least 10 years in the same field.
- Individuals with creative talents like intellectuals and artists should be pioneers in the culture and art fields. They should be a winner of one or more international award.

#### **Withdrawal of Citizenship:**

- The citizenship of the individual can be withdrawn if there is a breach of the conditions.

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### **3. National Infrastructure Pipeline: Financing Bank to be set up:**

- The Union government is considering to introduce a new bill “National Bank for Financing Infrastructure and Development Bill, 2021” in the ongoing budget session of the parliament. This bill will be passed with the objective of setting up a new development finance institution (DFI) so as to finance the infrastructure projects.

#### **What is Development Finance Institution (DFI)?**

- The finance ministry had started working on the structure of a new DFI in the year 2020.
- DFI will be a specialized institution to provide funds for the infrastructure projects. The DFI will be backed by government.
- The DFI will help in funding the projects under the National Infrastructure Pipeline (NIP).
- The new DFI will act as a provider, enabler and catalyst for infrastructure financing.
- It is also the principal financial institution and development bank to build and sustain a supportive ecosystem during the life cycle of the infrastructure projects.

#### **National Infrastructure Pipeline (NIP):**

- NIP is a group of social and economic infrastructure projects. The project has been launched for a period of five years. The project has an initial sanctioned amount of ₹102 lakh crore. The pipeline project was first announced by the Prime Minister of India during the 2019 Independence Day speech.

#### **The Parliament of India:**

- It is the supreme legislative body of India. Parliament is a bicameral legislature that comprises of the President of India and the two houses namely the Rajya Sabha and the Lok Sabha.
- The President being the head of legislature has powers to summon and prorogue either house of Parliament. He has also the power to dissolve the Lok Sabha. However, he can exercise these powers only on the advice of the Prime Minister and his Union Council of Ministers.

#### **Sessions of the Parliament:**

- The period for which the House of the parliament meets to conduct its business is called a session. The Constitution of India has given power to the President to summon each House. The Gap between two sessions of the parliament should not be more than a six-month. Thus, the Parliament must meet at least twice in a year. The Parliament conducts three sessions every year in India:

### **4. World Leprosy Day 2021:**

- The last Sunday of January (January 30 in the year 2021) is celebrated as the World Leprosy Day every year. The day is observed all across the world to raise knowledge about the leprosy.
- It also seeks to propagate the need and importance of eradicating the disease.
- As per the World Health Organization (WHO), the goal of the observance of the day in year 2021 is to beat leprosy by spreading more information regarding the disease.
- The day will be celebrated to spread the knowledge that the disease is curable.
- Leprosy cases across the world
- As per the report, there were 2,08,619 new leprosy cases globally registered in the year 2018. This figure has come from 159 countries.

**What is leprosy?**

- Leprosy is also known as Hansen's disease.
- It is an infectious disease which is caused by a bacillus Mycobacterium leprae.
- The disease has been named after Gerhard Henrik Armauer Hansen who was a Norwegian physician.
- Hansen proved that leprosy is not a hereditary disease but is caused by a bacterium.
- The disease is a curable disease and treatment at the early stage can prevent any disability.
- It can cause a progressive and permanent damage to the skin, nerves, limbs and eyes if it is left untreated.
- The incubation period of the disease is 5 years usually. Symptoms of the disease can be seen within 1 year but it could also take 20 years or even more years to occur.
- The disease spreads through the droplets either from the nose or mouth when the affected person sneezes or coughs.

**5. 125th Anniversary of "Prabuddha Bharat":**

- The Prime Minister Narendra Modi addressed the 125th anniversary celebration 'Prabuddha Bharata' which is scheduled to be organized on January 31, 2021. It will be organized by the Advaita Ashrama, Mayavati.

**Prabuddha Bharata:**

- It is a monthly magazine of the Ramakrishna Order. This magazine was founded in the year 1896 by P. Aiyasami, B. R. Rajam Iyer, G. G. Narasimhacharya, and B. V. Kamesvara Iyer under the guidance of Swami Vivekananda.
- Prabuddha Bharata magazine was of great significance in spreading the message of the ancient spiritual wisdom of the country.
- The magazine comprises of the articles and translations by monks, scholars and other writers on humanities and social sciences.
- The publication of the Prabuddha Bharata magazine was started from Madras (Present day Chennai). The journal was published in Chennai for 2 years. After that, the magazine started publishing from Almora. From April 1899, the magazine started publishing from Advaita Ashrama. Since then, Advaita Ashram continuously edit the magazine and it is published and printed in Kolkata.

**Contributors of the magazine:**

- In the history, many great personalities have contributed to the magazine namely, Bal Gangadhar Tilak, Former President Sarvepalli Radhakrishnan, Netaji Subhas Chandra Bose, Sister Nivedita and Sri Aurobindo. Presently, it is edited by Swami Vireshananda.
- Advaita Ashrama was founded in the year 1899. It was a branch of the Ramakrishna Math. The ashrama is located in Uttarakhand.
- Ramakrishna Order is the monastic lineage founded by Ramakrishna. It was founded in January 1886 at the Cossipore House. It is different from the Ramakrishna Math. Ramakrishna Math is a legal entity that trains the young monks and directs the spiritual duties of the Swamis of the Ramakrishna Order.

**6. Revised Estimates of Economic Growth:**

- The National Statistical Office (NSO) has released the revised estimates of Gross Domestic Product (GDP) data on January 29, 2020. The data was revised for the fiscal years 2017-18 to 2019-20.

- The first revised estimates figured the GDP growth at 4 percent for the fiscal year 2019-20. This was 20 basis point lower than the provisional estimates of 4.2% growth that was released in 2020.
- This highlights that, the projected contraction of GDP at 7.7% in 2020-21 will increase to 7.8%.
- The second revised estimate of GDP for 2018-19 is 6.5 percent while the third revised estimates of GDP growth for 2017-18 is 6.8 percent.
- Earlier, the GDP growth for 2018-19 and 2017-18 was 6.1 percent and 7 percent.
- Further, this revised estimates for 2019-20 have reduced growth in the primary and secondary sectors. However, it projects a positive growth trajectory for the tertiary sector.
- The Gross Value Added (GVA) in the secondary sector shows a 1.1% contraction in 2019-20 while the GVA for the Tertiary sector is expected to grow at 7.2 percent in the revised estimate.

#### **National Statistical Office (NSO):**

- The National Statistical Office (NSO) was formed through the merger of the National Sample Survey Office (NSSO) with the Central Statistics Office (CSO). The NSO is headed by Secretary of the Statistics and Programme Implementation (S&PI).
- NSO have three Director Generals (DG) namely the DG of Statistics, DG of Coordination, Administration and Policy and DG of National Sample Survey. They all reports to the Secretary (S&PI).
- The NSSO and CSO was merged together with the objective of streamlining and strengthening the nodal functions of the ministry.
- It also seeks to bring in more synergy by integrating the administrative functions within the ministry. NSO works under the aegis of Ministry of Statistics and Programme Implementation (MoSPI).

#### **Gross domestic product (GDP) and Gross value added (GVA):**

- GDP is a monetary measure of the market value for all the final goods and services that are produced in a specific time period.
- GVA is the measure of the value of goods and services that are produced in an area, industry or sector of the economy. It is the value of output minus the value of intermediate consumption.

#### **7. Asia-Pacific Personalised Health Index:**

- It is a newly launched index. It measures the progress of a health system towards personalised healthcare. It evaluated the 11 health systems in the Asia-Pacific region.
- The health systems that were evaluated includes: India, China, Singapore, Australia, Malaysia, Taiwan, Japan, Thailand, Indonesia, South Korea, and New Zealand.
- It measured the performance across 27 indicators of the personalised health across 4 categories that are called as the 'Vital Signs'.
- The four vital signs include Policy Context, Health Information, Personalised Technologies and Health Services.

#### **Key Findings of the report:**

- Report highlights that Singapore was the best performer among all the 11 health systems.
- Taiwan bagged the second position while Japan, and Australia stands at the third and the fourth position of the index respectively.
- India was ranked at 10th position out of 11 health systems.
- Indonesia was ranked last at 11th
- India's rank
- Though, India was ranked at 10th position overall. But in the four vital categories India's rank is- 10th in the health information indicator, 11th in the health services, 9th in the Personalised Technologies indicator while 5th in the Policy Context indicator.



### **Economist Intelligence Unit (EIU):**

- It is the research and analysis division of Economist Group. It provides the forecasting and advisory services by doing research and analysis. It provides- five-year country economic forecasts, monthly country reports, country risk service reports and industry reports.
- It has several offices across the world including two offices in China and one in Hong Kong.

### **Page | 9 Asia-Pacific:**

- It is the part of the world in the Western Pacific Ocean. This part varies in area on the basis of context, but it generally includes the Oceania, East Asia, South Asia and Southeast Asia.

### **8. L&T Bags contract for Bullet Train Project:**

- The Larsen & Toubro (L&T) has bagged a contract worth Rs 1390 crore for the Mumbai-Ahmedabad bullet train project.
- This project is India's first such project. L&T has bagged the contract for the project from the National High-Speed Rail Corporation Limited (NHSRCL).
- The contract for the Mumbai-Ahmedabad bullet corridor have been given to Larsen & Toubro (L&T) – IHI Infrastructure Systems Consortium.
- L&T has been given the contract for the procurement and fabrication of 28 steel bridges for Crossing Over Rivers, roads, railway lines, highways and other structures for the Mumbai Ahmedabad high-speed rail corridor.

### **About Bullet Train Project:**

- The bullet train project or the Mumbai-Ahmedabad high-speed rail corridor is being executed by the National High Speed Rail Corporation Limited (NHSRCL).
- The NHSRCL have stated that, about 70,000 MT of steel will be used for the fabrication of 28 steel bridges under the project.
- Steel for the fabrication of structures for these steel bridges will be procured from the steel manufacturers through bid.
- Bidding for steel bridges
- Financial bids for the procurement of steel bridges were opened on December 18, 2020.
- In the bidding, a total of eight bidders participated. Out of eight bidders, four were qualified.
- Qualified bidders include- Tata projects Limited, Larsen & Toubro- IHI Infrastructure Systems Consortium, Afcons Infrastructure Limited, and NCC Limited.

### **Mumbai-Ahmedabad bullet Train Project:**

- It is a 508 km long corridor. It will operate at speed of 320 km/hour. The train corridor will pass through Gujarat, Maharashtra and Dadra & Nagar Haveli.
- The train will complete the distance of 508 kms in just 2-3 hours. There will be 12 stations along the corridor. The bullet train project is also funded by the Japan International Cooperation Agency (JICA).
- **Japan International Cooperation Agency (JICA)** is a governmental agency that engages in delivering the bulk of Official Development Assistance (ODA) for the government of Japan. It assists in the economic and social growth of the developing countries.

### **9. India to Launch 'Start-up India Seed Fund Scheme':**

- The government has announced for the launch of Start-up India Seed Fund Scheme (SISFS) on January 29, 2021.
- Start-up India Seed Fund Scheme (SISFS) will be launched with a corpus of Rs 945 crore.
- The scheme was launched with the aim of providing the financial assistance to start-ups for the product trials, market-entry, and proof of concept, prototype development and commercialization.

- The funds under the Start-up India Seed Fund Scheme will be disbursed through the selected incubators across the country.
- The scheme will be in mission mode for the year 2021-25.
- The official notification on the launch of SISFS was released by the Department for Promotion of Industry and Internal Trade (DPIIT).
- The overall execution and monitoring of the SISFS will be done by the DPIIT. The DPIIT will form an Experts Advisory Committee (EAC) to look after the same.
- The Expert Advisory Committee (EAC) will evaluate and select the incubators in order to allot the Seed Funds, take all required measures for efficient utilization of funds and to monitor the progress.
- The seed support will be provided only once to any start-up.

#### **Which start-ups are eligible under the scheme?**

- The funds under SISFS can be availed by a start-up that are incorporated not before the 2 years ago at the time of application.
- The Start-ups will be recognized by the DPIIT.
- The start-up seeking funds under the scheme must have a suitable commercially viable business idea and it should use technology in its core product or service.
- The notification highlights that, preference will be given to start-ups that create innovative solutions in sectors such as waste management, social impact, healthcare, textiles, agriculture, water management, defence, food processing, education, energy, railways, financial inclusion, mobility, space, oil, gas and biotechnology.
- Start-ups should not have received monetary support of more than Rs 10 lakh under any other central or state government scheme.
- It should have at least 51% shareholding by Indian promoters at the time of application to the incubators in accordance with the Companies Act, 2013 and SEBI (ICDR) Regulations, 2018.

#### **Conditions for Incubators:**

- As per the eligibility conditions, the incubators must be legal entities. It must be operational for at least 2 years on the date of application to the scheme. Further, it should have at least five start-ups undergoing incubation physically and should have the seating capacity for at least 25 individuals. They should have a full-time CEO and a capable team.

#### **10. Economic Survey 2021- Key Highlights:**

- Union Finance Minister Nirmala Sitharaman tabled the Economic Survey 2020-21 in the Lok Sabha on January 29, 2021.
- The Economic Survey 2021 presented an estimation of the progress that the Indian economy has made in the last 12 months.
- The survey highlights that the real growth rate for Financial Year 2021 was taken as -7.7% as per MoSPI while the real growth rate for Financial Year 2022 is assumed as 11.5 % on the basis of estimates provided by the International Monetary Fund (IMF).
- It further highlights that, the gross domestic product (GDP) was contracted by a record 23.9 per cent in April-June 2020 while it contracted by 7.5 percent in the second quarter.
- For the full fiscal, the survey projected a contraction of 7.7 per cent while a V-shaped recovery in the next. GDP growth will be expanding by 11 per cent in the 2021-22 fiscal.
- As per the survey, there was de-growth for the first time. It highlights that the Indian economy is technically in a recession as it has witnessed a contraction in the Gross Domestic Product (GDP) for the last two consecutive quarters.

- The Survey also provided a detailed analysis of India's V-shaped economic recovery after it was affected due to corona pandemic. It highlights that mega vaccination drive supports the V-shaped recovery.
- As per the survey, Agriculture sector has remained the silver lining in the growth trajectory even during the pandemic however, contact-based services such as manufacturing and construction faced sharp decline due to the corona pandemic.
- It highlights that how Healthcare sector has taken centre stage in the economy where the government took part actively in shaping and structuring the healthcare market in the country.

#### **About Economic Survey of India:**

- The first ever Economic Survey of India was presented in 1950-51. It was presented as a part of the Union Budget. The survey got separated from the Union Budget after the year 1964.
- It is the flagship annual document released by the Ministry of Finance. The document is presented in the parliament just before the Union Budget by the Department of Economic Affairs, Ministry of Finance.
- The document is prepared under the guidance of the Chief Economic Adviser of India. During the budget session, this document is presented to both the houses of the parliament. The document is non-binding in nature.

#### **11. STARS Project:**

- The Department of School Education and Literacy under the Ministry of Education, and the World Bank have signed the Strengthening Teaching-Learning and Results for States Program (STARS) project on January 28, 2021. The project is a financial support agreement.
- STARS project is a centrally sponsored scheme that seeks to strengthen the school education system.
- The agreement has been signed with an aim of improving the quality and governance of school education in six states of India.
- The 6 Indian states include- Kerala, Maharashtra, Himachal Pradesh, Rajasthan, Madhya Pradesh, Rajasthan, and Odisha.
- The STARS project will be benefitting approximately 250 million students in the age group of 6 to 17 years coming from the 1.5 million schools.
- Apart from the students, the project will also benefit 10 million teachers across the six states. The project was launched with the aim of strengthening the public-school education.
- It also supports India's aim of "Education for All".
- The STARS Project carry forward the vision of the National Education Policy 2020 that envisages the equitable education for all.

#### **Funding to the Project:**

- The total cost of the STARS project is Rs 5718 crore.
- The World Bank has provided financial support worth \$500 million which stands around Rs. 3700 crores.
- This loan has been provided by the International Bank for Reconstruction and Development (IBRD) which is the lending arm of the World Bank.
- The World Bank has provided the final maturity of 17.5 years for the \$500 million along with a grace period of 5 years.
- Background
- The STARS project was approved by the Union Cabinet under NEP 2020 in October 2020.

#### **International Bank for Reconstruction and Development (IBRD):**

- **IBRD** is an international financial institution. It was established in the year 1944. The IBRD is headquartered in Washington, D.C., United States. IBRD is the lending arm of World Bank Group. It offers loans to the middle-income developing countries.

## 12. India's Rank on Covid-19 Response Index:

- The Covid-19 Response Index was provided by Sydney-based Lowy Institute, recently. The study was based on the number of key indicators such as confirmed cases, cases per million people, deaths and deaths per million people.

### Key findings of the index:

- India was ranked 86th in a coronavirus performance index among the 98 countries.
- Report highlights that, New Zealand handled the pandemic more effectively than any other country across the world.
- Brazil was ranked at the bottom of the list.
- In the index, New Zealand was followed by Vietnam, Taiwan, Thailand and Cyprus.
- US was ranked as the fifth-worst performing country.
- Sri Lanka was placed at 10th position in handling the Covid-19 pandemic.
- The report further reveals that, the smaller populations, cohesive societies and capable institutions were big factors to successfully deal with the pandemic.
- China was not included in the study since its testing rates are not publicly available.
- India has so far reported 1.07 crore infections and 1,53,847 deaths – one of the world's lowest fatality rates from the disease, attributed partly to its younger population.

### About the Index:

- The indicators used for ranking the countries point out that how well or poorly countries have managed the pandemic. An average of the rankings was given across the six indicators. Then it was normalised for each country so as to produce a score between 0 for the worst performing and 100 for best performing. The study was conducted for 36 weeks.

### The Lowy Institute:

- It is an independent think tank that was founded in April 2003. It was founded by Frank Lowy. The think tank is involved in conducting the original, policy-relevant research about the international political, strategic and economic issues. The institute is based in Sydney, Australia. The institute is funded by donations from the investment management firm, Manikay Partners.

## 13. India- Japan 5th Act East Forum Meet:

- The fifth joint meeting of the India-Japan Act East Forum was held between India and Japan on January 28, 2021. The meeting was co-chaired by Foreign Secretary Harsh Vardhan Shringla and the Ambassador of Japan to India, Suzuki Satoshi.

### Highlights:

- At the Act East Forum, India and Japan reviewed the progress of ongoing projects in the North Eastern Region of India.
- These projects were launched in the areas ranging from the hydropower, connectivity, harnessing of water resource, sustainable development, and skill development.
- Both the countries also discussed several ongoing new projects under India-Japan bilateral cooperation.
- They also exchanged their views on cooperation in new areas including agro-industries, healthcare and SMEs, Smart city, tourism, bamboo value chain development, and people-to-people exchanges.
- Both the sides also appreciated the role played by the Act East Forum, ever since it was established in the year 2017, in streamlining India-Japan bilateral cooperation.

- They highlighted how the forum has helped in the modernization of the North Eastern Region.
- The Act East Forum also provides a platform for India-Japan collaboration in the North Eastern Region in accordance with the India's Act East Policy and Japan's vision for a "Free and Open Indo-Pacific".

#### **Act East Forum:**

- The act east forum was established in the year 2017. The agreement to established the forum was signed in September 2017 during the visit of Prime Minister Abe to India. This platform works in line with the Japan's vision for a "Free and Open Indo-Pacific" and India-Japan collaboration in the North Eastern Region under India's "Act East Policy".

#### **Act East Policy:**

- The act east policy was launched in November 2014 at the East Asia Summit in Myanmar. The policy was launched with the focus on the economic and security integration. The policy mainly focusses on the area like South East Asia and the East Asia. This policy is said to be the modification of the Look East Policy.

#### **Look East Policy:**

- The look east policy of India was launched by the former Prime Minister P.V. Narasimha Rao in the year 1991. This policy was launched then with the aim of shifting the India's trading focus from the west and neighbours to the South East Asian countries. This policy was discontinued in 2014 with the enactment of Act east policy.

#### **14. Neglected Tropical Diseases:**

- Recently, India joined the world and Light Up Qutub Minar as a sign of unity to combat the Neglected Tropical Diseases (NTD).

#### **Highlights:**

- This was done to mark the second annual World NTD Day that will be observed on January 30th.
- The World Neglected Tropical Diseases Day highlights the global community's commitment to end the diseases.
- The NTD diseases cause immeasurable suffering among the most marginalized communities of the world.
- On the occasion of World NTD day, 50 landmarks representing the 25 nations of the world will be lit up. They will celebrate how far the world have come together in beating the NTD.

#### **What are Neglected Tropical Diseases (NTD)?**

- The NTDs are a diverse group of communicable diseases that prevail in tropical and subtropical conditions.
- These diseases affect more than one billion people every year. In combating the disease, the countries invest billions of dollars every year.
- The Populations who are living in poverty, where there is no adequate sanitation, those who are in close contact with infectious vectors, domestic animals & livestock are highly affected by such diseases.
- As per the WHO major NTDs are: Buruli Ulcers, Chagas Disease, Dengue, Chikungunya, Sleeping Sickness (Human African Trypanosomiasis), Hansen's Disease (Leprosy), Trachoma Mycetoma, chromo-blastomycosis, deep mycoses etc.

#### **NTD cases in India:**

- As per the data, one in five people across the world are affected by NTD.
- India is home to the world's largest absolute burden of 11 of the major neglected tropical diseases.
- World NTD Day

- It is an awareness day that addresses the neglected tropical diseases (NTDs). World NTD Day was celebrated on January 20, 2020 for the first time. The date, January 30, marks the anniversary of the 2012 London Declaration on NTDs. The London declaration had unified the partners across sectors, countries and disease communities for a greater cooperation, investment and action on NTDs.

#### **15. Indo-French Ecological Partnership:**

- India and France will launch the Year of Environment. Indo-French partnership on Environment, Biodiversity, Climate Change and other allied areas will be an example for the world.
- India and France have already undertaken several environment projects in Assam, Rajasthan.
- Another project will start in Jharkhand.
- Indian side said that the year 2021 will also enhance the cooperation in sustainable development and increasing the effectiveness of actions for the global environment protection.

#### **Agenda of the meeting:**

- Both sides will work towards deepening the Indo-French cooperation on sustainable development in the field of renewable energy, biodiversity conservation, plastic waste management and smart cities.
- The Indo-French initiative also aim to boost the cooperation between the two countries on climate issues and jointly boost the global momentum throughout 2021. The year 2021 is a key year to fight against climate change and the erosion of biodiversity.
- Both sides will hold talks on joint efforts in order to promote the renewable energy and smart grids.
- They will also discuss to strengthen and universalise the International Solar Alliance, an international organisation initiated by France and India.
- They will enhance the bilateral technical cooperation on high-efficiency solar panels.
- Further, new investments will be made from French companies in solar power projects and smart grids in India.

#### **India's achievement in climate change action:**

- India has made significant efforts in the climate change action. India achieved 26 per cent of reduction of emission intensity so far. The renewable capacity in India stands at 90 Giga Watt as of 2020. It also includes 36 Giga Watt of solar energy and 38 Giga Watt of wind energy.

#### **16. National Marine Turtle Action Plan Launched:**

- The Ministry of Environment Forest and Climate Change (MoEF&CC) has released 'Marine Mega Fauna Stranding Guidelines' and 'National Marine Turtle Action Plan' recently to create a conservation paradigm for the marine mega fauna and marine turtles.
- The documents were released containing the ways and means to promote the inter-sectoral action for conservation.
- The documents also suggest for improving the coordination amongst the government, civil society and all relevant stakeholders so as to response to the cases of stranding, injury or mortality of marine mammals.
- It also suggests coordinated efforts for the conservation of marine turtles.
- The documents contain the actions that are required to handle the stranded animals on shore.
- It will also look after the stranded or entangled animals in the sea or on a boat.
- It comprises of the management actions for improved coordination, rehabilitation of degraded habitats, reducing threats to marine species habitats, advance scientific research, enhancing people's participation and exchange of information on marine mammals & marine turtles.

**What was the need of action plan?**

- India has a rich marine biodiversity along its coastline of over 7,500 km. It comprises of sharks, whale sharks, colorful fish, dolphins, turtles, big mammals such as whales and dugongs.
- The bright corals marine habitats harbor the diverse species and provide various resources essential for human wellbeing.
- Millions of people depend on these resources. The resources range from the maritime trade & transport, mineral resource, food, cultural traditions, spiritual values & inspiration. All these resources also attract tourists from across the world.
- Thus, India needs to conserve the marine resources to meet the demands and increasing people's participation.
- The marine resources and habitats have immense economic, ecological and cultural values in India. But, the marine mega fauna species and marine turtles face a wide variety of challenges. The challenges include stranding and entanglement.

**17. Kerala's Gender Park- Key Facts to know:**

- The Gender Park in Kozhikode, Kerala will open from next month. The park will become functional on the occasion of the second edition of the International Conference on Gender Equality (ICGE-II).
- The park will be inaugurated by the Chief Minister of Kerala, Pinarayi Vijayan, in between February 11-13 that will also mark the inauguration of second edition of ICGE-II.
- On this occasion, foundation of the International Women's Trade and Research Centre (IWTRC) will also be laid down.
- The IWTRC will be established with the objective of providing a secure and sustained ecosystem for women entrepreneurs. It will also provide women a space to market products.

**International Conference on Gender Equality (ICGE-II):**

- The ICGE is an initiative by the Gender Park. The second edition of the conference will be inaugurated with the objective of exploring the measures to boost the economic potential of women and transgender persons. It will help them to be equipped as sustainable entrepreneurs.
- The conference will be organised under the theme: "Gender in Sustainable Entrepreneurship and Social Business: The Mediating Role of Empowerment". This event will be organised in collaboration with the UN Women.

**The Gender Park:**

- The gender park was established by the government of Kerala in 2013. It is an initiative that work towards gender equality and empowerment in Kerala.
- The headquarter for the initiative is in the capital of Kerala, Thiruvananthapuram. However, the main campus is at Silver Hills, Kozhikode. The campus has an area of 24-acre. The park has been set with its main focus on gender justice.
- The platform will provide an environment for policy analysis, research, capacity development, advocacy, economic and social initiative. The park will be operational under the Department of Social Justice. This space is first of its kind across the world.
- The gender park was established with the aim of creating relevant interventions so as to address a range of gender-based issues. It includes both off-campus and on-campus activities and other projects that work to empower the individuals and communities.

**18. 'Vaccine Maitri Initiative' extended to Sri Lanka:**

- India has extended its "Vaccine Maitri Initiative" to Sri-Lanka now. As per the agreement, India dispatched 500000 doses of Covishield vaccines to Sri Lanka as grant assistance. The vaccine

maitri initiative has delivered nearly five million doses to seven countries in the neighbourhood, till date.

- The delivery of vaccines which has been made by the Serum Institute of India is in light with the Prime Minister Narendra Modi's commitment to the Sri Lankan counterpart Mahinda Rajapaksa during.
- PM Modi had committed in September 2020 during a virtual summit to provide all the possible support in order to minimise the health and economic impacts of the pandemic in Sri Lanka.

#### **Vaccine Maitri Initiative:**

- The Vaccine Maitri or the Vaccine Friendship initiative was started on January 20, 2021.
- Under the initiative, India will supply Made-in-India Covid-19 vaccines to its neighbouring. Other key partners of the Neighbourhood First Policy will also be getting the vaccine.
- Bhutan and Maldives were the first country to get the vaccines. Both the countries are followed by Bangladesh, Nepal, Myanmar and Seychelles.
- Sri Lanka get the vaccine doses after regulatory approval.
- Afghanistan and Mauritius will also get doses after they give necessary regulatory approvals.
- Pakistan has not been named as a neighbouring country by India to deliver the vaccine.
- Till date, India has provided 150,000 doses of vaccine to Bhutan, 100,000 doses to Maldives, 2 million doses to Bangladesh, 1 million doses to Nepal, 1.5 million doses to Myanmar, 50,000 doses to Seychelles and 100,000 doses to Mauritius.

#### **Commercial supplies of Covishield:**

- India has also supplied the two million doses of Covishield to each of Brazil and Morocco, and five million doses to Bangladesh. Further, the doses will be supplied to South Africa and Saudi Arabia.

#### **India's Vaccine Diplomacy:**

- The delivery of vaccines as grant assistance is in line with India's neighbourhood first policy and SAGAR doctrine.
- India is actively supplying doses to comply with its role as the first responder to the pandemic in the region.
- India-Sri Lanka: In 2020, India had extended a \$400-million currency swap facility to Sri Lanka in order to ensure financial stability. India also provided aid of 26 tonnes of essential lifesaving medicines and equipment.
- India also actively supplied Hydroxychloroquine, Remdesivir, Paracetamol tablets, diagnostic kits, masks, gloves, ventilators and other medical supplies to many countries during the pandemic.
- India has also provided training to its neighbouring countries so as to enhance their clinical capabilities under the Partnerships for Accelerating Clinical Trials (PACT) programme.

#### **PACT programme:**

- The PACT programme was launched to support the COVID-19 vaccine development activities in partnering countries. Biotechnology Industry Research Assistance Council (BIRAC) and Clinical Development Services Agency (CDSA) under the aegis of the National Biopharma Mission and Ind-CEPI Mission of DBT are the implementing agencies of the programme.

#### **19. Jarosite: Rare Mineral Found in Antarctica:**

- A rare maritime mineral, Jarosite, has been found in the Antarctica ice. It was discovered after drilling deep into Antarctic ice.
- The recently discovered mineral was examined and it was found that it was formed in pockets within the ice. This supports the theory of presence of jarosite on MARS in as similar manner. It



signifies that, the minerals are able to form in thick deposits on Mars because the planet is a lot dustier than Antarctica.

**Jarosite:**

- Jarosite is a mineral from Mars which is scarcely seen on Earth.
- It is a sulphate of potassium and iron.
- The mineral can be formed by both water and acidic conditions.
- It was first discovered on Mars in 2004 by a rover named "Opportunity".
- Other Jarosite minerals include silver, sodium, lead and ammonium.
- It can be found in the mining and ore processing wastes where they act as sinks for other toxic elements such as lead and arsenic.
- When the jarosite is broken, it releases metals such as iron, potassium besides the hydrogen ions and sulphate.
- Jarosite is used in hydrometallurgy to control impurities.
- The name Jarosite was derived from a Spanish name of a yellow flower of genus Cistus.
- The mineral was described in 1852 by August Breithaupt for the first time.
- It is yellow to yellowish-brown in colour. It is brittle, hard and has crystal structure. The mineral appears translucent and opaque sometimes.

**Why Jarosite is found on Mars?**

- The reason for the presence of the mineral on the Mars (Red Planet) is not yet determined. The scientists believe that when the planet was covered with ice millions ago sulphate, iron, and potassium might get trapped in the form of dust.
- This belief is not accepted because dust and ice have never chemically reacted to form minerals. Though ice provided a suitable environment for the transformation of dust to the mineral.

**20. UNEP Global Climate Litigation Report 2021:**

- The United Nations Environment Programme (UNEP) has released its "Global Climate Litigation Report 2021". The report was published by the UNEP in cooperation with the Sabin Center for Climate Change Law at Columbia University.
- The report highlights that the climate litigation cases have increased in recent years. The litigations have made the courtroom increasingly relevant to efforts to address the climate change across the world.

**Key Findings of the report:**

- As per the report, climate cases have nearly doubled over the last three years.
- Increasing climate cases are increasingly compelling the governments and corporate actors to implement their climate commitments.
- The cases are also compelling the government to pursue more ambitious climate change mitigation and adaptation goals.
- As per the data provided by the report, in 2017 884 cases were brought in 24 countries. While as of 2020, cases have increased to 1,550 filed in 38 countries and the European Union courts.
- Report finds that the climate litigation continues to be concentrated in high-income countries and the trend might further grow in the global south.
- The report has also identified the trends in climate litigation like Violations of "climate rights". That means the cases are increasingly relying on fundamental human rights such as right to life, food, health and water.

**United Nations Environment Programme (UNEP):**

- UNEP, which is also called UN Environment, was established by Maurice Strong in June 1972 following the UN conference on the Human Environment in Stockholm.

- The organisation involves in coordinating the responses to environmental issues within the United Nations system. It provides the leadership, deliver science and develop the solutions on issues like climate change, management of marine & terrestrial ecosystems and green economic development.
- It also develops the international environmental agreement and helps in achieving the environmental targets. The primary aim of the UNEP is to help the world to meet the 17 Sustainable Development Goals.
- Environmental agreements such as the Minamata Convention on Mercury, Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and Convention on Migratory Species are organised by UNEP. It also helps in implementing the Multilateral Fund for the Implementation of the Montreal Protocol and Global Environment Facility (GEF).

### **21. Rajasthan- 5th state to complete Urban Local Bodies Reforms:**

- Rajasthan has become the 5th state in the country to successfully complete the Urban Local Bodies (ULBs) reforms. This was specified by the Department of Expenditure, Ministry of Finance.

#### **Benefits:**

- Rajasthan now become eligible for additional reform linked borrowing.
- Thus, the State has been granted permission by the Department of Expenditure an additional financial resource of 2,731 crore rupees.
- The State will get this amount through Open Market Borrowings.
- Other States to complete the reforms
- Other states that have completed the Urban Local Bodies Reforms include- Manipur, Andhra Pradesh, Madhya Pradesh and Telangana. In total, these five states have been granted a total additional borrowing permission of 10,212 crore rupees after completing the reforms.

#### **Reforms in ULBs:**

- The Reforms in the Urban Local Bodies and urban utilities reforms were done with the aim of strengthening the finance of the ULBs in the States. It also seeks to enable the states to provide better public health and sanitation services. Once the ULBs are economically rejuvenated it will be able to create good civic infrastructure.

#### **What are those reforms?**

The reforms that have been put forward by the Department of Expenditure are:

- In the light of covid-10 pandemic, the government had identified four citizen centric areas for reforms in order to meet the demand of resources. Those areas include- the Implementation of One Nation One Ration Card System, Ease of doing business reform, Urban Local body or utility reforms and Power Sector reforms. 10 States have implemented the One Nation One Ration Card System, 7 States have worked on the ease of doing business reforms while 5 States have implemented the local body reforms; so far.
- State is required to notify floor rates of property tax in ULBs as well as the floor rates of user charges with respect of the provision of water-supply, drainage and sewerage.
- State needs to place a system of periodic increase in floor rates of property tax or user charges with respect to the price increases.

### **22. Cabinet Clears Policy on PSU Privatization:**

- The Union Cabinet has cleared the policy on the privatization of public sector undertakings (PSUs). The details regarding the policy will be announced in the upcoming Union Budget that will be presented on February 1, 2021.

- The policy will present a road map for the presence of government-owned entities in strategic and non-strategic sectors.
- This policy was the part of the Aatmanirbhar Bharat package that was announced by the Finance Minister in May 2020.
- It was announced as a coherent policy wherein all the sectors would be opened for private sector participation.
- The government had also announced to limit the presence of PSUs to one to four in strategic sectors.
- The government wanted to privatize, merge or bring the remaining companies under a holding company.
- After this policy will come into force, the government will completely exit from the companies in non-strategic sectors.
- The timing of the privatization of non-strategic sector companies will be decided on a case-by-case basis.
- Strategic sectors
- The Department of Investment and Public Asset Management had classified 18 sectors as strategic sectors. It includes- fertilisers, telecom, power, banking, defense, and insurance. These sectors have been categorized as the mining & exploration, manufacturing & processing and services.

#### **Public Sector Undertaking (PSU):**

- The state-owned enterprise is called a Public Sector Undertaking (PSU) or a Public Sector Enterprise in India. The PSU is owned by the union Government or one of the state or territorial governments. It can also be owned by both in parts.
- The majority of the stock of the company in a PSU owned by the government. PSUs are of two types- central public sector enterprises (CPSUs, CPSEs) or state level public enterprises (SLPEs). PSUs are administered by the Ministry of Heavy Industries and Public Enterprises.

#### **Number of PSUs in India:**

- Till the year 1951, there were just 5 enterprises in the public sector. Over the time the number has increased. As of March 2019, the number has increased to 348.

#### **23. PM addressed World Economic Forum's Davos Dialogue:**

- The Prime Minister of India, Narendra Modi addressed the Davos Dialogue of World Economic Forum on January 28, 2021 virtually.
- The virtual session will be attended by more than 400 top industry leaders from across the world.
- PM Modi will be delivering his speech on the "Fourth Industrial Revolution- using technology for the good of humanity".
- Prime Minister will also be interacting with the CEOs during the Davos Dialogue.

#### **About Davos Dialogue 2021:**

- This is the 51st annual meeting of the World Economic Forum.
- The World Economic Forum annual meeting in Davos will bring together the top leaders of the world. These leaders will help in shaping the regional, global, and industry agendas for 2021.
- The Davos Dialogue 2021 will also significant in the light of the launch of the "Great Reset Initiative" by the World Economic Forum in the post-COVID-19 world.
- The theme of the annual meeting was announced as 'The Great Reset'

#### **Great Reset Initiative:**

- The Great Reset Initiative is the 50th annual meeting of WEF that was organised in June 2020. The initiative had brought together the high profile political and business leaders who were convened by WEF and Prince of Wales.
- The meeting was organised under the theme of Rebuilding the society and economy in a sustainable way for the post-COVID-19 world.

#### **World Economic Forum (WEF):**

- WEF is an international NGO. It was founded on January 24, 1971. The NGO was established with the objective of improving the condition of the world. It seeks to improve the condition by engaging the academic leaders, business leaders, political leaders and other such leaders of the society.
- The leaders help in shaping the industry and regional agendas. The annual meeting of WEF is held in Davos, Switzerland every year at the end of the month January.

#### **24. India- IEA MoU for Global Energy Security:**

- Recently, India has signed a Framework for strategic partnership agreement with the International Energy Agency (IEA).
- The Memorandum of Understanding (MoU) seeks to strengthen the cooperation in global energy security, stability and sustainability.
- It will also help in extensive exchange of knowledge between the two.
- The MoU is also a stepping stone towards India's full membership to IEA.
- The MoU will also strengthen the mutual trust & cooperation and enhance the global energy security, stability and sustainability.
- The agreement was signed between Power Secretary Sanjiv Nandan Sahai and IEA Executive Director Fatih Birol.
- The IEA Secretariat will implement the cooperative activities in India.
- IEA will also facilitate the discussion between the IEA members and India in order to develop the strategic partnership.

#### **International Energy Agency (IEA):**

- IEA is a Paris-based autonomous intergovernmental organisation that was established in the year 1974 in the aftermath of 1973 oil crisis.
- It was established in the framework of the Organisation for Economic Co-operation and Development (OECD).

#### **Functions of IEA:**

- The IEA was established with the objective of responding to physical disruptions in the supply of oil apart from serving as information source on statistics of the international oil market.
- It now also acts as a policy adviser to its member states.
- IEA also works with non-member states like China, India, and Russia.
- The agency focusses on the "3Es" of effectual energy policy namely the energy security, economic development, and environmental protection.
- It also promotes alternate energy sources such as in renewable energy, multinational energy technology co-operation and rational energy policies.

#### **Why IEA is criticized?**

- IEA is criticized for providing a highly inaccurate forecasts of both fossil fuel and renewable energy. It is also criticized for failing to comply and create the 1.5°C scenario.
- All the members of IEA have signed the Paris Agreement that seeks to limit warming to 1.5°C but, IEA's Sustainable Development Scenario projects for net-zero emissions in 2070 two decades later the 2050 target set by the Paris Agreement.

### 25. Mt Merapi: Indonesia's most Active Volcano:

- The most active volcano of Indonesia, Mt Merapi, recently erupted with a river of lava and searing gas clouds. The lava and clouds flowed for 1,600 meters down its slopes.
- This was the biggest lava flow of the Mount Merapi. The sound of eruption was heard 30 kilometers away.
- The last major eruption of the Merapi was in 2010 that had killed 347 people.

#### Mount Merapi:

- The Mount Merapi is the Fire Mountain in Indonesia and Java.
- It is an active stratovolcano that is located on the border between the Central Java and Yogyakarta provinces, Indonesia.
- It is considered as the most active volcano in Indonesia and is erupted regularly since 1548.
- It is the youngest group of volcanoes in southern Java that is situated at a subduction zone of the Indo-Australian Plate and Sunda Plate.
- At this subduction zone, the Indo-Australian Plate subducts under the Sunda Plate.



Indonesia:

- Indonesia, the archipelago of 270 million people, is situated in the Southeast Asia and Oceania between the Indian and Pacific oceans. It comprises of more than seventeen thousand islands, including Java, Sumatra, Java, Sulawesi, parts of Borneo (Kalimantan) and New Guinea (Papua).
- It is considered as the world's largest island country and the 14th-largest country with respect to area. The country is also the 4th-most populous country in the world. It is also the most populous Muslim-majority country.
- The most populous island of Indonesia is Java which is also the most populous island in the world. The country is prone to earthquakes and volcanic activity as it sits along the "Pacific Ring of Fire".

#### **Pacific Ring of Fire:**

The region sits around rim of the Pacific Ocean which is prone to volcanic eruptions and earthquakes. It is a horseshoe-shaped belt which is about 40,000 km in length. It includes the Pacific coasts of South America, North America and Kamchatka apart from the western Pacific Ocean areas.

#### **26. UN report on Ageing Dams:**

- United Nations have released its report titled 'Ageing water infrastructure: An emerging global risk' on the ageing of the dams in India.
- The report was compiled by United Nations University's Canadian-based Institute for Water, Environment and Health. The analysis was done on the dam decommissioning or ageing from the USA, Canada, France, Japan, India, Zambia and Zimbabwe.

#### **Findings of the report:**

- The report highlights that, some thousand large dams in India will be around 50 years old in 2025.
- It warns that such aging structures across the world pose a growing threat.
- The report also notes that, by 2050 most people on Earth will live downstream of the thousands of dams that were built in the 20th century.
- As per the report, 58700 large dams worldwide were constructed in between 1930 and 1970. Those dams have the design life of 50 to 100 years.
- Report also highlights that, the world will witness another large dam-building revolution like it was in mid-20th century. But these dams will then be showing their age.
- It highlights, 32,716 large dams which accounts for 55 percent of the world's total are found in four Asian countries namely China, India, Japan, and South Korea.
- Approximately 3.5 million people are at risk if India's Mullaperiyar dam in Kerala will fail. The dam was built over 100 years ago. It is constructed with concrete 'surkhi' which is a combination of limestone and burnt brick powder.

#### **What are the ageing signs?**

##### Some of the signs of ageing include:

1. Increase in the cases of dam failures,
2. Increasing costs of dam repair and maintenance,
3. Increase in the reservoir sedimentation, and
4. Loss of functionality and effectiveness of the dams "strongly interconnected" manifestations.

#### **Mullaperiyaru Dam:**

- It is a masonry gravity dam on the Periyar River in Kerala. It is located 881 m above mean sea level. It stands on the Cardamom Hills of the Western Ghats in Idukki District of Kerala. The dam was constructed between 1887 and 1895 by John Pennycuik.

- The Periyar National Park is also located around the dam's reservoir. It is built at the confluence of Mullayar and Periyar rivers. The dam is located on the river Periyar in Kerala but is operated and maintained by Tamil Nadu.

## **27. National Non-Communicable Disease Monitoring Survey (NNMS):**

- The National Non-Communicable Disease Monitoring Survey (NNMS) was recently released in India by the Ministry of health.
- The survey was conducted for the period of 2017-18. This is the first of its kind of a comprehensive survey on NCDs. It covers the age groups of 15-69 years, males and females from the urban and rural areas.

### **Findings of the NNMS report:**

- The report highlights that, two in five adults have three or more risk factors for non-communicable diseases (NCD) in India.
- Further, the status of health system to respond to the disease burden is underscored.
- It also states that more than one in every four adults and 6.2% adolescents were overweight or obese.
- Three out of ten adults had raised blood pressure.
- 3% had raised blood glucose.
- It also shows that more than two in five adults and one in four adolescents were doing insufficient physical activity. The average daily intake of salt was 8 gms for these children.
- One in every three adults and more than one-fourth proportion of men were involved in tobacco consumption and consumed alcohol in past 12 months.

### **About NNMS:**

- It is the largest comprehensive national Survey on risk factors and health systems preparedness of non-communicable disease (NCD). It also provides framework on the use of telemedicine for cancer, heart diseases, diabetes, and stroke.
- The survey was conducted with the purpose of collecting the reliable baseline data on key indicators such as select NCDs, risk factors and health systems response related to the National NCD monitoring framework and its Action Plan.
- The survey also highlights the need of improving the comprehensive multi-sectoral approaches that focussed on both prevention and management of NCDs.

### **World Health Organisation (WHO) survey on NCDs:**

- The WHO survey found that 45% of NCDs are caused due to physical inactivity.

### **Government Measures to tackle NCDs:**

- The government launched the Fit India Movement that gained momentum to raise awareness. More gyms and exercise centers will also help in reducing the need for hospital infrastructure.
- A Framework for Telemedicine use in Management of Cancer, Diabetes, Cardiovascular Disease and Stroke in India was also released. Telemedicine comprising of the tele-consultation, tele-monitoring and tele-triage will help in building the continuum of care model for major NCDs.

## **28. Finance Ministry releases grants to Rural Local Bodies:**

- The Department of Expenditure of Ministry of Finance has recently released Rs 12,351 crore to 18 States in order to provide grants to the Rural Local Bodies

### **Highlights:**

- The amount is the 2nd instalment of basic grants released in the current financial year.
- The grant has been released after the states provided the Utilisation Certificate for the first instalment.

- The States will now transfer the grants to the Rural Local Bodies within 10 working days of receipt from the Central Government.
- Till date, Grant of Rs 45,738 crore has been released to Rural Local bodies in 2020-21.
- Why this grant has been released?
- The grant was released on the recommendation of the Ministry of Panchayati Raj and in accordance with the recommendation of the 15th Finance Commission.
- It will be used to create the community assets and improve the financial viability of the Rural Local Bodies.
- It will further enable the pooling of resources across blocks and villages in the states.
- Local bodies (LBs)
- LBs are institutions of the local self-governance. It looks after the administration of an area or small community like villages, towns, or cities. The Local bodies in India are classified into two categories:
  1. Rural Local bodies (RLBs)- RLBs are constituted for local planning, development and administration in the rural areas. These are called Panchayats.
  2. Urban Local Bodies (ULBs)- ULBs are constituted for local planning, development and administration in the urban areas. These are also called as Municipalities.

#### **Grants to Rural Local Bodies:**

- As per the recommendations of the 15th Finance Commission, there are two types of grants for the Rural Local Bodies:
- Basic Grants– Such grants can be used by the Rural local bodies for the location-specific needs. However, such grants cannot be used for the salary or any other establishment expenditure.
- Tied Grants– Such grants are used by the Rural Local Bodies to maintain the Open Defecation Free Status and sanitation, supply of clean drinking water, rainwater harvesting and water cycling.

#### **29. MoSPI report on Cost Overruns of Infrastructure Projects:**

- The Ministry of Statistics and Programme Implementation (MoSPI) recently released its report on Cost Overruns of the Infrastructure Projects. The ministry monitored the infrastructure projects worth Rs 150 crore.

#### **Key Findings of report:**

- As per the report, around 450 infrastructure projects have been hit by the cost overruns. Each of the project is worth Rs 150 crore or more.
- The cost overrun amount stands at Rs 4.28 lakh crore.
- The figure says, out of 1,687 projects, 450 reported cost overrun while 558 were delayed.
- Further, the expenditure on these projects till December 2020 was Rs 12,17,692.37 crore. This amounts to 47.33 per cent of the anticipated cost of the projects.
- The report however highlights that the number of delayed projects decreased to 408 in case the delay is calculated on the basis of latest schedule of completion.
- The year of commissioning or the tentative gestation period has not been reported for 923 projects.

#### **Why there are cost overruns?**

- The project implementing agencies cited several reasons for time overruns. The reasons include- delay in land acquisition, delay in obtaining forest and environment clearances and lack of infrastructure support and linkages. Further, the report highlights that these projects were delayed because of state-wise lockdown due to COVID-19.



- However, the report cited that the Project agencies are not reporting their revised cost estimates and commissioning schedules for many projects. So, time and cost overrun figures are under-reported.

#### **What is Cost Overrun?**

- Cost overrun is also called as cost increase or budget overrun. It simply means the unexpected incurred costs. Such costs exceed the budgeted amounts because of underestimation of the actual cost during budgeting.
- The Cost overrun is different from the cost escalation. Cost escalation is an anticipated growth in a budgeted cost because of factors like inflation.

#### **What are Off-Budget Borrowings?**

- The Government of India is all set to present the Union Budget 2021 on February 1, 2021. This year, the focus of the budget will be on off-budget borrowings so as to reduce the Fiscal Deficit.

#### **What are off-budget borrowings?**

- The loans that are taken by any public institution and not by the Centre directly are called as the "Off-Budget Borrowings". The public institution borrows on the directions of the central government.
- These borrowings are used to fulfil the expenditure needs of the government.
- Under such borrowing norms, Centre use to finance its expenditures while keeping the debt off the books. Thus, the debt is not counted while calculating the fiscal deficit.
- The liability of the loan is not formally on the Centre and is not included in the national fiscal deficit. Thus, it helps in keeping the fiscal deficit of the country within acceptable limits.

#### **How the borrowings are raised?**

- Government can raise the borrowings by asking the implementing agency to raise the required funds from the market by loans or by issuing bonds.
- The borrowings can also be raised through the Public Sector Banks (PSBs) where the PSBs can be asked to fund off-budget expenses. For example, loans from PSBs were utilized for meeting the shortfall in releasing the fertilizer subsidy.

#### **What is the importance of off-budget borrowings?**

- The fiscal deficit in the Union Budget is the most wanted details. Fiscal deficit is the gap between what the central government spends and what it earns. It helps in understanding the financial health of the government. This figure is highly watched by the rating agencies across the world. As a result, the government always wants to restrict the fiscal deficit at certain number. This can be restricted by "off-budget borrowings".
- There are various sources of the off-budget borrowings. Thus, it becomes difficult to calculate the true debt.

### **30. Govt approves hike in MSP for Copra:**

- The Cabinet Committee on Economic Affairs (CCEA) chaired by the Prime Minister Narendra Modi has approved the Minimum Support Prices (MSPs) for milling copra and ball copra.

#### **Key Facts:**

- The government has increased the MSP of copra by ₹375 from 2020.
- Thus, the Copra would cost ₹10,335 per quintal and contributes in boosting the farmers' income.
- This hike in MSP for copra will be impacting the farmers of 12 coastal states.
- MSP of both milling and ball copra have been increased.
- Cost of production for both the variants of copra is Rs. 6,800. The government will be giving 52% and 55% more than the cost of production.
- The increase in the MSP was in line with the recommendations of the Swaminathan.

**Minimum support price (MSP):**

- MSP is an agricultural product price which is set by the Government of India. On this price, the government purchases the commodities directly from the farmer. The MSP is not enforceable by law.
- MSP seeks to safeguard the farmer interest by providing them a minimum profit for their harvest in case the open market has lesser price than the actual cost incurred. The price of the 23 commodities is set by the government twice a year.
- The MSP is fixed based on the recommendations of the **Commission for Agricultural Costs and Prices (CACP)**. CACP sets the price since 2009 on the basis of cost of production, demand & supply, price fluctuations, market price trends, international market prices and agricultural wage rate.

**List of Commodities for which MSP is set:**

- A total of 23 commodities are covered by the MSP. They are: Among Cereals– Paddy, Maize, Wheat, Barley, Sorghum, Pearl millet and Ragi.

**31. UN Global Climate Survey- Key Findings:**

- The United Nations has released its biggest ever opinion poll on climate change that is “UN Global Climate Survey”. The United Nations Development Programme (UNDP) conducted the “Peoples’ Climate Vote” for 1.2 million people from 50 countries to prepare the report.

**Key Findings of the survey:**

- In the survey, the UN finds that two-thirds of people think it is a “global emergency”.
- The survey highlights that the people across the world support the climate action. They also give politicians a clear mandate to take the major action so as to find solutions.
- As per the survey, young people showed the greatest concern. 69% of people aged 14-18 said there is a climate emergency while 58% of those above 60 agreed with it. Thus, there is no generational divide on the climate concerns.
- People strongly supported the renewable energy in the countries where fossil fuels are a major source of emissions. For Instance, US 65% in favour of renewable energy in US, 76% in Australia and 51% in Russia.
- People also supported the conservation of trees in the countries where the destruction of forests is a big cause of emissions. This gets 60% support in Brazil while 57% in Indonesia.

**United Nations Development Programme (UNDP):**

- UNDP is the global development network of United Nations (UN) headquartered in New York City.
- The organisation promotes the technical and investment cooperation among nations. It is engaged in giving the expert advice, training and grants support to the developing countries. It works with nations on their own solutions to meet the global and national development challenges.
- UNDP help the nations only if different nations request for the help. The UNDP is funded by voluntary contributions from UN member states, completely.
- UNDP is operational in 177 countries. It also helps the countries to achieve the Sustainable Development Goals (SDGs). It also focuses on poverty reduction, Social development, democratic governance, HIV/AIDS, energy & environment and crisis prevention & recovery.

**32. Economic Survey:**

- The economic survey for 2020-2021 will be tabled in the parliament on January 29, 2021 days before the presentation of Union Budget on February 1, 2021.

**Key Facts:**

- The Economic survey will be released with the focus on the impact of lockdown and COVID -19 on the economy.
- It is expected that, the survey will provide an overview of how much did the COVID 19 pandemic affect the economy.
- It will also provide a road map to revive the Indian economy.
- The road map for the 5 trillion economy is also expected to be laid down.

#### **What is economic survey?**

- The Economic Survey is a flagship annual document that reviews the development in the Indian economy.
- The survey reviews the development of economy over the past fiscal year and presents a holistic preview of the Budget.
- It is released by the Department of Economic Affairs of the Ministry of Finance.
- The survey is prepared by the country's Chief Economic Advisor and tabled in both houses of Parliament one day before the budget presentation.
- The document is also discussed by the Chief Economic Advisor (CEA) and his team during a press conference. Presently, Krishnamurthy Subramanian is the CEA of India.

#### **Significance of the Economic Survey?**

- The document helps in reviewing the development of the Indian economy over the past year. It also summarises the performance on major development programs besides highlighting the policy initiatives of the central government.
- The economic survey also projects the India's GDP growth for the next fiscal and suggests measures to boost the growth. For the year 2020, the Economic Survey had projected growth of Indian economy by 6 to 6.5 per cent and had suggested new ideas for boosting the manufacturing like 'assemble in India for the world' which in turn created jobs. However, the growth was disrupted because of Covid-19 outbreak.

### **33. Alpha Global Union:**

- Recently, the Google workers from all around the globe have formed an international union called the "Alpha Global". The new union has been named after Google's parent company Alphabet. The union was formed in coordination with UNI Global Union.

#### **About Alpha Global:**

- The Alpha Global union comprises of 13 different unions.
- These 13 unions represent the workers in 10 countries like United States, Switzerland, Germany, Sweden, and the United Kingdom.
- The grouping has been formed with the aim to "build a more ethical and accountable company.
- It also aims to bring together the direct Alphabet employees besides the temporary, vendor, and contract workers.
- For now, Alpha Global will not have a legally binding agreement with the company.

#### **What is the need of Global Union?**

- The problems created by Alphabet are not limited to any one country. It is problematic to all of them. These problems can easily be addressed on a global level. Formation of such global Unions will help in finding solutions.

#### **Alphabet Workers Union (AMU):**

- The alphabet workers union was launched by the United States and Canada. It is a minority union. It initially had over 200 workers affiliated with the Communications Workers of America. Within a week, AWU grew to over 700 members.

#### **UNI Global Union:**

- It was earlier known as the Union Network International (UNI). It is a global union federation for skills and services. It helps in gathering the national and regional trade unions. It is based in Nyon, Switzerland. This union federation represents more than 20 million workers from over 150 different countries in the skills and services sectors.
- The union represents the Cleaning & Security, Graphical & Packaging, Hair & Beauty, Information, Communication, Technology and Services Industry (ICTS). It also includes the Media, post and logistics, Entertainment and Arts, Private Care and Social Insurance, Women and Youth.

### 34. India's New Central Bank Digital Currency:

- The Reserve Bank of India (RBI) is in process of examining if India needs a new central bank digital currency (CBDC) and is exploring ways to operationalise the digital currency.

#### Highlights:

- The statement from the RBI has come in the light of gaining popularity of the private digital currencies, virtual currencies and cryptocurrencies.
- These currencies are not operational in India because regulators and governments have always been sceptical about the risks associated with these currencies.
- Thus, RBI is exploring the possibility if there is a need for a digital version of fiat currency.

#### Central Bank Digital Currency (CBDC):

- It is a legal tender and a central bank liability in digital form. The digital currency is denominated in a sovereign currency. It also appears on the balance sheet of the central bank. This is an electronic version of currency which can be converted or exchanged with the similar denominated cash and the traditional central bank deposits.
- Recently, the Reserve Bank of India in the RBI bulletin of the February cited that central banks have conducted the survey by the Bank for International Settlements. During the survey, it was found that around 80 percent of the 66 responding central banks have started projects to explore the use of CBDC.

#### Why India did not use cryptocurrencies?

- India has always been skeptical of the privately owned cryptocurrencies. The RBI Governor Shaktikanta Das himself did not support the cryptocurrencies. He cited that; the sovereign can be the only issuer of currency in India. Later in December 2019, said that it is early to talk about a central bank-issued digital currency because of the technological handicaps.
- Further, the central government has also been against the privately issued cryptocurrencies. The government has also introduced the bill in Parliament that seeks to ban the privately held digital currencies completely. However, the bill is lying dormant.

#### Supreme Court's stand:

- Recently, In March 2020, Supreme Court of India also upturned the RBI's ban on banks dealing with crypto exchanges. Thus, the decision has allowed crypto exchanges to restart their operations India.

#### Cryptocurrency:

- It is a digital asset that work as a medium of exchange. In the system, individual coin ownership records are stored in a ledger in the form of computerized database. To secure the transaction, strong cryptography is used. The currency does not exist in the physical form or paper money form. Bitcoin is the first decentralized cryptocurrency that was released in 2009.

### 35. NASA finds the 'Lost Galaxy':

- Recently, the Hubble Space Telescope of NASA captured the images of the NGC 4535 which is also known as the "Lost Galaxy". The image highlights that the young and hot stars that hang

out are the bright blue spots. On the other hand, older and cooler stars are highlighted by the bright shades nearer to the center.

- Astronomer Leland S. Copeland fixed his telescope lens on a distant galaxy in the Virgo constellation first in 1950s. He then witnessed an eerie spiral that was shrouded in dust. He named the spiral as “The Lost Galaxy”.

Page | 29 **About the Lost Galaxy:**

- It is also known as NGC 4535.
- The galaxy is one of the largest of some 2,000 galaxies in the Virgo Cluster.
- The galaxy is located about 50 million light-years from Earth.
- It is a barred spiral galaxy that means a vast swirl of stars having a distinct bar structure at its center.
- The galaxy gives the yellowish glow at its central bulge. The yellowish glow suggests the way to the oldest and coldest retinue of stars in the Lost Galaxy.
- The Galaxy was discovered in 1785 by William Herschel who found the planet Uranus.
- The galaxy was termed as the Lost Galaxy by Copeland because then he had a glimpse of NGC 4535 using his small yard lenses.

**Spiral galaxy:**

- The concept of the Spiral Galaxy was first described by Edwin Hubble in 1936 The Spiral galaxy is the most common type of galaxy in universe. It has a spiral shape because of long arm full of stars. The galaxy extends from the center into the galactic disc.
- The galaxy comprises of a flat, rotating disk containing the stars, gas and dust, and a central concentration of stars called as bulge. It is surrounded by a much fainter halo of stars.

**36. World Economic Outlook, 2021:**

- Recently, the International Monetary Fund (IMF) has released the “World Economic Outlook, 2021” report.

**Key Findings of report:**

- The report highlights that, India will witness the strongest growth among the main economies.
- India’s economy will expand by 11.5 percent in 2021 as opposed to the 8.8 percent growth that was predicted in October 2020.
- However, for the year 2022, the growth has been predicted to be 6.8 percent.
- The report further highlights that the global growth for 2021 will be 5.5 percent as compared to 5.2 percent October 2020.
- The economic growth of the world is projected at 4.2 percent in 2022.
- It further estimated that there will be 3.5 percent contraction in global growth in 2020.
- As per the report, U.S. will experience the growth to 5.1 percent in 2021 from 3.1 percent in 2020.
- Report projects that, there will be slight variation in China’s growth in 2021. The growth will lower down to 8.1 percent from 8.2 percent.

**Concerns raised by report:**

- The report however highlighted that access to medical interventions, exposure to cross-country effectiveness of policy support, exposure to cross-country spill overs, and structural characteristics are entering into crisis. This might result into the variations in the strength of the recovery across countries.

**37. International Monetary Fund (IMF):**

- IMF is an international financial institution. It is headquartered in Washington, D.C. The institution comprises of 190 countries that works together to boost the global monetary

cooperation, facilitate international trade, secure financial stability, promote high employment and sustainable economic growth.

- It depends on the World Bank for its resources. It was established in the year 1944 at the Bretton Woods Conference. However, it formally came into existence in 1945 when there were 29 member countries.

#### **World Economic Outlook (WEO):**

- This report is prepared by the International Monetary Fund. It analyses key parts of the IMF's surveillance of economic developments and policies. The report is usually prepared twice a year.

#### **38. Global Climate Risk Index 2021:**

- The Global Climate Risk Index was recently released by Germanwatch-a NGO based in Bonn, Germany. In the index, India has been ranked at seventh position among the countries that are most effected by climate change in 2019.

#### **Key Findings of the report:**

- As per the report, monsoon continued for a month longer than normal in India in the year 2019.
- In the period of June to September 2019, 110% of the long-period average was recorded.
- Heavy rain caused the severe flooding in India that resulted into death of 1,800 across 14 states. The flood also caused the displacement of 1.8 million people.
- As per the report, eight tropical cyclones came in India. Six of them intensified to be very severe.
- Report further highlights that, 'Extremely severe' cyclone Fani affected 28 million people and killed 90 people in India and Bangladesh.
- Around 4,75,000 people have lost their lives as a direct result of more than 11,000 extreme weather events globally in between the 2000 to 2019.
- For the period of 2000 to 2014, the economic losses in terms of purchasing power parity accounts to around US \$2.56 trillion because of extreme weather conditions.
- The report also highlights that, around 11.8 million people were affected by intense monsoon globally that in turn resulted into economic damage of US \$10 billion.

#### **The Global Climate Risk Index (CRI):**

- The Global Climate Risk Index is annually published by the Germanwatch. The index analyses the impact of extreme climate events on the country and the economy. It analyses how countries have been affected by the impacts of weather-related loss events. The index is prepared on the basis of data from Munich Re's NatCatSERVICE.

#### **Germanwatch:**

It is a non-profit non-governmental organization that was founded in 1991. The NGO is based in Bonn, Germany. It was established with the objective of influencing the public policy on trade and environment.

#### **39. UN report: World Economy Expected to regain 2020 losses:**

- The United Nations World Economic Situation and Prospects report has said that, the world economy is expected to recover slightly by 4.7 percent in the year 2021. The economy had declined by 4.3 percent in 2020 because of COVID-19 pandemic. The report highlights that, this loss in 2020 was more than double the impact of the global financial crisis in 2009.

#### **Findings of the report:**

- The report highlights that the developed economies were shrank by 5.6 percent in 2020. But in 2021, they are projected to recover by 4 percent.
- It further highlights that, the developing countries were contracted by 2.5 percent and it will grow by 5.7 percent in 2021.
- As per the report, 131 million more people were pushed into poverty in the year 2020.

- World Economic Situation and Prospects (WESP) report
- The report is released jointly by the United Nations Conference on Trade and Development (UNCTAD), five United Nations Regional Economic Commissions and United Nations Department of Economic and Social Affairs (UN DESA).

#### **The United Nations Conference on Trade and Development (UNCTAD):**

- The UNCTAD was established in the year 1964 by the United Nations General Assembly as a permanent intergovernmental body. It has been headquartered in Geneva.
- The body is the part of the United Nations Secretariat that deals with trade, investment, and other development issues. UNCTAD works with the objective of maximizing the trade, investment and development opportunities of developing countries. It also seeks to assist them in their efforts to integrate into the world economy equally.
- The organisation submits its reports to the UN General Assembly and United Nations Economic and Social Council. UNCTAD works with the objective of formulating the policies related to all aspects of development such as aid, trade, finance, transport, and technology. The organisation held its meeting once in four years.

#### **40. Bharat Parv 2021:**

- The annual event Bharat Parv that celebrates the spirit of India is being organised virtually from January 26, 2021 till January 31, 2021. Bharat Parv is being organised with the overall theme focusing on the Aatmanirbhar Bharat and Ek Bharat Shrestha Bharat.
- Under the virtual event, themed pavilions of States and Union Territories will showcase their tourism destinations, handicrafts, cuisine and other features.
- It was inaugurated by the Lok Sabha Speaker Om Birla.

#### **About Bharat Parv:**

- The Bharat Parv is organized by the Ministry of Tourism every year.
- It was started in the year 2016.
- The event is organised in front of the ramparts of the Red Fort on the occasion of Republic Day Celebrations.
- The events are organised with the aim of generating patriotic fervour. It also showcases the rich and varied cultural of India.
- The handicrafts, music, dance, handlooms, paintings, literary material and other features from across the country are showcased by Central Ministries and other organizations such as Ministry of Culture, Ministry of Ayush, media units of I&B Ministry, Ministry of Railways, Ministry of Consumer Affairs, Archaeological Survey of India, Lalit Kala Academy, National Museum, National Gallery of Modern Arts, Khadi & Village Industries Commission.

#### **About Bharat Parv-2021:**

- In the virtual event of Bharat Parv, glimpses of Republic Day Parade and recorded performances of Armed forces music bands will also be available. In the event, Central Institutes of Hotel Management and the Indian Culinary Institute will also display their culinary delight and recipe through videos. The online event will also showcase the videos, films, images, brochures and other information.
- Prasar Bharati has set up its virtual stall that will showcase its efforts in promoting the Ek Bharat-Shrestha Bharat. While, the Ministry of Information and Broadcasting, Bureau of Outreach and Communication will focus on the 150th Birth Anniversary of Mahatma Gandhi. It will exhibit the photos, videos, animation related to Swachh Bharat, Sashakt Bharat, Bapu Ke Sapno Ka Bharat'. The Publications Division of Prasar Bharti will participate in the first Virtual event on the theme of विरासत शब्दों की, भाव भारतीयता का.

#### 41. National Mission for Edible Oil (NMEO):

- The Ministry of Agriculture has proposed for the National Mission for Edible Oil in order to increase the domestic availability and reduce the import dependency. The mission has been proposed for next five years in the span of 2020-21 to 2024-25.
- The NMEO comprises of the three Sub-Missions into it with the objective of increasing the production of oilseeds and edible oils from the three sources:
  1. Primary Sources- it includes the Annual Crops, Plantation Crops and Edible TBOs
  2. Secondary Sources- it includes the Rice bran oil and Cotton seed oil.
  3. Consumer Awareness to maintain the edible oil consumption constant at 19.00 kg per person per annum.

#### Aim of the Mission:

- The mission has been proposed with the aim of increasing the production from 30.88 to 47.80 million tonnes of oilseeds. It seeks to produce 7.00 to 11.00 million tonnes of edible oils from Primary Sources by 2024-25. Also, the edible oils from secondary sources will be doubled from existing 3.50 to 7.00 million tonnes.

#### Challenges:

- In India, the major challenges associated with the oilseed production are:
  1. Rain-fed conditions in 70% area.
  2. High seed cost for Groundnut and Soybean.
  3. Small holding capacity with limited resources.
  4. Low seed replacement rate and
  5. Low productivity.

#### Oil consumption in India:

- In India, there is a requirement of 25 million tonnes of edible oils so as to meet the requirement of current consumption level of 19 kg per person annually. Out of these, 10.50 million tonnes are produced domestically from primary sources like Soybean, Groundnut, Rapeseed & Mustard, Niger, Sunflower, & Safflower and the secondary sources like Coconut, Oil palm, Rice Bran, Cotton seeds & Tree Borne Oilseeds.
- The 60%, of the requirement is met by the import. Though, the production of oilseeds is increasing rapidly but there exists a gap between the demand and supply of oilseeds. This is increased the dependency on imports.

#### 42. Climate Adaptation Summit 2021:

- The Prime Minister, Narendra Modi, in his addressed to the Climate Adaptation Summit 2021 said that by the year 2030, India will target 450 gigawatt of renewable energy capacity. He also said that India is promoting the LED lights and is also saving 38 million tons of carbon dioxide emissions per year. He also highlighted that, by 2030 India will restore 26 million hectares of degraded land.

#### About Climate Adaptation Summit 2021:

- The climate adaptation summit was hosted by the Netherlands government on January 25, 2021. The summit was held online and it is being called "CAS Online".
- The summit was built on the advances of the UN Climate Action Summit.
- The summit also showcased the pioneering solutions of the climate emergency and sustaining momentum through UNFCCC's COP26.
- CAS will help in delivering the action and inspire the change to help the societies build back better.
- The organizers of the summit also called for major new funding for agricultural research.



- They also expanded the access to farmer advisory services, risk management and financial services.
- Aim of CAS
- The summit was organized with the aim of realizing the transitions which is required for a climate-resilient world.
- The summit focuses on securing the new investments in order to ensure that millions of smallholder farmers could adapt to the impact of climate on food production.

#### **India's Commitment:**

- India has committed to provide the clean cooking fuel to 80 million rural households during the summit. It also committed to connect the 64 million households with the piped water supply.

#### **COP 26:**

- The 2021 **United Nations Climate Change Conference** is also known as **COP26**. It is the 26th United Nations Climate Change conference. It will be held in Glasgow, Scotland from November 1 to 12, 2021. The United Kingdom will chair the summit. The conference will incorporate the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), third meeting of the parties to the Paris Agreement (CMA3) and the 16th meeting of the parties to the Kyoto Protocol (CMP16).

#### **43. Green Tax:**

- The Ministry of road transport has decided to impose the additional taxes on old vehicles that are no more fit on road. This additional tax is being called as the "Green Tax".
- The decision was taken to curb pollution. It will also motivate people to switch to environment-friendly alternatives to the vehicles.

#### **Highlights:**

- The Green tax will reduce the pollution level.
- It will also make the polluter to pay for creating pollution.
- Revenue collected from the green tax will be kept in a separate account. The amount will be used for tackling the problem of pollution.
- The states have been asked to set up state-of-art facilities to monitor the emission.

#### **How the vehicles will be taxed?**

- Under the Green Tax norms, the transport vehicles older than eight years will be charged with the green tax at the time of renewal of fitness certificate. They will be charged at the rate of 10 to 25% of road tax.
- While, the Public transport vehicles like city buses will be paying lower Green Tax.
- However, the vehicles used in farming like tractor and harvester will be exempted from the tax.

#### **What is Green tax?**

- Green tax is also called as the pollution tax or environmental tax. The tax is an excise duty on goods that results into the environmental pollutants.
- An economic theory says, that if taxes will be charged on emissions causing pollution will lower the environmental impairment in a cost-effective manner. The tax will encourage the behavioural changes in households and firms that are required to reduce the pollution. The tax mainly aims to ensure that polluters are duly punished for their pollution creating activities.

#### **Green Tax in India:**

- This tax in India is relatively new trend. However, the RFID tags are being given and CCTV cameras have been deployed at border entry points. With this, the commercial vehicles that enter the city are monitored for emissions. In the cities like Delhi, Environmental Compensation Charge (EEC) is imposed on pollutants depending upon the vehicle's size.

**44. DRDO successfully test fires Akash-NG missile:**

- The Defence Research and Development Organisation (DRDO) has successfully test-fired the surface-to-air Akash-NG (New Generation) Missile off the Odisha coast. The missile can intercept the aerial threats. The missile has been launched in order to boost the Indian Air Force (IAF) defence system.
- Akash-NG is a medium-range mobile surface-to-air missile defense system. It has been developed by the Defence Research and Development Organisation (DRDO).
- The missile has been produced jointly by the Bharat Dynamics Limited (BDL) that developed the Missile Systems and the Bharat Electronics (BEL), Tata Power Strategic Engineering Division & Larsen & Toubro that developed the radars, control centers, launcher systems.
- The missile has the capability of targeting the aircraft up to 50-60 km away at altitudes of 18,000 m.
- The missile can neutralize the aerial targets such as the fighter jets, cruise missiles and air-to-surface missiles. Missile is in operation with the Indian Army and the Indian Air Force.
- It utilizes an integrated ramjet-rocket propulsion system. This propulsion system provides sustained thrust for the missile after initial rocket motor burnout until its interception.
- In December 2020, the Cabinet Committee on Security chaired by Prime Minister Narendra Modi cleared the exports of Akash Missile defence system. Following that, the countries including the Philippines, Malaysia, Thailand, Belarus, UAE and Vietnam have shown their interest in Akash missile system.

**Characteristic of Akash-NG:**

- The Akash battery comprises of a single Rajendra 3D passive electronically scanned array radar or Simple the Rajendra Radar and four launchers with three missiles each. Each battery can track up to 64 targets and attack up to 12.
- It comprises of a 60 Kg high-explosive, pre-fragmented warhead. The missile is capable of protecting the moving convoy of vehicles. It provides air defence missile coverage for the area of 2,000 km<sup>2</sup>.

**Passive Electronically Scanned Array (PESA):**

- It is also called as the passive phased array. PESA is an antenna in which beam of radio waves can be electronically directed to point in different directions in which all the antenna elements are connected with the single transmitter. PESA is highly used in radars.

**45. AMPHEX 21: A Tri-Services Exercise:**

- The Indian Armed forces conducted a large-scale tri-service joint amphibious exercise AMPHEX – 21 in Andaman and Nicobar group of islands in between 21 to 25 January 2021.
- In this exercise, the Naval ships, amphibious troops of the Army and different types of aircraft from the Air force participated.
- The exercise was conducted with the aim of validating India's capabilities to safeguard the territorial integrity of the island territories.
- The exercise was also aimed at enhancing the operational synergy and joint warfighting capabilities between the three Services.
- In the exercise there were a series of engagements ranging from the multi-faceted maritime operations by synergised employment of amphibious assault ships, execution of maritime airstrikes, surveillance platforms and complex manoeuvres at sea.
- The exercise also involved the Airborne insertion of Marine Commandos of Navy and Special Forces of the Army, naval gunfire support, the amphibious landing of forces and follow-on operations.

- Exercise KAVACH for the defence of Andaman & Nicobar Islands was also the part of AMPHEX – 21.

#### **Exercise KAVACH:**

- It is also a tri service Military exercise. The exercise was conducted along with the AMHEX-21 in January 2021. The exercise was conducted under the aegis of the Andaman and Nicobar Command (ANC) which happens to be the only Joint Forces Command of India.
- The exercise was participated by the Indian Army, Indian Navy, Indian Air force and the Indian Coast Guard.
- It involves the synergised application of maritime surveillance assets, air and maritime strikes besides the air defence, submarine and landing operations. This exercise was conducted with the aim of set up the joint war-fighting capabilities and the Standard Operating Procedures (SOPs) so as to boost the operational synergy between all the services.

#### **Significance of Such Exercises:**

- Such exercises help in keeping the check on the preparedness of all the agencies to deal with any threat and enhance the coastal security. These exercises become more significant in the light of 1993 Bombay Bombings and the 2008 Mumbai Attacks that took place because of unsecure maritime border.

#### **46. SpaceX Launched 143 Satellites on Single Rocket:**

- Elon Musk's SpaceX has created a new world record. It has launched 143 satellites on a single rocket called Falcon 9 rocket.
- With the new record, SpaceX has broken the record of Indian Space Research Organization (ISRO) that has deployed 104 satellites on a single launch in February 2017. For the purpose of delivering these satellites to a polar sun-synchronous orbit, Space X charges a price of 15,000 dollars per kilogram for each satellite.

#### **Which satellites were launched?**

- The 143 satellites that were launched include the commercial and government satellites namely the CubeSats, microsats and 10 Starlink satellites.
- A spacecraft of Nasa was also launched.

#### **Aim of the launch:**

- SpaceX has launched these satellites with the aim of providing the near-global broadband internet coverage all across the world by the end of 2021.

#### **Space Exploration Technologies Corp (SpaceX):**

- It is an American aerospace manufacturer and space transportation services company. It has been headquartered in Hawthorne, California. The agency was founded in the year 2002 by Elon Musk.
- The agency was established with the goal to reduce the space transportation costs in order to enable the colonization of Mars. It is the first privately funded liquid-propellant rocket of the world that has reached to the orbit by the launch of Falcon 1 in 2008.

#### **Falcon 9 rocket:**

- This rocket is a partially reusable two-stage-to-orbit medium-lift launch vehicle. It has been designed and manufactured by SpaceX. The launcher uses cryogenic liquid oxygen and rocket-grade kerosene (RP-1) as propellants. The name has been derived from the fictional Star Wars spacecraft, the Millennium Falcon.

#### **Sun-synchronous orbit (SSO):**

- It is also called as the heliosynchronous orbit. This is a polar orbit around a planet. In the orbit, satellite passes over any given point of the planet's surface at the same local mean solar time.

**47. Oxfam Report: The Inequality Virus:**

- The Oxfam has recently published its report titled “The Inequality Virus”. In its report, the Oxfam finds that the COVID-19 pandemic has deepened the existing inequalities in India and across the world.

**Key findings of the Report:**

- As per the report, the pandemic has stalled the economy that in turn has forced millions of poor Indians out of job.
- However, the richest billionaires in India have increased their wealth by 35 percent during the lockdown. Thus, India has been ranked at sixth in the world following the US, China, Germany, Russia and France.
- The report calculates that, India’s top 100 billionaires have increased their fortunes by Rs 12.97 trillion. Such amount is enough to give around 95000 Rupees for each one of the 138 million poorest Indians.
- Report further highlights that, 170,000 people lost their jobs every hour in the April 2020.
- India’s large informal workforce accounts for 75 per cent of the 122 million jobs that were lost. Informal workers had lesser opportunities to work from home.

**Impact on Education:**

- As education made a shift to online platforms, India witnessed the digital divide that worsened the inequalities. As per the report, 3 per cent of the poorest 20 per cent of Indian households had access to a computer while 9 per cent had access to the internet.

**Impact on Education:**

- The report finds that, India does not report case data desegregated by socio-economic or social categories. Thus, distribution of disease among the communities is difficult to find. But India has become the world’s second-largest country with respect to the number of COVID-19 positive cases.

**Impact on Poor communities:**

- Covid-19 disease also impacted the poor communities who were living in cramped areas. This is because of poor sanitation. As per the report, only 6 per cent of the poorest 20 per cent households had access to non-shared sources of improved sanitation as opposed to 93 per cent of the top 20 per cent households in India.

**Impact on gender disparity:**

- As per the report, unemployment rate among women have risen to 18 percent from 15 per cent before COVID-19. This could result in a loss to India’s GDP by 8 per cent or \$218 billion.

**48. UN: China overtakes US for Foreign Direct Investment:**

- Recent figures by the United Nations Conference on Trade and Development highlights that, China has surpassed the United States as the world’s top destination for the foreign direct investment (FDI) in the year 2020.
- The eastward shift of the destination was the result of Covid-19 pandemic from which the United States is still recovering.
- The New investments by overseas businesses into the US fell by 49 percent in the year 2020.
- China has attracted the new investments in 2020 while, US maintained the higher position with respect to the total stock of foreign investment.
- The higher stock shows that the US has been most attractive location for foreign businesses since decades.

**FDI scenario in US:**

- The Foreign investment in the U.S. started picking up in the year 2016. Till 2016, the investments stood at \$472 billion in contrast to total foreign investment of \$134 billion in China. However, since 2017 the investments in China continued to rise while in U.S. continued to fall.

#### **Foreign Direct Investment (FDI):**

- The investment in the form of controlling ownership of a business in one country by an entity which is based in another country is called as the foreign direct investment. Thus, it is distinguished from a foreign portfolio investment with respect to the direct control. The origin of the investment does not impact the definition of the FDI.

#### **Foreign portfolio investment:**

- It is a grouping of assets like **stocks, bonds** and **cash** equivalents. Such investments are held directly by an investor or it is managed by the financial professionals. In the economics, such investments mean entry of funds into a country where foreigners deposit their money in a country's bank or when they make purchases in the country's stock and bond markets.

#### **49. 4-tier structure for Tighter Regulation of NBFCs:**

- The Reserve Bank of India (RBI) has recently proposed for a four-tier structure for tighter regulatory framework of the Non-Banking Financial Companies (NBFCs).
- The responsibility of regulation and supervision has been entrusted with the Department of Non-Banking Supervision (DNBS) of RBI under the regulatory – provisions of the Reserve Bank of India Act, 1934.
- The framework will provide for the registration and prudential regulation of NBFC. It will also issue the directions on acceptance and surveillance of the sector.
- About 4-Tier Structure

#### **The proposed 4-tier:**

1. NBFC-Base Layer– under this layer, least regulatory intervention is warranted for the NBFCs. RBI has proposed the classification of Non-Performing assets (NPAs) of this layer NBFCs from 180 days to 90 days.
2. NBFC-Middle Layer– this layer has a stricter regulation as compared to the base layer. Under it, the banks can be addressed for NBFCs falling so as to reduce the systemic risk spill-overs.
3. NBFC Upper Layer– It comprises of the NBFCs which have large potential of systemic risks and those impacting the financial stability. The regulatory framework under this layer will be bank-like.
4. NBFC Top Layer– This layer is supposed to be empty unless supervisors take a view on specific NBFCs.

#### **Aim of the proposed framework:**

- The RBI has proposed the new framework with the aim of protecting the financial stability. It will further ensure that smaller NBFCs continue to enjoy light regulations.

#### **Non-Banking Financial Company (NBFC):**

- It is a company registered under the Companies Act, 1956. It is engaged in the business of loans and advances. NBFC cannot accept the demand deposits. They are not the part of the payment and settlement system. Further, they cannot issue cheques drawn on itself. The depositors of the NBFCs are not provided with the deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation.

#### **50. India's take on "Treaty on Prohibition of Nuclear Weapons":**

- India recently made an announcement that it does not support the "Treaty on Prohibition of Nuclear Weapons" and it is not bound by any of the obligations of the treaty.

#### **Highlights:**

- The United Nations General Assembly (UNGA) had approved the “Treaty on the Prohibition of Nuclear Weapons” in the year 2017.
- However, the nine countries that possess the nuclear weapons did not support it.
- The treaty was not supported by the NATO alliance as well.
- Despite that, the treaty came into force on January 22, 2021.

#### **India’s stand:**

- India maintains that, it will continue to provide the high priority and remain committed to the universal, non-discriminatory and verifiable nuclear disarmament.
- The Ministry of external affairs further said, since India did not participate in negotiations on the Treaty on the Prohibition of Nuclear Weapons, it will not become a party to the Treaty.
- However, India showed its support to the commencement of negotiations on a “comprehensive Nuclear Weapons Convention in the Conference on Disarmament”. It is the only multilateral disarmament negotiating forum that works on the basis of consensus.

#### **Why India does not support the treaty?**

- India does not support the treaty because, India believes, the treaty does not constitute or contribute to the development of customary international law. Further, the treaty does not provide for any new standards or norms.

#### **Treaty on Prohibition of Nuclear Weapons:**

- The treaty is also called as the Nuclear Weapon Ban Treaty. It is the first legally binding international agreement. It prohibits the nuclear weapons and aims for the total elimination of such weapons. The treaty was adopted on July 7, 2017.
- For the member nations, the treaty prohibits development, testing, production, stockpiling, transfer and use of nuclear weapons. The recognized “Nuclear weapon States” are United States, Russia, United Kingdom, China and France.
- The states that have declared possessing the nuclear weapons include India, Pakistan and North Korea while, Israel is the state that indicated for possessing the nuclear weapons.

#### **51. ZSI: Sunderbans is home to 428 species of Birds:**

- The Zoological Survey of India (ZSI) recently published the “Birds of the Sundarban Biosphere Reserve” in which ZSI highlighted that the Indian Sunderbans is home to 428 species of birds.
- Sunderbans is a mangrove area in the Delta formed by the rivers Ganges, Brahmaputra and Meghna in the Bay of Bengal.
- It covers the area from the Hooghly River in West Bengal to the Baleswar River in Bangladesh over an area of about 10,000 km<sup>2</sup>.
- It comprises of closed and open mangrove forests.
- The land of the Sundarbans is used for agricultural purpose, mudflats and barren land.

#### **Protected Areas in Sundarbans:**

- The Four protected areas in the Sundarbans have been listed as UNESCO World Heritage Sites. They are Sundarbans National Park, Sundarbans South Sundarbans West and Sundarbans East Wildlife Sanctuaries.

#### **Threat:**

- Indian Sundarbans were tagged as endangered under the IUCN Red List of Ecosystems framework in 2020.

#### **Flora and Fauna:**

- The Sundri Tree and gewa tree are the most abundant tree species. The mangroves forests provide habitat to several faunal wildlife. It includes 428 species of birds, 120 fish, 42 mammal, 35 reptile and 8 amphibian species.

#### **The Sundarbans National Park:**

- It is a national park, tiger reserve, and biosphere reserve situated in the state of West Bengal. It is part of the Sundarbans on the Ganges Delta.
- It is situated adjacent to the Sundarban Reserve Forest in Bangladesh. It is covered by mangrove forests.
- It is considered as one of the largest reserves for the Bengal tiger. The national park was declared as the core area of Sundarban Tiger Reserve in the 1973.
- It was also declared as a wildlife sanctuary in the year 1977. While in the year 1984, it was declared a national park. The park is also a designated UNESCO World Heritage Site and a Ramsar site since 2019.

## 52. Blue Jet Lightning:

- The Scientists from the International Space Station (ISS) have observed a bright-blue lightning bolt that is shooting upward from the thunderclouds. Such blue jets are hard to observe from the ground because the electrical discharges emerge from the tops of thunderclouds. But from space, one can easily observe the phenomenon.

### Key Points:

- The instrument at the space station had captured a blue jet shooting from the thunderstorm cell near a small island in the central Pacific Ocean on February 26, 2019.
- Scientists had observed the five intense flashes of blue light.
- Each of the lighting lasting about 10 to 20 milliseconds.
- After that, the blue jet moved out from the cloud towards a narrow cone shape stretching into the stratosphere.

### What are blue jets?

- Blue jets are initiated as “normal” lightning discharges.
- It emerges between the upper positive charge region in a thundercloud and a negative screening layer above the charge region.
- The positive end network fills the negative charge region and after that the negative end fills the positive charge region.
- After that, the positive end exits the cloud and starts propagating upward.
- Earlier, it was believed that blue jets are directly related to lightning flashes but it is the result of the hails.
- The blue jets are brighter than sprites and are blue in colour.
- The blue colour of the jets is the result of blue and near-ultraviolet emission lines from neutral and ionized molecular nitrogen.
- The blue jets were recorded on October 21, 1989 for the first time.

### Thunderstorm:

- It is also known as an electrical storm or a lightning storm. It is characterized by the presence of lightning and the acoustic effect on the Earth’s atmosphere that is thunder. This phenomenon is usually taking place in the cumulonimbus cloud, the thunderstorm is also accompanied by strong winds and heavy rain. It could also lead to snow, sleet, or hail.

### Cumulonimbus Cloud:

- It is a dense and towering vertical cloud. This cloud is formed by the water vapor which is carried by the powerful upward air currents.

## 53. Election Commission to Launch Digital Voter-ID Cards:

- The Election Commission of India (ECI) is all set to launch the Electronic Electoral Photo Identity Card (e-EPIC) programme on the occasion of National Voter’s Day. The new digital card is being

launched by keeping in view the upcoming polls in five states namely, Kerala, Puducherry, Assam, Tamil Nadu and West Bengal.

#### **What is e-EPIC?**

- This is the electronic version of the Electoral Photo Identity Card (EPIC).
- It is a secure portable document format (PDF) version as is non-editable.
- The e-EPIC comprises of a secured QR code along with the image and demographics including the serial number and part number.
- This portable version can be downloaded on a mobile or a computer.
- This portable ID will be launched in addition to the physical or the conventional IDs which can be digitally stored.

#### **How this initiative will be rolled out?**

- The e-EPIC initiative will be launched in two phases.
- The first phase will be from January 25 to 31. In this phase, new voters will get the voter-ID simply by downloading the e-EPIC after authenticating their mobile number.
- Second phase will be rolled out from February 1 in which general voters will get the voter-ID.

#### **Significance of the digitalisation of Voter-ID:**

- The electronic card will help the EC to save the printing and distributing cost of the hard copies.
- This would do away the need of carrying or producing the voter's slip on the day of voting.

#### **Election Commission of India (ECI):**

- It is an autonomous constitutional authority that administers the election processes in India at national as well as the state level.
- It also organises the elections to Lok Sabha, Rajya Sabha, state Legislative Assemblies and state legislative Councils.
- Elections to offices of President and Vice President is also organised by the ECI.
- The body was established on 25th January 1950 under the authority of Constitution as per Article 324.

#### **National Voters' Day:**

- The national voter's day is observed on January 25 to mark the foundation day of Election commission of India. The day is being observed since 2011. This year, the election commission will observe the 11th voter's day. Theme of the day for the year 2021 is "Making Our Voters Empowered, Vigilant, Safe and Informed". The day is observed to encourage, facilitate and maximize the enrolment of the new voters.

#### **54. Europe's Largest Solar Power Plant: Francisco Pizarro:**

- Spain and France have recently signed an agreement to build 590 MW of solar power plant. This will be the largest solar power plant in Europe. The agreement was signed between Iberdola of Spain and Donone of France.

#### **About the Power Plant:**

- The solar power plant is to be built at a cost of 364 million USD.
- The solar power plant is to be located in the western province of Caceres located in Spain.
- The solar power plant will avoid emission of 245,000 tonnes of Carbon Dioxide.
- It is to supply power to 375,000 people per year.
- The project is to begin supplying power in 2022.

#### **Spain:**

- Spain is currently the busiest subsidy free photo-voltaic market of Europe. In 2020, Spain commissioned 2.9 GW of solar power. In 2019, Spain added 729 MW of solar power. Hence, the 2020 addition is four times that of the 2019 addition.

#### **France:**



- France has set a target of installing 18 to 20 GW of solar power by 2023. In 2016, France along with India laid the foundation of International Solar Alliance. Though France is not a country located in the tropics, it has joined hands with India in International Solar Alliance. This is mainly because the International Solar Alliance was framed and announced at the United Nations Framework Convention on Climate Change, 2015 (the Paris agreement conference) hosted by France.
- The International Solar Alliance mainly aims to bring about major decrease in cost of solar energy. This is to be achieved by involving countries rich in solar energy, that is, those countries located between the Tropic of Cancer and Tropic of Capricorn.

#### **Solar Energy in India:**

- India has been increasing its solar power capacity. As of November 2020, the installed solar power of India was 36.9 GW. India has established 42 solar parks to make land available to the promoters of solar plants. India has set a target of achieving 100 GW of solar power by 2022.

#### **55. MeerKAT Radio Telescope: Two Giant Radio Galaxies discovered:**

- The MeerKAT Radio Telescope recently discovered two giant radio galaxies. The galaxies were discovered under the MIGHTEE survey.
- The discovered galaxies are bigger than 93% of any other giants discovered before. They were 62 times the size of Milky Way. Light takes 6.5 million light years to travel from one end to the other.

#### **MeerKAT Radio Telescope:**

- The MeerKAT Radio Telescope is located in Northern Cape of South Africa. It is a radio telescope with sixty-four antennas.
- The array configuration of MeerKAT Radio Telescope has 61% of antennas located within one kilo metre diameter circle and the remaining 39% is distributed to a radius of four kilo metres.
- MeerKAT is a follow up to Karoo Array Telescope (KAT 7). In simple words, KAT 7 is a precursor to MeerKAT. KAT 7 has seven dishes of Prime Focus Reflecting Telescope.
- It is built in the semi-desert Karoo region of Northern Cape.
- It will address key questions of astrophysics such as how did the galaxies evolve, how are the galaxies formed, etc.
- MeerKAT is one of the four precursors to the final Square Kilometre Array. The SKA is an intergovernmental radio telescope project built in South Africa and Australia.

#### **Square Kilometre Array:**

- The receiving stations of SKA are to extend out to a distance of 3,000 kilometres. The SKA is being built in Australia and South Africa. **The four precursor facilities of the project are as follows:**
  - MeerKAT
  - Hydrogen Epoch of Reionization Array in South Africa
  - Murchison Widefield Array in Western Australia
  - Australian SKA Pathfinder
- The SKA is an international effort to build the world largest radio telescope. The Karoo region in South Africa and the Murchison Shire region in Australia were chosen for technical and scientific reasons. The atmospheric above the deserts are favourable with clear sky and provide maximum radio quietness.

#### **56. Operation Sard Hawa:**

- The Operation Sard Hawa was launched by the Border Security Force in the western border of Rajasthan. The main purpose of the operation is to check the instances of infiltration due to dense fog in the region. The Operation has also been launched to enhance the security ahead of Republic Day. The operation is to run till January 27, 2021.

#### **About Operation Sard Hawa:**

- The operation was launched to keep a hawk's eye in the international border.
- Under the operation, the jawans will patrol with advanced weapons in the police station areas near to the border.
- The number of jawans deployed in the border has been increased under the operation.
- The intelligence wing of Border Security Force is also to be in active mode during Operation Sard Hawa.
- Importance of Operation Sard Hawa
- Due to dense fog in desert areas in winter, there are possibilities of infiltration in the region. There have been attempts to infiltrate from across the border taking advantage of this haze. During such situations, the border security forces increase patrolling under special operations like that of Operation Sard Hawa. They also monitor the borders through vehicles along with trekking. The jawans also conduct foot point trekking. During foot point trekking, the camels, vehicles and pedestrian intrusions used by intruders are detected.

#### **Border Security Force:**

- The Border Security Force of India is also called the "First Wall of Defence of Indian Territories". It was set up in the wake of 1965 Indo-Pakistan war. The main function of the Border Security Force is to ensure the security of borders of India. It is headed by an officer from Indian Police Service. The BSF also undertakes defensive actions during wartime to free up Indian Army troops for offensive operations. The BSF also assists Central Reserve Police Force and the Indian Army in counter-insurgency operations.
- The BSF has marine wing, air wing, commando units and artillery regiment. Currently, the BSF is the world largest border guarding force.

#### **57. New START Treaty:**

- The US President Joe Biden recently proposed to extend New START (Strategic Arms Reduction Treaty) Treaty by five years. Russia has welcomed the proposal.
- The New START Treaty was signed between United States and Russia in 2010 in Prague (capital of Czech Republic). It entered into force in 2011.
- The formal name of New START Treaty is "Measures for the further reduction and Limitation of Strategic Offensive Arms".
- The treaty was signed to reduce nuclear arms production and utilisation by US and Russia.
- Under the treaty, the countries will reduce their strategic nuclear missile launchers by half.
- The treaty established an inspection and verification regime replacing SORT.
- It reduced the number deployable strategic nuclear warheads to 1,550. This was 10% lower than the strategic warhead limit set by Moscow treaty signed by the countries in 2002.
- It reduced the number of submarine-launched ballistic missiles, inter-continental ballistic missile launchers, heavy bombers equipped for nuclear armaments to 800.
- It reduced the number of heavy bombers equipped nuclear armaments to 700.
- The treaty replaced Treaty of Moscow, also called SORT (Strategic Offensive Reduction Treaty). The term Strategic offensive arms means nuclear warheads deployed by Strategic Nuclear Delivery Vehicles.

- It is the successor of START I framework signed between the countries in 1991 that limited the warheads of the countries to 6,000 and strategic delivery vehicles to 1,600. The START II treaty never entered into force and the negotiations of START III treaty never concluded.
- The New START Treaty is to lapse in February 2021.

#### **Time Line set by New START Treaty:**

- The above obligations of reducing the nuclear warheads were to be achieved within a time frame of seven years from the date, the treaty entered into operation. The treaty will last for ten years. The countries may renew it till five years upon agreement by both the parties.

#### **Intermediate Range Nuclear Forces Treaty:**

- The INF Treaty was signed between US and Russia during the cold war period. It was signed in 1987. Under the treaty, the countries agreed to eliminate their stocks of short range and intermediate range missiles. The US withdrew from the treaty in 2019.

#### **58. UN resolution on Safeguarding Religious Sites:**

- The United Nations General Assembly recently adopted a resolution on safeguarding religious sites across the world. The resolution was titled "Promoting a culture of peace and tolerance to safeguard religious sites". India supports the resolution.

#### **Key Features of the Resolution:**

- The resolution condemns offences against religious sites and symbols.
- It rejects the use of violence to express a point of view (related to protecting religious practices).
- The resolution also condemns forcible conversions of religions.
- It condemns acts of violence that destructs religious sites all over the world.
- United Nations Plan of Action to safeguard religious sites has been adopted.
- United Nations Plan of Action to safeguard Religious Sites
- In order to remind the universality of religious sites, mapping of religious sites all over the world is to be developed.

#### **The following principles have been adopted under the plan:**

- Respect for the people all over the world irrespective of their faith, history and culture.
- Responsibility to build cooperation among member countries.
- Dialogues for better communication among member countries. The World Forum on Intercultural Dialogue organised biennially is one of the main global platforms for promoting intercultural and interreligious dialogue. It is organised by Azerbaijan in cooperation with Islamic education, scientific and cultural organisation, Council of Europe. The dialogue is organised biennially.
- Standing together and Staying Together as one to ensure unity.
- Promotion of education programmes on protecting the religious sites. Education is to be used as a tool to address hate speech issues. The United Nations Strategy and Plan of Action on Hate Speech has been launched to reduce hate speech and violence related to hate speech in the world.

#### **India-Pakistan irritants over the resolution:**

- Pakistan was one of the co-sponsors of the resolution along with Saudi Arabia and other twenty countries. According to India, the co-sponsoring of Pakistan was a great irony. This is because, Hindu temples were attacked in Karak, Pakistan. In December 2020, the supporters of Jamiat Ulema e Islam party attacked and burned a temple in Karak district.

#### **59. Treaty on Prohibition of Nuclear Weapons:**

- The Treaty on Prohibition of Nuclear Weapons was adopted on July 7, 2017. The treaty entered into force on January 22, 2021. The treaty is the first legally binding international agreement that aim to eliminate nuclear weapons completely.

#### Signatories:

- The treaty was approved by the United Nations General Assembly in 2017. However, only 120 members have signed the treaty. The major nuclear powers of the world including India have not supported the treaty.
- The other major nuclear powers that did not support the treaty were China, US, France, Japan, North Korea, Russia, Pakistan and Israel.

#### Key Features:

- The treaty prohibits the use of nuclear weapons on national territories.
- The signatories should provide adequate assistance to individuals affected by the testing of nuclear weapons. They should also take required environmental remediation in areas under its jurisdiction that was contaminated as result of nuclear weapon testing.
- A state party joining the treaty should declare if it has eliminated its previous nuclear weapon programme. The party should also disclose if it holds nuclear weapons of other countries in its territories. In case if the party holds other countries' nuclear weapons it must remove them before signing the treaty.
- The non-nuclear weapon states should have a minimum safeguards agreement with the International Atomic Energy Agency.

#### India's Stand:

- India does not support the Treaty on Prohibition of Nuclear Weapons. India is committed to the policy of "No First Use" against nuclear weapon states and non-use against non-nuclear weapon states. India is also committed to negotiations regarding the Fissile Material Cut-Off Treaty. FMCT is a proposed international agreement. The agreement prohibits production of enriched Uranium and Plutonium.
- India has also not signed Non-Proliferation Treaty and the Comprehensive Nuclear Test Ban Treaty.

#### Nuclear Warheads:

- According to 2020 estimates, the estimated global nuclear warhead inventories are 13,500. Of this, more than 90% belongs to Russia and the US. India holds 150 nuclear warheads. Russia holds 6,375 nuclear war heads and US holds 5,800 nuclear warheads. China holds 320.

#### 60. WASP-107b: Giant Exoplanet has low core mass:

- The researchers studying about the WASP-107b have recently found that the core mass of the giant exoplanet is much lower than what was previously assumed.

#### Recent Study on WASP-107b:

- WASP-107b is an exoplanet and was discovered in 2017. Earlier, the scientists believed that the planet was huge in size due to its huge gas envelope that surrounded the planet. Also, the scientists believed that such huge gas envelopes are possible only with massive and dense cores. However, the recent study says that the cores of WASP-107b are not as dense as thought earlier.

#### About WASP-107b:

- WASP-107b is a super-Neptune exoplanet. A super-Neptune exoplanet is a planet that is more massive than Neptune. Sometimes, a planet falling in this range is also called "sub-Saturn". They are five to seven times as large as the earth.
- It orbits the star WASP-107.
- It is 200 light years away from the earth.

- It is located in the constellation Virgo.
- The unique feature of WASP-107b is that the planet migrated inward from its birth orbit. This, according to the scientists might have occurred due to the interaction with a heavier planet.
- The atmosphere of WASP-107b is made of Helium. Discovery of helium in WASP-107b in 2018, was the first-time helium was discovered in an exoplanet.
- Though the planet is huge (of the size of Jupiter), its mass is less than one-tenth of Jupiter. This makes it one of the lowest density exoplanets.

#### **Comet like tail in WASP-107b:**

- WASP-107b has a comet-like tail. This is because, the helium absorption occurring in the atmosphere of the planet has increased the temperature to five hundred degrees Celsius. This makes it one of the hottest known exoplanets. Such huge temperatures are boiling off its surfaces. This leaves a comet like tail as WASP-107b is revolving around its star.

#### **What is Hum of the Universe?:**

- The Hum of the Universe was recently detected by the North American Nanohertz Observatory for Gravitational Waves (NANOGrav). According to the researchers, the hum was produced by gravitational waves.

#### **About the Hum of the Universe:**

- The Hum of the Universe comes from a type of dead star called a "Pulsar". These stars are basically neutron stars. They are oriented in such a manner that they flash beams of radio waves from their poles as they rotate.
- This is the first time the humming sound has been heard from a pulsar collision. Earlier scientists have observed such humming sound. However, they were from black hole mergers. The humming sound from blackhole mergers were detected by LIGO observatories. LIGO is LASER Interferometer Gravitational Wave Observatory.
- The discovery of humming sound from pulsars is to be a great step for the members of Pulsar Timing Array.

#### **Blackhole Hum:**

- Similar humming sounds are produced when black holes collide. Such sounds are called Black Hole hums. On an average more than hundred thousand mergers of black holes occur in the universe in a year.

#### **61. NANOGrav:**

- NANOGrav is North American Nano hertz Observatory for Gravitational Waves. The main objective of NANOGrav is to detect gravitational waves. The project is implemented by Parkes Pulsar Timing Array, International Pulsar Timing Array and European Pulsar Timing Array.

#### **Pulsar Timing Array:**

- It is a programme of regular, timing observation of widely distributed array of millisecond pulsars. A millisecond pulsar is a pulsar with rotational period smaller than about ten milliseconds. A millisecond pulsar is a pulsar with rotational speed smaller than ten milliseconds.

#### **Indian Pulsar Timing Array:**

- It is a project of National Centre for Radio Astrophysics, Tata Institute of Fundamental Research. It aims to detect nano-hertz gravitational waves by precision timing.

#### **62. Kraken Mare in Titan is 1000 feet deep:**

- The researchers have recently found that the largest sea in Titan (moon of Saturn) is thousand feet deep in its centre. Also, it is the size of five great lakes combined together.

#### **About Kraken Mare:**

- Kraken Mare is huge liquid body located in the north pole of Titan.

- It is made of ethane and methane.
- The sea covers 154,000 square miles.
- Kraken Mare was discovered by the space probe Cassini. Cassini was developed under the collaboration of NASA, Italian Space Agency and European Space Agency. Cassini was the first space probe to orbit Titan.
- The fact that Titan consists of sea of hydrocarbons was discovered through radar images.
- An island in Kraken Mare has been named “Mayda Insula”. It is the first island to be named on a planet or moon other than the earth.
- To study about Kraken Mare and its composition, “Titan Saturn System Mission” is to be launched.

#### **Titan Saturn System Mission:**

- It is a joint mission of NASA and European Space Agency. The mission is to be developed at a cost of 2.5 billion USD. It is a four-year mission. It includes two-year Saturn tour, two months of Titan aero-sampling and twenty-month Titan orbiting phase.
- The mission consists of an orbiter and two Titan exploration probes. The exploration probes include a hot air balloon and a lander. The hot air balloon will float in Titan clouds and the lander will splash down on one of the methane seas of Titan.
- A mission to Jupiter called the Europa Jupiter System Mission-Laplace is delaying the Titan Saturn System Mission.

#### **Europa Jupiter System Mission-Laplace:**

- It is a joint project of European Space Agency and NASA. The project is to focus on the moons of Jupiter such as Europa and Ganymede and magnetosphere of Jupiter. The magnetosphere is a region in space where the charged particles are affected by the magnetic field of an object.

### **63. Section 32A of Insolvency and Bankruptcy Code:**

- The Supreme Court recently upheld the validity of Section 32 A of the Insolvency and Bankruptcy Code. Under its judgement, the apex court pronounced that the successful bidders for a corporate debtor will be immune from any investigations conducted by an investigating agency (like Enforcement Directorate or other statutory bodies such as SEBI) under the Insolvency and Bankruptcy Code.

#### **Supreme Court Judgement:**

- The SC said that it is important for IBC to attract bidders who will offer a fair value for the corporate debtor.
- This is essential to ensure timely completion of corporate insolvency resolution process.
- The SC also said that these bidders should be provided protection from misdeeds of the past. The protections should also extend to the assets of the corporate debtor.

#### **Section 32A of IBC:**

- Under the section the corporate debtor who has committed an offence prior to the commencement of the insolvency resolution process will not be prosecuted.
- The Section 32A provides immunity to the corporate debtor and its property. However, the protection is provided when there is an approval of resolution plan that leads to change of management of control.
- The petitioner argued in the Supreme Court that this provision is constitutionally incorrect. This is because it provides an undeserved immunity to the property.
- According to the SC, the Section 32 A is essential to avoid delay in several big-ticket cases. For instance, take the case of Bhushan Power and Steel. The company became bankrupt and admitted to insolvency in 2017. It owed more than Rs 47,000 crores to banks and Rs 780 crores to creditors.

- After hard prolonged battle JSW Steel won the rights to take over Bhushan Power and Steel. Meanwhile, before JSW Steel could take over, the Enforcement Directorate came in and alleged Bhushan Power with fraud of Rs 4,000 crores in a bank loan under the Prevention of Money Laundering Act.
- Ethically, the actions of ED are right! However, the company is facing bankruptcy due to such wrong deeds and cannot be sued further. Therefore, according to SC during Insolvency Resolution, focus should be on resolving the issue.

#### 64. Sudden Stratospheric Warming:

- The Southern India received excessively heavy rainfall (ten times the normal) between January 1, 2021 and January 17, 2021. This winter rain, according to the scientists, is due to sudden stratospheric warming that occurred in Arctic region.

#### Sudden Stratospheric Warming:

- The Sudden Stratospheric Warming is an event where the polar stratospheric temperature increases up to fifty degrees Celsius. It is preceded by a situation where the polar jet stream of westerly winds in the northern hemisphere is disturbed by natural weather patterns. This is usually addressed as polar vortex.
- The polar vortex is a whirling cone of low pressure over the poles. The polar vortex is the strongest in winter. It spins in the stratosphere.
- During winter, the polar vortex is the strongest due to the difference in temperature between polar and mid latitude regions.
- When the polar vortex is the strongest, it forms a wall protecting the mid-latitudes from cold Arctic air. When Polar Vortex weakens, the stratosphere begins to warm and the event is called Sudden Stratospheric Warming.

#### 2021 Sudden Stratospheric Warming:

- The Sudden Stratospheric Warming occurred on January 5, 2021 according to weather forecast models. The Stratosphere is the layer of the atmosphere at a height of ten to fifty kilo metres above the earth surface.
- During Sudden Stratospheric Warming, the polar stratospheric temperature might increase up to fifty degree Celsius. Around forty Sudden Stratospheric Warming events have occurred in the last sixty years.

#### 2019 Sudden Stratospheric Warming:

- Very rarely the SSW also occurs in South Pole. The last SSW in south pole occurred in 2019. During the 2019 SSW, the North Pole vortex split into three smaller vortices. This released cold winds into the southern regions below it. Lake Michigan was frozen in Chicago due to this weather condition.

#### 2018 Sudden Stratospheric Warming: Beast from the East:

- The 2018 Sudden Stratospheric Warming was referred to “Beast from the East” as it brought in unusually cold weather conditions in UK and also in several other parts of the world.
- Usually, the Beast from the East term is used to describe cold conditions in the UK. The condition occurs due to the Easterly winds that flows from Siberia towards the UK.

#### 65. Risa in the Culture of Tripura:

- The Tripura Chief Minister Biplab Kumar Deb recently wore “Risa” on Kokborok Day. The Chief Minister of late has made Risa, his style statement. The Government of Tripura is to promote Risa at national and international level.

#### What is Risa?

- Risa is the traditional dress of Tripura. Risa is worn by both men and women of Tripura.

- The dress for women in the upper half of the body has two parts namely Risa and Rikutu. Risa covers the chest part and rikutu covers the whole upper part. The dress of women that covers the lower half of the body is called Rigwani or Rignai.
- Each clan of Tripura has their own “Rignai” pattern and design. The clans of Tripura are identified based on the Rignai.
- Men of Tripura use Risa for head turban and also for tying the waist over Dhuti. When men wear Risa, it gives them strength and indicates the status of the person. It is also used as muffler in winter season.
- Risa is also used in Tripura culture to hold baby.
- “Risa Sormani” is an adolescent ceremony of a Tripuri girl child. On this day, the 12-14 year old girl is given risa to wear for the first time.

#### **History of Risa:**

- The history of Tripuri attire originated before Manikya kings’ rule.
- In ancient period, the intelligence of a woman in the community was judged based on her woven Risa and Rignai designs.
- The Manikya king Maharaj Trilochana had invented 250 Rignai and Risa designs for his 250 wives. However, most of these designs were lost with passage of time. The Tripura Government is therefore trying to promote Risa and other traditional attire of Tripura.

#### **Kokborok Day:**

- Kokborok Day is celebrated in Tripura to celebrate the development of Kokborok language. Every year, the day is observed on January 19. The Kokborok is the official language of Tripura. January 19 was chosen to celebrate Kokborok Day as the language was recognized as an official language on this day in 1979.

#### **66. LongOps Project:**

- The LongOps Project is a collaboration between UK and Japan. Under the operation, the scientists from Japan and UK will develop new and safe technologies to dismantle old nuclear facilities such as the Fukushima that were severely damaged by tsunamis and earthquakes.

#### **About LongOps Project:**

- The project is to use long-reach robotic arms and hence is called “LongOps Project”. The project will reduce the risks to human health and will speed up decommissioning of nuclear reactors that are non-operational.
- The LongOps project is to be implemented at a cost of 12 million Euros (Rs 120 crores).
- It will focus on fast decommissioning of nuclear sites.
- Apart from dismantling nuclear fission sites, the project will also focus on automating parts of nuclear fusion power generation process.
- The project will also help to improve and dismantle nuclear fusion facilities such as the Joint European Torus. Joint European Torus is a nuclear fusion experiment located in Culham Centre for Fusion Energy, UK. It was the first reactor to run on the production fuel of 50-50 mix of tritium and deuterium. It was shut down in 2009 to adopt concepts used in ITER project.

#### **ITER Project:**

- ITER is International Thermonuclear Experimental Reactor. India is also a part of ITER. The other countries involved in ITER are China, Russia, Japan, European Union, US and South Korea.

#### **Digital Twin Technology:**

- Digital Twin Technology is a part of the LongOps Project. It will analyze data from decommissioning sites and predict operational and maintenance challenges.

#### **Disasters:**



- In Sellafield more than twenty-one serious incidents of radiological releases occurred between 1950 and 2000. Sellafield is located in United Kingdom. It is a former nuclear power generating site. As of August 2020, the activities in the site includes nuclear fuel reprocessing, nuclear decommissioning and nuclear waste storage.
- In 2011, the Fukushima Daiichi reactors were severely damaged by an earthquake and tsunami in 2011. The incident displaced more than 150,000 people. Also, the flora and fauna in the surrounding areas were severely contaminated.

#### **67. Great Green Wall Initiative:**

- The Great Green Wall for Sahel and Sahara Initiative recently received 14 billion USD funds at the recent One Planet Summit for Biodiversity.
- The funding is to be used to restore degraded land, strengthen resilience, create green jobs and protect biodiversity.
- Among the financiers, the World Bank has committed 5 billion USD, African Development Bank committed 6.5 billion USD and Government of France committed 14 billion USD.

#### **What is Great Green Wall Initiative?**

- The Great Green Wall initiative aims to transform the lives of 100 million Africans by growing 8,000 kilo metre long and fifteen kilo metre wide mosaic of trees, vegetation, grasslands, plants.
- The Great Green Wall is an African-led initiative. It was started in 2007 by the African Union to combat desertification, land degradation, drought.
- The project aims to restore 100 million hectares of degraded land by 2030. So far between 2007 and 2019, the Great Green Wall initiative has restored only four million hectares of land.

#### **Key Objectives of Great Green Wall Initiative:**

- The initiative aims to sequester 250 million tonnes of carbon and create ten million green jobs. It will support the African communities to grow fertile land and increase economic opportunities for the youngest population.
- The project will help to create climate resilience in the region where temperatures are rising faster than the rest of the earth.

#### **Sustainable Development Goals:**

- The Great Green Wall initiative will contribute fifteen of the seventeen United Nations Sustainable Development Goals. The main objective of the United Nations Convention to Combat Desertification is to reach Land neutrality by 2030. Thus, the Great Green Wall initiative will help achieve this.

#### **What are the countries that are selected as intervention zones for the Great Green Wall initiative?**

- Chad, Burkina Faso, Eritrea, Ethiopia, Mali, Niger, Mauritania, Nigeria, Sudan, Senegal, Djibouti.

#### **What is Root Zone Moisture?**

- NASA recently released the estimates of soil moisture in the root zone (the top 39 inches of soil) as of January 11, 2021. Accordingly, the Konya Plains had the lowest “root zone moisture”. The estimate was done based on the GRACE-FO satellite data.

#### **Key Findings:**

- The Konya Plains located in Turkey received 38% less rainfall in 2020 as compared to 2019. This is the main reason for the region to become the lowest “root zone moisture” area in the world.
- The wetness percentile of Root Zone Moisture in western India was between 80% and 98%. In eastern India, the wetness percentile was between 30% and 70%. In Northern India it was less than 10%

- The Surface Soil Moisture along the coasts of Western Ghats was above 95%. In the rest of the country, it was less than 30%. In northern India, it was less than 10%.

#### **The Report on Root Zone Moisture:**

- The decline in Root Zone Moisture in the Mediterranean countries have put agriculture in the region under threat.
- The South African city Cape Town witnessed severe droughts. The water reservoirs that supply water to more than 3.7 million people had dipped to below 20%. This has further contributed to the root zone moisture decline in these regions.
- The water reserves of Istanbul have the lowest volumes of water in fifteen years.

#### **About Root Zone Moisture:**

- The water and moisture in the soil to a depth of 39 inches is called root zone moisture. It takes a lot of time for the aquifers to recover from droughts in the absence of rain.
- The aquifers rely on surface moisture to percolate through soil and rocks. When there are no rains and surface moisture, the root zone moisture might vanish completely. This eventually will make the soil unfit for trees and plants.

#### **Root Zone Irrigation:**

- Root Zone Irrigation is the only solution to soils that have decreased root zone moisture. Root zone irrigation is expensive than the surface drip irrigation. However, root zone irrigation is more effective than the surface drip irrigation. Currently, root zone irrigation is being used in cultivation of grapes.

#### **68. Global Risks Report, 2021:**

- The World Economic Forum recently released the sixteenth edition of the Global Risks Report, 2021. The report was released based on the Global Risks Perception Survey undertaken by more than 650 members of World Economic Forum.

#### **Key Findings of the report:**

According to the report, the following will be the short-term (0 to 2 years) risks:

- Infectious diseases
- Extreme Weather Events
- Livelihood Diseases

The medium term (3 to 5 years) risks are:

- IT Infrastructure Breakdown
- Asset Bubble Burst
- Price Instability

The long term (5 to 10 years) risks are:

- State Collapse
- Weapons of Mass Destruction
- Biodiversity losses

#### **Top Risks identified by the report:**

- The top three risks by likelihood that are to happen in the next ten years are climate action failure, extreme weather and human environmental damage. The top three risks by impact are climate action failures, infectious diseases and weapons of mass destruction.
- In 2020, the Global Risks report ranked infectious diseases on tenth position in the list of most critical threats. Though the carbon emissions have declined due to COVID-19 related lock down, they are expected to increase when the economic recovery begins.

#### **About the Report:**

- The report was released before the upcoming Davos Agenda Summit of World Economic Forum. This year, in 2021, the World Economic Forum is to launch the Great Reset Initiative alongside Davos Agenda Summit.
- The main aim of the report is to prepare the Government and other international communities during the times of crisis.
- The report makes the following suggestions to the global communities to draw lessons from the responses to COVID-19:
  1. To formulate analytical frameworks
  2. To build trust through clear and consistent communication
  3. To create new forms of partnerships
  4. World Economic Forum
  5. Earlier in October 2020, the World Economic Forum released The Future of Jobs Report, 2020. According to the report, the COVID-19 will disrupt more than eighty-five million jobs by 2025.

#### 69. SAAW: Smart Anti-Airfield Weapon of DRDO:

- The Hindustan Aeronautics Limited recently test fired the SAAW (Smart Anti Airfield Weapon) from Hawk aircraft successfully. SAAW was developed by Defence Research Development Organisation (DRDO). SAAW is the first smart weapon fired from an Indian Hawk.

#### About SAAW:

- SAAW is a long-range precision guided anti-airfield weapon. The weapon is capable of engaging ground targets with precision up to a range of hundred kilo metres.
- Basically, SAAW is a bomb. It is designed to destroy targets such as bunkers, runways, reinforced structures and aircraft hangers.
- The SAAW project was approved by Government of India in 2013.
- So far, eight successful tests of SAW have been conducted.
- In 2020, the Government of India approved SAAW project for Indian Navy and Indian Air Force.

#### Hawk aircraft:

- It is a tandem seat aircraft developed by HAL. The aircraft has an integrated attack system and radio and inertial navigation system. It is spin resistant.

#### Indian Defence System:

- The Government of India is currently planning to increase indigenous defence production of the country. Eventually the plan is to reduce the imports and increase the exports. The GoI has set a target of defence exports of Rs 35,000 crores. This is to be achieved by 2025. In order to achieve the target, the Union cabinet recently approved the exports of Akash missile system. The Akash surface to air missile has a range of twenty-five kilometres. It was inducted in the Indian Air Force in 2014. Besides Akash, the GoI is also planning to export radars, coastal surveillance system and air platforms.
- In 2018-19, the defence exports of India was Rs 10,745 crores.
- India's share in global arms exports in only 0.17%.

#### Current Scenario:

- According to SIPRI report published in 2020, India ranked 23rd in the list of major arms exporters. India ranked fourth in Defence Firepower Index, 2021.

#### 70. Exercise Kavach:

- The Indian Army is to conduct a large scale joint military exercise Kavach in the Andaman Sea and Bay of Bengal. The exercise is to be held under the aegis of Andaman and Nicobar Command.

- The Joint Military Exercise Kavach will involve Indian Navy, Indian Army, Indian Air Force and Indian Coast Guard.
- During the exercise, the joint forces will execute high density offensive and defence measures in the Andaman sea and Bay of Bengal. Also, they will carry out amphibious landing operations, helicopter borne insertion of Special Forces from sea culminating in tactical follow-on operations on land.
- The exercise is to fine tune the joint war capabilities of all the three forces of India.
- Kavach Exercise will also involve coordinated air and maritime strikes, synergized application of maritime surveillance assets, air defence and landing operations.

#### **Intelligence Surveillance Reconnaissance Exercise:**

- Along with Kavach Exercise, the Joint Intelligence Surveillance Reconnaissance (ISR) Exercise will also be held. The ISR will validate capabilities of intelligence gathering. Also, it will validate capabilities of information sharing from space, land, air and sea.

#### **Intelligence Surveillance Reconnaissance of India:**

- The Heron Unmanned Vehicle of the Indian Air Force has been assigned the task of intelligence and surveillance. Heron UAV Fleet was bought from Israel. The ground based ISR capabilities of India includes Daksh. Daksh is a remote ground-based sensor. The regiment of artillery is using Israeli assisted SATA. SATA is Searcher for Surveillance and Target Acquisition.
- The Black Hornet UAV is used by the National Security Guards for reconnaissance purpose. India is focusing on helicopters, UAVs and aircrafts to increase its ISR roles.
- China has developed ELINT (Electronic Intelligence) and SAR (Synthetic Aperture Radar). SAR cover a small area, while ELINT covers a larger area for Intelligence Surveillance Reconnaissance Exercises.

#### **71. Abell 370: NASA shares picture:**

- Abell 370 is a galaxy cluster located four billion light years away from the earth. The galaxy cluster is located in the constellation called Cetus.
- The core of Abell 370 is made of more than hundred galaxies.
- The Galaxy was catalogued by George Abell and hence the name.
- Abell 370 has several arcs of light. These arcs are the mirages caused by gravitational lensing of dark and massive objects located between the observer and the distant galaxies.
- The Abell 370 galaxy cluster was first discovered in 2002 using the lensing effect.

#### **What is Gravitational Lensing?**

- As light emitted by galaxies (located in far distances) passes by massive objects, the gravitational pull from these objects tend to bend or distort the light. This is called Gravitational lensing.

#### **Cetus Constellation:**

- Cetus is a sea monster in Greek Mythology.
- Cetus constellation is located in the region of the sky where the other constellations such as Pisces, Aquarius and Eridanus are located.
- There are fourteen stars in Cetus Constellation.
- Mira was the first star discovered in the Cetus constellation.
- Tau Ceti of the constellation is the nearest sun-like star.

#### **Nick Name: The Dragon:**

- Abell 370 Galaxy is also nick named as The Dragon by the NASA scientists. This is mainly because in 2009, a study on Abell 370 revealed a group of galaxies in the background of the cluster. The grouping was lensed and distorted by the cluster as a dragon. The head of the dragon was made of spiral galaxy. These galaxies were five billion light years away from each other.

#### **Spiral Galaxy:**

- The spiral galaxy is a class of galaxy that consists of a central concentration of stars called bulge and flat rotating disk containing gas, stars and dust. Pinwheel Galaxy is a spiral galaxy.

## 72. Ratle Hydropower Project:

- The Union Cabinet recently approved the Ratle Hydropower Project of 850 MW. The cabinet has nodded to an investment of Rs 5,281.94 crores in the project. The project is located in River Chenab.

### About the Ratle Hydropower Project:

- It is a joint venture of Jammu and Kashmir State Power Development Corporation and National Hydroelectric Power Corporation. The share of NHPC in the project is 49% and that of Jammu and Kashmir State Power Development Corporation is 51% respectively.
- The project is to be commissioned within sixty months.
- The project is expected to provide direct and indirect employment to more than four thousand individuals.
- The project includes 133 metres tall gravity dam and two power stations.
- The main power station of the project will contain four 205 MW Francis Turbines.
- The auxiliary power station of the project will contain 30 MW of Francis Turbine.
- The foundation stone to construct the dam was laid by Prime Minister Manmohan Singh in 2013.

### Status of the Project:

- The project did not start till 2015. In 2017, the World Bank allowed India to construct the dam. The Indus Water Treaty was signed after nine years of negotiations between India and Pakistan with the help of World Bank.
- The project received severe objections from Pakistan.

### Pakistan's Stand on the Ratle Hydropower Project:

- According to Pakistan, the Ratle Hydropower Project violates Indus Water Treaty. According to Indus Water Treaty, the western rivers such as Indus, Chenab and Jhelum were allocated to Chenab. According to Pakistan, as the project is built across Chenab, it violates the treaty. However, the treaty also says that the waters can be used by India for specified domestic and agricultural use as provided by the treaty.
- The eastern rivers such as Beas, Ravi and Sutlej are to be used by India. Accordingly, India has constructed Bhakra Dam on Sutlej, Thein on Ravi and Pandoh and Pong dam on Beas.

## 73. 1776 Commission:

- The White House recently released the 1776 Commission report. The 1776 Commission was setup by President Trump when he was lagging behind the president elect Joe Biden during the US President Election 2020.
- The 1776 Commission was a counter to the 1619 project. It was an eighteen-member commission. It did not include any historians. Rather, it comprised of conservative politicians and activists. It was an advisory commission. The commission recently released its report on Martin Luther King Day (January 18, 2021).

### About the 1619 project:

- The 1619 project is a collection of essays on African American history of past four centuries. It is also a Pulitzer prize winner. The essays of 1619 project explores the contribution of black community towards nation-building. It covers the period between the era of slavery and modern times.

### Key Findings of 1776 Commission:

- The commission has identified racism, progressivism and identity politics as the challenges to the United States of America.
- The report refers John Calhoun as the leading fore runner of identity politics. John Calhoun was an American politician who held important positions including Vice President of US (1825-1832). He strongly supported slavery.

#### **Identity Politics:**

- It refers to political positions based on the perspectives and interests of social groups. For instance, it includes social organisations based on social class, age, caste, culture, sex.
- In India, religious identities, rise of low castes and linguistic groups have contributed to identity politics. The other impacts of identity politics in India are as follows:

#### **Formation of coalition government based on ideology and identity:**

- The rise of state and regional parties. For example, Shiv Sena, BSP, etc.
- On the positive side, the political parties are able to focus on particular sections that are deprived of economic opportunities in identity politics.
- On the negative side, it has sowed seeds of enmity and hatred among different sections of the society based on religion, castes and ethnicity.

- Quantum Computing Application Lab: Govt and Amazon Partnership:
- The Ministry of Electronics and Information Technology in partnership with the Amazon Web Services is to establish Quantum Computing Applications Lab. The lab will identify quantum computing problems faced by Central and State Governments and also by the research institutions. The chosen proposals from these entities will get access to Amazon Web Services to use computing cloud platform from Amazon. Also, it will provide access to simulators and programming tools at no cost.

#### **74. National Mission on Quantum Technology and Applications:**

- It is to be implemented by the Department of Science and Technology operating under Ministry of Science and Technology.
- The mission focuses on fundamental science, technology development and addresses the issues concerning the national priorities.
- It will prepare next generation skilled manpower and encourages entrepreneurship and startup ecosystem development.
- The Union Budget 2020-21 had proposed to spend Rs 8,000 crores on the National Mission on Quantum Technologies and Applications.

#### **Quantum Technology:**

- The Quantum Technology is based on principles of quantum physics. That is, it is based on quantum theory. In simple words, it is the behaviour of energy and material in atomic and subatomic levels. It will help achieve information processing that will go beyond the limits of classical world. A conventional computer will process in bits. On the other hand, a quantum computer will process in quantum bits.

#### **Applications of Quantum Technology:**

The major applications of Quantum technology are as follows:

- The Quantum Technology is used by China to link its terrestrial stations and satellites. As the technology promises fast computing, it is significant to military and cyber security.
- The Quantum technology will help in solving fundamental questions related to black hole and gravity.

- The Quantum Technology will give boost to Genome India Project. It is a collaborative project of twenty institutions.
- With Quantum technology, natural disasters such as tsunamis, drought, earthquakes and floods become highly predictable.
- The technology will reduce the time frame of discovery of new molecules in the field of pharmaceuticals.
- Quantum technology will help to augment industrial revolution 4.0.

#### 75. Salvator Mundi: 500-year-old stolen Copies recovered:

- The Italian Police recently recovered a sixteenth century copy of “Salvator Mundi”. Salvator Mundi is the world most expensive painting of Leonardo da Vinci.
- Salvator Mundi is a painting by the Italian renaissance artist Leonardo da Vinci. The painting depicts Jesus in Renaissance dress making the sign of cross with his right hand. Also, he holds a transparent crystal orb in his left hand in the painting. The painting represents “Celestial Sphere” of the heavens. There are twenty other variations of the same work by the students of Leonardo da Vinci. However, the original painting was created by the legend himself.
- The Salvator Mundi is one of the few of the twenty-known works of Leonardo.
- Salvator Mundi is the most expensive painting in the world. The painting was sold at 450 million USD in 2017. It was sold to Saudi Prince Badr bin Abdullah. He is the current Minister of Culture of Saudi Arabia. Since then, the painting holds the place of the most expensive painting of the world till date.
- Scholars believe that the Salvator Mundi might have been painted for Louis XII of France. It might have been presented to him after the Second Italian War. Louis fought the war to claims on the thrones of Naples and Milan.

#### Leonardo da Vinci:

- Leonardo da Vinci was an Italian polymath. Polymath is an individual whose knowledge spans a substantial number of subjects. He knows to draw on complex bodies of knowledge to solve a particular problem.
- He is considered as one of the most diversely talented individuals during his era. He became known for his notebooks where he made notes on his scientific inventions. His inventions involved variety of subjects such as botany, astronomy, anatomy, painting, cartography and palaeontology.
- Some of the popular works of Leonardo were Annunciation, Mona Lisa, The Last Supper, Lady with an Ermine.

#### 76. Kamalam: Gujarat renames Dragon Fruit:

- The Gujarat Government is to patent the Dragon Fruit in the name of “Kamalam”. Kamalam is also the name of the BJP state party headquarters in Gujarat.

#### Dragon Fruit

- The Dragon fruit is a cactus variety fruit. It is widely cultivated in South east Asia, United States, Australia, India, Caribbean islands and Mesoamerica.
- The total lifespan of a Dragon fruit plant is fifteen to twenty years. They grow in regions where summer temperatures rise above forty degrees Celsius.
- Dragon Fruits grow only during summers. They do not grow in the rest of the year. However, when they grow their growth is rapid.
- Dragon flowers bloom only at night. It occurs only once in a year. They rely on nocturnal pollinators such as moths and bats for fertilization.
- Dragon Fruit Cultivation and Demands in India

- India imports 95% of its Dragon fruit from Malaysia, Thailand, Vietnam and Sri Lanka. The Dragon Fruit has great export potentials to countries such as USA, Gulf and European. The farmers in the states of Gujarat, Tamil Nadu, Andhra Pradesh, Karnataka have taken up Dragon Fruit Cultivation only in the recent years.
- Vietnam is the largest producer and exporter of Dragon Fruit. The fruit was brought here by the French.

#### **Farmer Benefits:**

- The Dragon Fruit plants are raised on poles. One pole can support four plants. In an acre, more than 300 poles can be installed. Commercial planting is highly beneficial as they can be planted in clusters. Thus space consumption in dragon fruit cultivation is very minimal.
- They will require only one to two litres of water per day. This can easily be achieved through drip irrigation.
- Also, Dragon fruits fetch good rates. They are sold for Rs 300 to Rs 400 per kilogram.
- In India, Dragon fruits are consumed for their taste and health benefits.

#### **77. Article 19 of the UN Charter:**

- Iran and six other countries have lost their voting rights in the United Nations General Assembly as they had not paid their dues. The other countries that lost their voting rights were Niger, South Sudan, Zimbabwe, Congo Brazzaville, Central African Republic and Libya. On the other hand, three other countries such as Comoros, Somalia, Sao Tome and Principe will be allowed to vote despite of their missing dues.
- The actions of suspending the members from voting has been taken under Article 19 of the United Nations Charter.

#### **Article 19 of UN Charter:**

- According to the Article 19 of the UN Charter, a member shall have no voting rights if it has arrears in the payment of its financial contributions to the UN. The Charter provided two years of grace period. That is, if the arrears are pending for more than two years, then the voting rights are suspended.

#### **Iran:**

- Iran owes 16.2 million USD to the United Nations. According to Iran, the US sanctions is troubling the country in paying its contribution to the UN.

#### **United Nations Budget Contributions:**

- The US is the highest contributor of the UN. The United States contributed 22% of the UN budget, China contributes 12%, Japan contributes 8.574% and Germany contributes 6.090%. These four countries together finance 49% of the entire UN budget.

#### **India:**

- India is one among the thirty-four United Nations members to pay the budget dues on time. In January 2020, India paid 23, 396, 496 USD to the United Nations as its contribution.

#### **Determination of UN Budget:**

- Every three years, the UN Members collectively decide on the formula called "Scales of Assessment". The formula decides how much currency should each member contribute to the UN regular budget and to peace keeping operations.
- The formula is highly complicated. It begins with the Gross National Income of the country. Later adjustments are applied taking account where the country is relative to average global income per head. A ceiling and a minimum floor is applied to Least Developed Countries.

#### **78. Council of Palm Oil Producing Countries:**



- The top palm oil producers for the first time are looking for opportunities to run an advocacy campaign in Europe. The largest oil producers of the world Indonesia and Malaysia have sent proposals to hire an advocacy firm to run campaign in Europe through the Council of Palm Oil Producing Countries.
- According to the European Union, the producers of palm oil primarily Malaysia and clear vast areas of biodiversity rich rainforest in South East Asia exploiting migrant workers. The Union is to ramp up legislations on deforestation as a part of European Green Deal. This could restrict the use of palm oil in fuel and food. Therefore, the CPOPC dominated by Indonesia and Malaysia are looking for opportunities to launch campaigns to change the perceptions of European countries.
- The European Union had finalised a rule in 2019 to phase out palm oil from renewable fuel by 2030 mainly due to deforestation concerns.
- Malaysia and Indonesia account to 85% of the global palm oil output. Indonesia alone produces 60% of world's palm oil. India and China are the biggest buyers of palm oil.

#### **Council of Palm Oil Producing Countries:**

- It is an intergovernmental organisation. It was established in 2015. Indonesia and Malaysia are the founding fathers of the Council of Palm Oil Producing countries. The council aims to promote and strengthen cooperation in oil palm cultivation. It enhances welfare of oil palm stakeholders. It addresses the impediments to palm oil trade. The six main focus areas of cooperation of the council are sustainability of palm oil, research and innovation, productivity of small holders, industrial cooperation towards value added production, trade policy issues and technical regulations and standards.

#### **79. European Green Deal:**

- The European Green Deal is a set of policy initiatives of the European Union to make Europe climate neutral by 2050.

#### **Tropical Rain Belt: Climate Change to alter its position:**

- The researchers from the University of California recently predicted that the future climate change will cause an uneven shifting of the tropical rain belt. This might threaten food security for billions of people.

#### **Key Findings:**

- According to the study, the shift of the tropical rain belt over the Indian Ocean and Eastern Africa will result in drought stress in south eastern Africa and Madagascar. Also, it will increase the flooding in southern India. The southward creeping of the tropical rain belt over the Atlantic Ocean and eastern Pacific Ocean will cause greater drought in Central America.

#### **Tropical Rain Belt:**

- The tropical rain belt is the region around the tropics that receives abundant rainfall. It is largely the manifestation of the ITCZ (Intertropical Convergence Zone).
- During October to March, the tropical rain belt lies in the southern hemisphere of the Indian Ocean and the western Pacific Ocean. The northern tropics are dry during this period. Between April and September, the tropical rain belt occurs in the northern hemisphere and the southern hemisphere goes dry then.
- The belt shifts roughly between the equator and the fifteenth parallel north (south) latitude. Near these latitudes one dry and one wet season occurs. On the other hand, there are two wet and two dry seasons in the equator as the belt passes through the equator twice.

#### **Abundant rain in Tropical Rain Belt:**

- The air in the tropics warm up quickly. The warm air rises up. As the hot air rises, the cold air occupies the vacant spaces. As more and more cold air replaces the warm air, the tropics lose

their ability to hold moisture. As a result, the excess moisture turns into rain showers and thunderstorms. This is the main reason for abundant rain in the tropics

**Intertropical Convergence Zone:**

- The region is called Doldrums by the sailors because of its windless weather. This is the region where the south east and north east trade winds converge.

**80. STARStreak Air Defence System: India-France sign Agreements:**

- Thales, a French Multinational Company has signed an agreement with the Bharat Dynamics Limited, a Government of India enterprise to jointly work on STARStreak Air Defence System.

**STARStreak Air Defence System:**

- The STARStreak is a short-range surface-to-air missile. It was earlier called as the Shorts Missile System. It travels at Mach 3 speed, that is, the speed of the missile is three times the speed of sound.
- STARStreak has been in service with the British Army since 1997.
- The minimum range of the system is 0.3 km and the maximum range is 7 km. The range of STARStreak System II variant is more than 7 km.
- The other variants of the STARStreak system are air to air system that can be fired from helicopters. The Light Weight Multiple Launcher variant of the STARStreak system can be used mounting on a stationary vehicle.
- The surface to air missile installed in the STARStreak Air Defence System is currently the fastest short-range surface to air missile in the world. After being fired from the system, the missile picks up speed greater than Mach 4 level.
- The missile is made of three LASER guided Darts. Usually, the missile systems have only one LASER guided dart that increases the probability of missing the target. On the other hand, STARStreak systems have three darts that increases the accuracy of reaching the target position.

**Advantages of STARStreak Air Defence System:**

- The STARStreak Air Defence System cannot be jammed by infrared countermeasures.
- The STARStreak Air Defence System has been optimised to engage attack helicopters.
- The speed of the system makes it difficult for the pilots to evade.
- The STARStreak Air Defence System cannot be suppressed with anti-radar missiles.
- It has high speed that reduces the amount of time for a counter measure such as illuminating the guidance laser source or beam manoeuvring.

**Disadvantages of STARStreak Air Defence System:**

- The STARStreak Air Defence System does not have proximity fuse. This makes it compulsory for its missiles to collide with the target in order to harm it.
- The high speed of the system makes it difficult to intercept a fast-moving aircraft. However, it can intercept the fast-moving targets that are head on with the missile.

**81. Keystone Pipeline Project:**

- The US president elect Joe Biden is expected to cancel the Keystone XL pipeline project.
- The keystone pipeline system is an oil pipeline system in the United States and Canada. It was commissioned in 2010 and is owned by the Government of Alberta and TC Energy. The pipeline runs from the Western Canadian sedimentary basin in Alberta to the Refineries in Texas and Illinois.

**What is the issue?**

- Recently a proposed fourth phase of the keystone pipeline system attracted opposition from environmentalists over climate change and fossil fuels. In 2015, President Obama delayed the

implementation of the 4th phase of the project. In 2017, President Trump permitted the completion of the pipeline. In 2021, President elect Biden has planned to cancel the project.

**Environmental Concerns:**

- The major environmental concern raised against the project is that the pipeline spill will threaten Ogallala aquifer. Ogallala aquifer is one of the largest freshwater reserves in the world. It supports more than 2 million people by providing drinking water to them. Also, the aquifer supports 20 billion USD of agricultural activities. It is located beneath The Great Plains in the United States.

**Oil Spills in Keystone Pipeline System:**

- In 2016 more than 400 barrels of oil leaked from the keystone pipeline network due to weld anomaly. In 2017 the pipeline leaked more than 9600 barrels of oil. In 2019, the pipeline spilled more than 9000 barrels of oil.

**Oil Sand Concerns:**

- The environmental organisations also opposed the project due to its transportation from Oil Sands. The oil Sands are technically called bituminous sands. These are unconventional petroleum deposits. They occur naturally in the mixture of sand, water, and clay. The petroleum in oil sands is highly viscous. Large quantities of natural bitumen deposits are found in Russia, Venezuela, Canada and Kazakhstan.
- The major concern of extracting Petroleum from oil sands is that it releases 17% more greenhouse gas emissions than the conventional oil extraction.

**82. Apartheid State: The Israel-Palestine Conflict:**

- Israel has been recently banning the human rights groups in the country that called Israel to be an apartheid state.
- Apartheid is a system of institutionalized racial segregation.
- Israel is being criticized to be an Apartheid State for its actions against Palestinians. The actions of Israel occupying the West Bank region is criticized as being apartheid.



#### **West Bank Occupation:**

- Israeli occupation of the West Bank began in 1967 during a six-day war and is continuing till date.
- The status of West Bank as an occupied territory has been affirmed by the International Court of Justice. Israel cites Balfour Declaration for retaining West Bank.

#### **Balfour Declaration:**

- It was a public statement made by the British Government during the first World War.
- Under the Balfour Declaration the British extended its support for the establishment of a national home for Jewish people in Palestine.
- The Balfour declaration is the founding document of Mandatory Palestine that

later became Israel and Palestine. The Balfour Declaration is considered as the principal cause of the ongoing Israeli-Palestine conflict.

#### **Israel-Palestine Conflict:**

- The establishment of Palestine as the national home of Jews by the Balfour declaration created tension in the region between the Jews and the Arabs. The conflict widened after the 1947-1949 Palestine war. It further increased after Israeli military occupation of Palestinian territories in 1967 after a six-day war.
- The United Nations has called for “Two State Solution” to end the Israel-Palestine conflicts.

#### **Two State Solution:**

- According to the Two State solution, one would be a state of Jews and the other would be the state of Palestinian Arabs. The idea however is rejected by the Arabs.
- More than 83% of world countries have recognized Israel as a sovereign state. Recently, UAE, Sudan and Bahrain normalized their ties with Israel.

#### **83. Parakram Diwas:**

- The Government of India recently announced that the birth anniversary of Netaji Subhash Chandra Bose is to be celebrated as “Parakram Diwas”. Parakram Diwas means Courage Day. Netaji was born on January 23, 1897.
- The Central Government and the Bengal Government are to begin the year long celebrations of 125th birth anniversary year on January 23, 2021.

**Netaji Subhash Chandra Bose:**

- Netaji was an Indian nationalist. He was born in Cuttack to an affluent family. He acquired a degree in philosophy and was later selected for the Indian Civil Services. He refused to join as he did not want to serve the British Government.
- Netaji joined the Indian National Congress in 1921.
- Netaji started a newspaper called "Swaraj". He had written a book called "The Indian Struggle". The book covers the Indian Independence movement between 1920 and 1942.
- The term "Jai Hind" was coined by Netaji Subhash Chandra Bose.

**Netaji in Indian independence struggle:**

- Netaji was prisoned in 1925 for his nationalist activities. Later released in 1927. After his release, he became the general secretary of the Indian National Congress.
- He formed the All India Forward Bloc as a part of the Indian National Congress in 1939.
- During the second world war, Netaji protested the British Raj for not consulting the Indians before pulling them into the war. He was arrested for his protests. Later he was released and was kept under surveillance. In 1941, Bose escaped to Germany via Afghanistan and Soviet Union. In Germany, Netaji met German leaders and other Indian students and European political leaders.
- He founded the Indian Legion with 4,500 Indian soldiers. These soldiers were taken as prisoners by the Germans from North Africa. In 1943, he left for Japan and revived the Indian National Army.
- The Indian National Army supported the Japanese army in their invasion of Northeast India. They together took control of the Andaman and Nicobar Islands.

**84. India Innovation Index, 2020:**

- The NITI Aayog is to launch the second edition of India Innovation Index. The Index ranks states of the country based on how they support innovation. The first edition of India Innovation Index was launched in 2019.
- The India Innovation Index was developed on the lines of Global Innovation Index. It attempts to create an extensive framework for the continuous evaluation of the innovation environment of the states and union territories in India.
- The index is calculated as the average of scores of two dimensions namely enablers and performance. The enablers provide the innovative capacities of the states and the performers give the benefits derived by the nation from the state's innovation. The enablers are human capital, investment, business environment, knowledge workers and safety and legal environment. The performance parameters are knowledge diffusion and knowledge output.

**Importance of India Innovation Index:**

- India has huge opportunities and potential to become the innovation leader of the world. The Innovation Index will act as an evaluator of innovation in the country. This will help to channelize the improvement of innovation environment. Also, it will promote competitive federalism among the states.

**India Innovation Index, 2019:**

- Karnataka emerged as the topper in overall rankings in the category of major states in India Innovation Index, 2019. Maharashtra performed the best in the dimension of Enablers. Sikkim topped the ranking in north eastern states category and Delhi topped the list in the category of Union Territories.
- There is a need to improve the capability of top rung education institutions in the country to produce greater innovation outputs. Also, the spending on research and development should be increased with greater collaboration between the educational institutions and industries.

- A collaborative platform with innovators, investors and researchers will strengthen industry-academia linkages and will ease the technology transfer processes.

#### **85. Global Firepower Index, 2021:**

- The Global Firepower Index ranks the countries based on their potential military strength. India was ranked fourth in the index. The Global Firepower Index ranked 138 countries. The countries were evaluated based on prolonged offensive and defensive military campaigns.

#### **Rankings:**

- The United States topped the index with 904 attack helicopters and eleven aircraft carriers. Also, the country has sixty-eight submarines and 40,000 armoured fighting vehicles.
- The US was followed by Russia with 189 fighter aircrafts and 538 attack helicopters. Russia has 13,000 tanks and 64 submarines.
- China was ranked third with 1,200 combat aircrafts and 327 attack helicopters and seventy-nine submarines. Also, China has 35,000 armoured vehicles.
- India was ranked fourth in the Global Firepower Index with 542 combat aircraft, 17 submarines, 4,730 tanks and 37 attack helicopters.
- Japan was ranked fifth in the Global Firepower Index with 2 helicopter carriers, 27 destroyers.
- South Korea was ranked sixth in the world and North Korea was ranked 28th.

#### **About Global Firepower Index, 2021:**

- The Global Firepower Index is calculated using fifty individual factors from geography to logistical capability. It also includes manpower, land forces, airpower, natural resources, naval forces, logistics and financials. Under manpower, the factors considered are total population, paramilitary, reaching military age annually, active reserves and active services.
- Under equipment, the factors considered are trainer fleet, aircraft fleet strength, helicopter fleet, attack fleets, rocket projectors, tank strength, towed artillery, aircraft carriers, naval fleet strength, destroyers, submarines, coastal patrol craft, frigates, mine warfare craft, coastal patrol craft and tanker fleets. The finance factors include external debt, defence budget, reserves of foreign exchange and gold and purchasing power parity.

#### **Pakistan:**

- Pakistan was ranked the tenth most powerful country in the Global Firepower Index. Pakistan has surpassed Israel, Indonesia, Iran and Canada in terms of military power. Currently Pakistan dedicates 7 billion USD from its annual budget for defence purposes.

#### **86. Mahananda Wildlife Sanctuary:**

- A bird festival is to be organised at Mahananda wildlife Sanctuary in West Bengal. The festival is first of its kind. It is to be organised by Darjeeling Wildlife Division. The Mahananda Wildlife Sanctuary has been identified as an Important Bird and Biodiversity Area.

#### **Important Bird Area:**

- An Important Bird and Biodiversity Area is identified using internationally agreed set of criteria that are globally important for conservation of bird population. The Important Bird Area concept was developed by Birdlife International.
- Currently there are 12,000 Important Bird Area spread all over the world. The thresholds of the Important Bird Areas are set by the respective national governing organisations. In order to be listed under Important Bird Area, the site must satisfy at least one of the following criteria:

#### **A1: Globally threatened species:**

- The site should hold population of bird species listed as Critically Endangered, vulnerable or endangered under IUCN red list.

**A2: Restricted range species:**

- The site should be an Endemic bird Area. The Endemic Bird Area is identified by the Birdlife International as those habitats that contains restricted bird species that are endemic to them. Around 218 Endemic Bird Areas have been identified by the Birdlife International. Endemic means the species is native to a single geographic location and not found elsewhere.

**A3: Biome-restricted range species:**

- The site should hold restricted biome species. The site should form a set of selected adequate representation of all species in that biome. That is, the species living in the site should be endemic and should be found only in that particular biome (not anywhere else in the world).

**A4: Congregations:**

- This applies to waterbirds, seabirds and wetland birds. This has been created based on Ramsar Convention.

**Mahananda Wildlife Sanctuary:**

- It is located in the foothills of Himalayas between Teesta and Mahananda rivers. It was provided the status of sanctuary mainly to protect Indian bison and Royal Bengal Tiger.

**87. Jammu & Kashmir: GI tag for Gucho Mushroom:**

- The Jammu and Kashmir Government recently sought GI tag for Gucho mushroom. The Gucho mushrooms are highly expensive and are full of health benefits. 500 grams of Gucho mushrooms cost Rs 18,000.
- Recently, GI Tag was provided to Saffron of Jammu and Kashmir.

**About Gucho mushrooms:**

- Gucho mushroom is a species of fungus belonging to the family Morchellaceae. They are pale yellow in colour with large ridges and pits on their cap. They are raised on a large white stem. The Gucho mushrooms are locally called "Thuntoo".
- The Gucho mushrooms prefer soil with limestone base. They also grow in acid soils. The Gucho mushrooms are usually found in early spring.
- They are referred to "May Mushrooms" in North America.
- The time of fruiting of the mushrooms varies locally from February to July. In Canada, they appear only after June.
- The Gucho mushrooms cannot be cultivated commercially. They grow in the conifer forests of Uttaranchal, Himachal Pradesh and Jammu and Kashmir. It takes months for the villagers to collect these mushrooms, dry them and bring them to the market.
- The Gucho mushrooms grow in clusters on logs of decaying wood, humus soil and leaves. They may not grow in the same spot the next season. This makes the process of collection more tedious. Due to these reasons, the Gucho mushrooms are highly expensive.
- The Gucho mushrooms cannot be cultivated commercially for their nature of germination. They germinate and grow in low temperature soil. They usually appear after fires. The fruiting of Gucho mushrooms require alkaline conditions produced by wood ash mixed with water. These criteria make commercial cultivation of Gucho highly challenging.

**Health Benefits:**

- The Gucho mushrooms are rich in vitamins, potassium and copper. They are also rich in Vitamin-D. further they are rich in antioxidants that prevent health issues such as heart diseases and diabetes.

**88. PM Modi to attend G7 Summit:**

- The UK Prime Minister Boris Johnson recently invited PM Modi to attend G7 summit. UK has invited Australia and South Korea as well. Earlier, UK had proposed the idea of D10. D10 includes members of G7 and India, Australia and South Korea.

#### **About G7:**

- G7 was originally formed in 1975. The members are USA, Canada, Germany, France, Japan, Italy, UK. Russia was formally inducted as a member of the group in 1998. With this G7 became G8. However, when Russia moved its troops into eastern Ukraine and conquered Crimea in 2014, the other G8 countries criticized Russia heavily. They subsequently suspended Russia from G8. With this, the G8 again became G7 in 2014.
- For a country to become the member of G7, it must hold high net national wealth and high Human Development Index.

#### **Working of G7 Summit:**

- The G7 annual summit is presided over by leaders of its member countries on rotational basis. The summit is an informal gathering that is held for two days. During the summit, the leaders discuss global issues. The ground work of the summit is done by the “Sherpas”. Sherpas are the personal representatives or members of ambassadors of G7 members.

#### **Importance of G7:**

- The decisions taken at G7 have huge impact globally as the members are the major economic powers. They represent 58% of global net wealth. However, the decisions taken at G7 are not legally binding but has strong political influence.
- Five of the seven members of G7, US, Italy, Japan, France, Germany have the largest proven reserves of gold.
- G7 attracts thousands of protestors. The protestors claim that G7 has no representatives from Africa and other middle eastern countries.
- The protest groups use worldwide platform as a stage to lobby and campaign on issues that are important to them. Also, several claim that G7 is increasing the gap between the developed and developing countries and is making the fight against poverty more difficult.

#### **89. Open Skies Treaty:**

- Russia recently announced that it is withdrawing from the “Open Skies Treaty”. The treaty allows the signatories to carry out unarmed surveillance flights over each other’s territories. In 2020, the US announced that it is to leave the Open Skies Treaty.

#### **Open Skies Treaty:**

- The Open Skies Treaty was signed in 1992 after the Disintegration of the Soviet Union. It was first proposed by the former US President Dwight Eisenhower in 1955 to deescalate cold war tensions.
- The treaty was signed between NATO (Non-Atlantic Treaty Organization) members and the former Warsaw Pact countries. In 2002, more than 35 countries had signed the treaty. This included US and Russia as well. India is not a signatory of the Open Skies Treaty.

#### **Key Features:**

- The Open Skies Treaty aims to build confidence among its signatories. According to the treaty, a member state can spy on any part of the host nation only after receiving its consent. Also, a member state can take aerial images of the host state after providing a notice before 72 hours. The Open Skies Treaty regulations covered territories such as mainland, territorial waters and islands.

#### **Russia and US:**



- The US left the Open Skies Treaty accusing that Russia is non-compliant with the Open Skies Treaty. On the other hand, according to Russia, withdrawal of US from the treaty has created imbalance in its implementation. This is the reason for Russia's withdrawal.
- Also, the Open Skies Treaty was signed during a time where satellite surveillance did not exist. This puts the treaty in async with the satellite surveillance technology which is currently the preferred mode of intelligence gathering.

#### **Other treaties:**

- The US and Russia left the Intermediate Range Nuclear Force Treaty (INF) in 2019. According to INF, the countries agreed to destroy lethal missile systems from their own stocks as a means to decelerate the nuclear arms race.

#### **90. Central Adoption Resource Authority:**

- The Central Adoption Resource Authority (CARA) recently celebrated its 6th annual day on January 15, 2021. The annual day is celebrated on January 15 because CARA was granted the status of statutory body on this day under Section 68 of the Juvenile Justice act, 2015.

#### **About CARA:**

- Central Adoption Resource Authority operates under the Ministry of Women and Child development. It acts as the nodal body for the adoption of Indian children. It monitors and regulate inter country and in country adoptions.
- CARA has been designated as the central authority to deal with intercountry adoption according to the provisions of Hague convention on intercountry adoption, 1993. India ratified Hague convention in 2003.
- CARA mainly deals with the adoption of abandoned, for fun and surrendered children through its recognised adoption Agencies.

#### **Hague convention:**

- The convention protects children against the risks of irregular, illegal and premature adoptions all over the world. It has created safeguards to make sure that the intercountry adoptions are in the best interests of the children.

#### **Challenges faced by CARA:**

- Between 2015 and 2019, CARA faced several instances of disruption. Disruption are those circumstances where an adoption is stopped after the child is placed in an adoptive home. According to CARA, six in 400 children are being returned at advanced stages of adoption.
- Between countries that are not signatories of Hague convention, the authorities in both countries do not agree in certain terms.
- On an average there are 4000 legal adoption in India.
- The major challenge faced by Central Adoption Resource Authority is that the child is unable to forget the relationship it had developed with the earlier family.
- In order to resolve this, post adoption trauma therapy shall be adopted. Psychological conditions of the parents and their background should be checked properly before adoption.

#### **91. Thiruvalluvar:**

- The state of Tamil Nadu celebrates Thiruvalluvar Day during Pongal celebrations. Every year, the Thiruvalluvar Day is celebrated on the second day of Tamil month "thai".
- Thiruvalluvar is a Tamil poet and is best known as the author of Thirukkural. Thirukkural is a collection of couplets on political and economic matters, ethics and love.

- There are no known details about the life of Thiruvalluvar. However, he is believed to have lived near Chennai between fourth and sixth century.
- In 2005, a research team from the Kanyakumari Historical and Cultural Research Centre (KHRC) claimed that Valluvar was born in Thirunayanarkurichi, Kanyakumari. This claim was based on an old Kani tribal leader. According to the research team, Thiruvalluvar ruled the Valluvanadu territory in the hilly tracts of Kanyakumari.
- Apart from Thirukkural, Thiruvalluvar has also written “Gnana Vettiyan” and “Pancharathnam”. These books contribute to tamil science, siddha medicines and literature.
- The Kural (couplet) literature has three parts. They are aram (virtue), porul (wealth) and inbam (love). The couplets aim at attaining ultimate salvation.

#### **Tribute to Thiruvalluvar:**

- In 1976, Valluvar Kottam was built in Chennai. It houses one of the largest auditoriums in Asia. A 133-foot-tall statue of Thiruvalluvar was built at Kanyakumari. The number 133 has its significance. Thirukkural written by the legend has 1330 couplets and the couplets are divided into 133 sections. Thus the height of the statue of Thiruvalluvar is 133 foot.

#### **G U Pope:**

- George Uglow Pope translated Thirukkural in English. He came to India under Anglican Christian Missions He lived in 19th century. He spent more than forty years in Tamil Nadu and translated tamil literature in English.
- Thirukkural was translated into Latin in 1730. This helped to make the work known to European intellectuals.

#### **92. International Migration 2020:**

- The United Nations recently released the report “International Migration 2020 Highlights”. According to the report, the Indian diaspora is the largest in the world. More than 18 million people from India were living outside India as of 2020.

#### **Key Findings of the report:**

- The other countries with large diaspora are Mexico, China, Russia and Syria.
- According to the report, India’s diaspora is distributed across a number of major countries such as UAE (3.5 million), Saudi Arabia (2.5 million) and US (2.7 million).
- The other countries hosting large number of migrants from India are Oman, Australia, Kuwait, Canada, Qatar, Pakistan and UK.
- Between 2000 and 2020, the size of migrant population has grown in all countries. During his period, India experienced the largest gain at nearly ten million. India was followed by Syria, Venezuela, China and Philippines. The countries where the migrant population increased during this period are Armenia, India, Ukraine, Pakistan, Tanzania, Ukraine.
- The migration of India was motivated by labour and family reasons.
- The United States was the largest country of destination of international migrants. There were more than 51 million migrants in the US as of 2020. This is equal to 18% of the total migration population of the world.
- The US was followed by Germany. Germany hosted the second largest migrants worldwide holding more than 16 million migration population. Germany was followed by Saudi Arabia, Russia and the UK.
- The COVID-19 has slowed down the growth in the stock of international migrants by around two million by mid-2020. This is 27% less than the growth expected since 2019.
- The growth in the number of international migrants has reached 281 million. It was 173 million in 2000 and 221 million in 2010. Currently, the total international migrants are about 3.6% of the world population.

- In terms of regional migration corridors, the central and southern Asia to Northern Africa and Western Asia grew the most. In these corridors the migrant population almost tripled between 2000 and 2020.

### 93. SAKSHAM Awareness Campaign:

- The Ministry of Petroleum and Natural Gas recently launched SAKSHAM awareness campaign. The campaign was launched to spread awareness about green energy.
- The campaign will spread awareness about clean energy. It is a one-month long people centric fuel conservation campaign. The campaign is to be launched by the Petroleum Conservation Research Association (PCRA). The campaign is to create awareness in seven key drivers namely greater reliance on domestic sources to drive bio-fuels, moving towards gas based economy, cleaner use of fossil fuels, achieving renewable targets with the set deadlines, increased use of electric vehicles to decarbonize mobility, increased use of cleaner fuels and digital innovation across all energy systems.

### 94. Green Energy Schemes in India:

- Kisan Urja Suraksha evam Utthan Mahabhiyan (PM-KUSUM)
- The PM-KUSUM scheme covers grid connected renewable energy power plants, grid connected agriculture pumps and solar water pumps. The scheme aims to install 10,000 MW of decentralised grid connected renewable energy power plants. It will install standalone off grid solar water pumps to fulfil irrigation needs. Also, it will solarise the existing grid-connected agriculture pumps. With this the farmers can sell the surplus solar power generated to the Discoms.

#### Grid Connected Roof top Solar Programme:

- The programme aims to achieve a cumulative capacity of 40,000 MW of Rooftop solar power projects by 2022. In a grid connected rooftop solar power project, DC power generated is converted into AC power using power conditioning unit and is then fed into the grid.
- The main objective of the solar programme is to promote solar power generating plants among the residential, institutional and community establishments.

#### National Wind-Solar Hybrid Policy:

- The main aim of the policy is to provide a framework to promote large grid connected wind-solar hybrid system. It aims to encourage new technology and way-outs involving combined operation of solar and wind power plants.

#### National Offshore Wind Energy Policy:

- The policy was notified in 2015. The main objective of the policy is to develop offshore wind energy in the Indian Exclusive Economic Zone. The policy has identified eight zones that have cumulative offshore wind energy potential of 70 GW.

### 95. Difficult Four Countries:

- The Chatham House recently published a report proposing a blueprint for foreign policy of UK after Brexit. The report classed India as one of the “difficult four” countries along with China, Saudi Arabia and Turkey.

#### Key Highlights of the report:

- The report was titled “Global Britain, Global Broker”.
- The report points that the complex fragmented domestic politics in India makes it one of the countries resistant to open trade and foreign investment.
- The report raises concerns over pursuance of India in extreme right-winged policies.

- With Indian politics entering ethno-nationalist phase, D10 coalition might end up as D9 damaging the relations between India and UK. Ethnonationalism is a form of nationalism where the nation and nationality are defined in terms of ethnicity.
- The report criticizes India for its diplomatic behaviour. According to the report, India did not join the group of countries that criticized China at the United Nations General Assembly held in 2019. The UN Members criticized China for its human rights violations in Xinjiang. Also, India stayed silent over the National Security Law in Hong Kong.

#### **Implication of India as a Difficult Four countries:**

- By grouping India as one of the Difficult Four countries, UK has destined India to count among its rivals or awkward counterparts as it pursued global goals.

#### **Chatham House:**

- The Chatham House is also called the Royal Institute of International Affairs. The Chatham House aims to promote debate on significant developments in international affairs and policy responses. It is usually used as a source of information by experts on matters involving major international issue.

#### **D10:**

- The D10 group of countries was proposed by Britain. The D10 group will include all the G7 countries and additionally India, Australia and South Korea. D10 means Ten biggest democracies in the world.

#### **96. Ndrangheta:**

- The Italian authorities believe that the Ndrangheta Mafia is responsible for controlling the massive amount of cocaine entering Europe from South America. This was confirmed by the Italian Government after a massive mafia trial targeting the Ndrangheta group.
- The Ndrangheta is a prominent Italian Mafia based in the region of Calabria. The Mafia has been in existence since 18th century. The first official report of Ndrangheta was submitted in 1792 during the reign of the Bourbons of Naples. The House of Bourbon ruled Southern Italy and Sicily for more than a century during 18th and 19th century.
- According to the US, money laundering activities, narcotics trafficking account to 3% of Italy's GDP. The annual revenue of Ndrangheta is about 50 billion USD to 60 billion USD.
- Ndrangheta is also active in other countries such as Albania, Australia, Argentina, Belgium, Canada, Brazil, Colombia, Netherlands, Germany, Malta, Switzerland, Slovakia, UK, Uruguay and USA.
- According to EUROPOL (European Union Agency for Law Enforcement Cooperation), Ndrangheta is the most powerful organized crime groups in the world.

#### **EUROPOL:**

- EUROPOL was formed in 1998 to handle criminal intelligence and combat serious international organised crime and terrorism. EUROPOL has no executive powers. The officials of EUROPOL cannot arrest the suspects without prior approval from competent authorities.

#### **Calabria:**

- Calabria is the region where the Ndrangheta are highly powerful. The region is located in southern Italy. The region is bordered by Ionian sea in the east and Tyrrhenian sea in the west. The Strait of Messina separate Calabria from Sicily. The Sicilian Mafia is considered to be one of the closest allies of Ndrangheta.

#### **Allies of Ndrangheta:**

- The allies of Ndrangheta mafia are Camorra, Sacra Corona Unita, Societa foggiana, Stidda, Albanian Mafia, American Mafia, Primeiro Comando da Capital.

- The Camorra, Sicilian Mafia, Sacra Corona Unita, Stidda and Societa foggiana are located in Italy. Primeiro Comando da Capital is located in Brazil.

#### **97. Flint Water Crisis:**

- Nine former officials who served in the Michigan, US and the state's former governor Rick Snyder were recently charged in connection with a criminal investigation into the Flint Water crisis.
- The Flint Water Crisis is an ongoing investigation on public health crisis. The issue began when the City of Flint in the state of Michigan shifted its water supply from Lake Huron to Flint river. The city has a population of 100,000 people.
- The shift caused water distribution pipes to corrode. This resulted in leaching of lead and other contaminants into the municipal drinking water. The city suffered from an outbreak of Legionnaires' disease due to the leaching of lead. This is referred to as Flint Water crisis.
- The main reason behind crisis is that the officials failed to apply corrosion inhibitors to the water.

#### **Legionnaires' disease:**

- The disease is a serious type of pneumonia caused by Legionella bacteria. According to US Centre for Disease Control and Prevention, people get sick from the disease if they breathe or accidentally swallow the bacteria containing water. There are no vaccines available for the disease. The disease can be prevented by good maintenance of water systems.
- The outbreak of the disease was very serious that the State of Michigan declared a state of emergency in 2016. The residents were advised not to drink municipal tap water unless it was filtered.

#### **Flint River:**

- The Flint river is also called the Thronateeska river.

#### **Lead Poisoning:**

- It is a type of metal poisoning caused by lead. Lead poisoning causes almost 10% of intellectual disability and can result in behavioural problems. Pre-industrial human Blood Lead Level are estimated to have 0.016 micro grams of lead per deci-litres. This increased from 0.8 to 3.2 micro grams per deci litres. The US Centre for Disease Control and Prevention has identified 10 micro grams per deci litres of lead in blood level as a level of concern.

#### **98. Drone Swarming:**

- Recently on Army Day (January 15, 2021), the Indian Army displayed its combat drones that are part of the Swarm Technology.
- Swarm drones are lightweight drones that carry multiple packages to a single destination at a time. In simple words, multiple drones are engaged in a single operation. Here, multiple drones receive commands from a single drone. They overcome single drone's payload and battery limitations. They work on swarm intelligence. Swarm Intelligence is the collective behaviour of decentralized and self-organized Systems.

#### **Key features:**

- The Swarm drones of Indian Army has a range of 50 kilometres. These drones can make deep in roads behind enemy lines with the capability to hit the target from a distance of 500 metres.
- The drones carry out randomised sonic missions using artificial intelligence. They are driven by continuous satellite feeds.
- These drones can also be used for dropping food, ammunition, medicine and other special needs for soldiers positioned in locations cut away from supply lines.
- Child Drone and Mother Drone

- In the Swarm Drone Technology, the unmanned aerial vehicle has a mother drone that is attached to a child Drone. The child Drone is meant to fire and self-destroy after hitting the target.
- The Indian Army had only 5 combat drones in August 2020. The Drone capabilities of the Indian Army has been enhanced with the induction of 75 indigenous unmanned aerial vehicles. These UAVs can be used for surveillance and also to carry out targeted strikes.
- The Indian Army has purchased more of combat drones as the tensions escalated with China in the region of Ladakh. Also, the ceasefire violations by Pakistan in the line of control has increased.

#### **Artificial intelligence offensive Drone operations:**

- The Indian Army has taken up several technology initiatives in coordination with startups. The Artificial Intelligence Offensive Drone Operations is one such project that has been incubated with an Indian startup. It aims to develop high tech swarm drones for Indian Army.

#### **99. Pakistan permits Dubai Royals to hunt “Houbara Bustard”:**

- Pakistan recently issued special permits to Dubai ruler Sheikh Mohammed bin Rashid Al-Maktoum and five other members of their family to hunt Houbara Bustard during the 2020-21 hunting season.
- The controversial private hunting expeditions of Houbara Bustard by the Dubai Royals date back over four decades. The hunting continued even after the Pakistan Supreme Court imposed a blanket ban on the killing of Houbara Bustard in 2015. However, the order was reversed.
- The Houbara Bustard is a large terrestrial bird found in the parts of Asia, Africa and middle east. After breeding in central Asia during spring, the Houbara bustards migrate south to spend the winter in Pakistan.

#### **International Fund for Houbara Conservation:**

- According to the International Fund for Houbara Conservation, currently there are only 42,000 Asian Houbara Bustards and 22,000 North African Houbara Bustard.
- Over the four decades, the Pakistan foreign ministry extended yearly invitations to the wealthy and powerful Arabs for hunting the Houbara Bustard in the deserts of Punjab and Balochistan to strengthen their relations with the Arabs. The Arabs kill the birds for sport and also for their meat. The meat of Houbara Bustard is said to have aphrodisiac qualities.
- Pakistan permits the Arabs to hunt a total of 100 bustards in a designated area during a ten-day safari. However, in 2014, a Saudi Arabian prince shot more than thousands of Houbara bustards during a three-week hunting safari. This created nationwide outrage from conservationists.
- Similar expeditions had taken place in India as well in the borders of Rajasthan. The Arabs used to hunt Great Indian Bustard in the borders. The practice was banned in 1972.

#### **Conservation:**

- Great Indian Bustard: Critically Endangered (IUCN)
- Houbara Bustard: Vulnerable (IUCN)

#### **100. Impeachment of Donald Trump:**

- The House of Representatives of the United States recently voted to charge President Trump with inciting mob attack on US Congress. Recently President Trump instructed his supporters to March into the US Capitol building to overturn the US Presidential elections held in 2020. This ended up in an armed standoff.
- The United States constitution says that there are two ways to punish an impeached official. One is to remove the impeached official from his office and disqualify him to hold any office of

honour, profit or trust under the United States Government. The second way is to remove an official by convicting with two third majority from the US Senate. Only a simple majority is needed for disqualification.

- The US President can be impeached based on accusation such as treasons, high crime, bribery and misdemeanors.

Page | 71 **Process of impeachment of US President:**

- Firstly, the House of representatives of the United States has to vote for the charges framed against the president.
- After the passage of votes with simple majority, the president is impeached. However, he is not removed from the office.
- In the next phase of the impeachment process, US Senate, that is, the upper house is convened like a court. The hearings are held and the President shall be removed from office only if two thirds of the Senate vote for it.
- The impeachment charges of an Indian President are initiated either in Lok Sabha or in Rajya Sabha.
- After the impeachment resolution is passed by majority of two thirds in one house, it is sent to the other house. The other house investigates the charges.
- If the other house also sustains the charges, an impeachment resolution is brought in.
- If the impeachment resolution is passed with two-thirds majority, the president is said to be impeached.

**101. Prarambh: Startup India International Summit:**

- The Prime Minister Narendra Modi is to interact with the startups and address Startup India International Summit, Prarambh.
- The Startup India International Summit is organised by Department for Promotion of Industry and Internal trade (DPIIT) and the Ministry of Commerce and Industry. The summit is being organised as a follow-up of the announcement made by the prime minister Modi at the 4th Bay of Bengal Initiative for Multi-sectoral Technical and Economic cooperation, BIMSTEC Summit held in 2018 at Kathmandu, Nepal. During the Summit India also committed to host the BIMSTEC Startup Conclave.
- The Summit will bring together speakers from all over the world. This will facilitate discussions on innovation, technologies, robust policies and enable international organisations and governments to share their views and thereby driving them to solve the problems and challenges.
- The Summit also marks the 5th anniversary of Startup India initiative. The startup India initiative was launched by Prime Minister Narendra Modi on January 16, 2016.
- The Summit will be the largest startup conclave being organised by the Government of India since the launch of startup India initiative. More than 25 countries and 200 global speakers are to participate in the Summit.

**Objective of the Summit:**

- The main objective of the Summit is to focus attention of global capital for startups in India, provide opportunities for accessing International markets to the startups in the country, mobilize domestic capital and evolve enabling policy provisions.
- The Startup India initiative was launched to promote and support the startup in India by providing bank finances. The three main pillars of the startup India scheme are as follows:
  1. To provide funding support and incentives to the startup in the country
  2. To provide industry Academy partnership
  3. Simplification and handholding

- Also, the Startup India initiative focuses discarding restrictive state government policies such as Land permissions, licence Raj, foreign investment proposals and environmental clearance rest.

#### **102. RBI Financial Stability Report:**

- The Findings of the Financial Stability Report of RBI:
- The Gross non-performing assets ratio of the scheduled commercial banks is to increase to 13.5% by September 2021.
- The net NPA and GNPA ratios continue to decline. The GNPA ratio stood at 7.5% in September 2020. On the other hand, the NNPA the ratio stood at 2.1 % in September 2020 and at 3% in March 2020.
- According to the financial stability report, the GNPA might increase to 13.5% by September 2021 under baseline scenario. Under severe stress scenario, the GNPA ratio might increase to 14.8% by September 2021.
- According to the July 2020 financial stability report prediction GNPA was to increase from 8.5 % in March 2020 to 12.5% by March 2021. Also, the July 2020 financial stability report predicted that the GNPA ratio was to increase to 14.7 % under severe stress test scenario.
- The loans to corporate have grown to multi quarter high of 5.65 % in March 2020 quarter.
- The financial stability report says that the long-standing trend of private and public sector banks have been reversed. According to the report, the private bank credit has grown rapidly and the public sector bank credit has declined.

#### **Difference between GNPA (Gross Non-Performing Assets) & NNPA (Net Non-Performing Assets):**

- The GNPA's are the summation of all the loan assets that are classified as non performing asset under RBI guidelines. The NNPA subtracts the provisions made by the banks from the gross NPA. Therefore, only NNPA gives the exact value of the non-performing assets.

#### **Who releases Financial Stability Report?**

- The RBI Financial Stability Report is released by the Financial Stability and Development Council. The idea of the council was mooted by Raghuram Rajan Committee in 2008.
- The Union Finance Minister is the chairperson of the Financial Stability and Development Council. The other members include RBI Governor and other senior officials of RBI.

#### **103. CollabCAD Software:**

- The National Informatics centre and the Central Board of Secondary Education (CBSE) jointly launched the CollabCAD software.
- The CollabCAD software provides engineering solution for students and Faculty of Engineering Graphics curriculum. It aims to provide a platform to students across the country to create and modify digital designs.
- The aim is to provide a good platform to the students of Atal tinkering labs across the country. With the software the students of Atal tinkering labs will be able to create and modify 3D designs with free flow of creativity. It will enable students to create data across the network and access the same design data for storage and visualisation.

#### **Key Features of CollabCAD software:**

- The software runs on zone Linux and OS platform.
- It is available in both standalone and client server mode.
- Tinker from Home
- The Tinker from Home Campaign was launched by the Atal tinkering lab programme to ensure that the children in India have access to easy to learn online resources. The objective is to use the creativity of children by encouraging self initiatio.

#### **Atal Tinkering Labs:**

Classic IAS Academy | UG 33-34 Ansal Chamber-1Bhikaji Cama Place | New Delhi 110066  
011-45069494 | [helpdesk@classiciasacademy.com](mailto:helpdesk@classiciasacademy.com) | [www.classiciasacademy.com](http://www.classiciasacademy.com)



- The Atal Tinkering Labs aim to “cultivate 1 million children in India as neoteric innovators”. The Atal innovation mission will provide one time establishment cost of 10 lakh rupees and operational expenses of another 10 lakh rupees to each Atal tinkering lab. This financial support will be provided for maximum period of 5 years.
- Any school can set up Atal tinkering lab. The only criteria is that the applicant school should provide at least 1500 square feet of built up space. On the other hand, an applicant school in a hilly region or Island State should provide at least 1,000 square feet of built-up space.

#### **ISRO role in Atal Tinkering Labs:**

- Recently the Indian Space Research Organisation adopted hundred Atal tinkering Labs. This will promote scientific temperament among students and will encourage them to learn space related Technologies.

#### **104. RBI Working Group on Digital Lending:**

- The Reserve Bank of India recently constituted a working group on digital lending. The working group was constituted to study all aspects of digital lending activities in the regulated and regulated financial sector. The working group will ensure that an appropriate regulatory approach is put in the digital lending platform.

#### **Functions of the working group:**

- The working group will evaluate digital lending activities in the country.
- It will assess the standards of outsourced digital lending activities of entities regulated by the Reserve Bank of India.
- It will suggest regulatory changes to promote orderly growth of digital lending.
- The working group is to identify risks to be faced by the unregulated digital lending. It will mainly focus on risks faced by consumers and regulated entities that are exposed to unregulated digital lending.
- It will recommend measures to expand statutory perimeter in digital lending. Also, it will suggest the role of various regulatory and government agencies in digital lending.
- The working group will recommend a robust fair practice code for Digital lending players.

#### **What are the benefits of digital lending?**

- Digital lending makes the financial products and services more efficient, inclusive and fair.
- Earlier digital lending played a peripheral supporting role. However currently it is now at the core of the design, delivery and pricing of financial services and products.

#### **What are the six Commandments RBI to banks on digital lending?**

- The names of the digital lending platforms working as agents are to be disclosed on the websites of banks and other non-banking financial corporation.
- The digital lending platforms that are working as agents are to be directed to disclose the details of name of the bank, customers on whose behalf they are interacting.
- The sanction letter should be issued to the borrower on letter head of the bank. This should be done immediately after the sanction of the loan Agreement but before its execution.
- A copy of loan Agreement should be furnished to all borrowers at the time of disbursement of loans.
- Effective monitoring should be ensured.
- Adequate efforts should be made in successful implementation of grievance redressal mechanism.

#### **105. Pradhan Mantri Kausal Vikas Yojana 3.0:**

- Recently, the Government of India is to launch the third phase of Pradhan Mantri Kaushal Vikas Yojana. The third Phase is to be implemented by the Ministry of Skill Development and Entrepreneurship.
- Under the third phase of Pradhan Mantri Kaushal Vikas Yojana, 729 Pradhan Mantri Kaushal Kendra are to be established and more than 200 ITIs are to be rolled out under Skill India mission. This will build a robust pool of skilled professionals.
- Pradhan Mantri Kaushal Vikas Yojana 3.0 is to train more than 1 lakh candidates for a period of one year with an investment of 950 crores of Rupees.

#### **Pradhan Mantri Kaushal Vikas Yojana Phase 2:**

- The phase 2 of Pradhan Mantri Kaushal Vikas Yojana was launched in 2015. It focused on the following
- **Short term training:** The Pradhan Mantri Kaushal Vikas training centres provided short term training to candidates who were school or college dropouts or unemployed. The training was provided according to the the National Skills Qualification Framework. The curriculum mainly focused on entrepreneurship, soft skills, digital literacy.
- **Recognition of prior learning:** It focused on aligning the competencies of the unregulated workforce of the country to the National Skills Qualification Framework.
- **Special projects:** The special projects of the phase consisted of those projects that may require certain deviation from the terms and conditions of the short-term training under Pradhan Mantri Kaushal Vikas Yojana.

#### **Pradhanmantri Kaushal Vikas Yojana Phase 1:**

- Pradhan Mantri Kaushal Vikas Yojana was launched as National Skill Development Mission in 2010. It consisted of the following three institutions
  1. Prime Minister National Council on skill development
  2. National Skill Development Corporation
  3. National Skill Development co-ordination board
- The main focus of the phase was to provide training to class 10 and class 12 dropouts.

#### **What is the target of Pradhan Mantri Kaushal Vikas Yojana?**

- The National Policy on Skill Development had set a target of skilling 50 crore people by 2022.

#### **Who implements Pradhan Mantri Kaushal Vikas yojana?**

- National Skill Development Corporation operating under Ministry of skill development and Entrepreneurship.

#### **106. Tsar Icicle:**

- The Tsar Icicle recently collapsed killing four tourists in Russia.
- The Vilyuchinsky waterfall in winter is called Tsar Icicle. The Vilyuchinsky waterfall lies in Kamchatka peninsula. It is home to more than one hundred and sixty volcanoes. Of these twenty-nine are still active. Many of these volcanoes are capped with glaciers. As these glaciers melt during warm weather, they form waterfalls. One such waterfall is the Vilyuchinsky waterfalls.

#### **What is an Icicle?**

- Icicle is a spike of ice formed when water falling from an object freezes.
- The Vilyuchinsk town is a closed town under Krai jurisdiction. The town served as a base for submarine construction.
- The Vilyuchinsk Waterfall located in Ring of Fire region

#### **Why is it called the Ring of Fire?**

- Because it forms a track around the rim of the Pacific Ocean. More than 75% of the earth's volcano is located in ring of fire.

#### **What are the main features of ring of fire?**

- It has oceanic trenches, plate movements and volcanic arcs. More than 80% of the world largest earthquakes occur along the circum-pacific belt.

#### **What is the Ring of Fire found in Planet Venus?**

- While the ring of fire of the earth is formed by plate tectonics, the ring of fire of Venus is formed by volcanism. In other words, the ring of fire in Venus is created by the same phenomenon that produced Hawaiian islands.
- The Magellan spacecraft of NASA captured images of Venus that had unusual circular structures called coronae. According to the scientists, the coronae were produced by the mantle plumes of Venus. Group of these coronae have formed the ring of fire in Venus.

#### **How were the coronae formed in planet venus?**

- The hot molten rocks were carried upwards by convection current that formed a mushroom like shape at the top. As the molten rocks melted the crust, the head of the plume expanded to form the circular structure called coronae.

#### **107. Health Ministry Kayakalp Awards:**

- The Kayakalp Awards are presented by the Ministry of Health and Family Welfare annually to the health facilities with the highest standards of sanitation and hygiene. Recently, the Kayakalp awards for the year 2019-20 was presented.

#### **Key Highlights:**

- The Jawaharlal Nehru Institute of Postgraduate Medical Education and Research (JIPMER) was awarded the second prize under the Kayakalp Awards scheme. JIPMER received the prize under the Group A Central facilities category, hospitals having more than thousand beds. Earlier, it had received second place in 2018-19 and third place in 2017-18.
- AIIMS Bhubaneswar has received the best central government hospital under Category B of the Kayakalp Awards for cleanliness for the third consecutive time. Earlier, it had received the award in 2018 and 2019 becoming the second cleanest hospital in the country. Category B holds hospitals with less than thousand beds.
- The Rairangpur Sub Divisional Hospital of Mayurbhanj district was felicitated as the best Sub-divisional hospital community health centre category.
- Rani Durgavati Hospital received the award for the fourth time consecutively.

#### **What are the factors considered to present Kayakalp Awards?**

- Waste Management, Hospital Upkeep, Sanitation and Hygiene, Infection Control, hygiene promotion, support services and beyond hospital boundary.
- The Kayakalp Award Scheme was launched in 2015.
- The scheme aims to incentivize public health care facilities that show high performance in following protocols, infection control, cleanliness and sanitation.
- It inculcates a culture of peer review of performance related to sanitation, hygiene, infection control.
- It shares and create sustainable practices related to improving cleanliness in public health facilities.

#### **What is Swachh Swasth Sarvatra? How is it related to Kayakalp Awards?**

- Swachh Swasth Sarvatra scheme was launched in 2016. The main objective of Swachh Swasth Sarvatra is to strengthen community health centres in open defecation blocks, especially in the region of those Public Health Centres or hospitals that have received the Kayakalp Awards. The following are the three main objectives of Swachh Swasth Sarvatra:

1. To enable Gram Panchayats where the Kayakalp awarded Public Health Centres are located to become Open Defecation Free.
2. To strengthen the Public Health Centres to reach the Kayakalp standards through support of Rs 10 lakhs under the National Health Mission.
3. To build capacity through training in sanitation, water and hygiene.

#### **108. India's Eight Point Action Plan to UNSC to combat terrorism:**

- The External Affairs Minister Dr S Jaishankar recently addressed the United Nations Security Council open debate. During his address, the minister proposed eight-point action plan.

#### **What is the eight-point action plan proposed by India?**

- All the member nations should fulfil their obligations in international counter-terrorism conventions and instruments.
- The countries should not bring in double standards in the battle. For instance, there are countries that support terrorism by offering financial support. Such countries are black listed by the international bodies such as FATF (Financial Action Task Force). These countries are being referred to double standard countries.
- The working methods of the committees dealing with counter-terrorism should be reformed.
- The enlisting and delisting of individuals and entities under the United Nations should be done objectively and not for political and religious considerations.
- The linkages between transnational organised crime and terrorism should be addressed vigorously.
- The FATF should continue to identify weaknesses in anti-money laundering and counter-terror financing frameworks.
- Adequate funding should be allocated to the UN Counter terrorism bodies.

#### **Who chaired the United Nations Security Council open debate?**

- Tunisia. Because Tunisia is the current President of the fifteen member UNSC body.

#### **Who are the current 15 members of UNSC?**

- The UNSC is made of five permanent members and ten non-permanent members. The five permanent members are China, UK, France, Russia and USA. The ten non-permanent members are India, Estonia, Kenya, Ireland, Mexico, Norway, Niger, Saint Vincent and the Grenadines, Vietnam and Tunisia.

#### **How are non-permanent member seats of the UNSC distributed?**

- Of the ten non-permanent member seats in the United Nations Security Council, five are for Asian and African countries, one for Eastern European countries, two for Latin American and Caribbean countries and two for western European countries.
- There is an informal understanding between Asia and the African group to reserve one seat for an Arab country. The Africa and Asia Pacific group takes turn for every two years to put up an Arab candidate.
- **A non-permanent member enjoys voting rights at the decisions of the United Nations Security Council.**

#### **109. Insect Apocalypse:**

- The entomologists from all over the world attended the proceedings of National Academies of Sciences recently. According to the entomologists, the insect population is declining at rapid rate. The scientists have named this as Insect Apocalypse.

#### **What is Insect Apocalypse?**

- The Earth is losing 2% of its insects every year. This is being termed as "Insect Apocalypse".

#### **What are the main reasons for the Insect Apocalypse?**

- The main reasons of Insect Apocalypse are as follows:

1. Insecticides
2. Climate Change
3. Light Pollution
4. Herbicides
5. Invasive Species
6. Changes in land use
7. Intensive agriculture
8. Which two insects best illustrate insect decline?
9. Honey Bees and Butterflies.

**What are the main reasons for the decline of honey bees?**

- Lack of food, insecticides, herbicides and parasites.

**How bad is insect decline?**

- Insect decline is the worst in North America and in parts of Europe. The first Global Scientific review published in the Biological conservation journal has found the following:
1. A third of the insect species have become endangered.
  2. More than 40% of insect species have declined.
  3. The rate of extinction of insects is eight times faster than that of birds, mammals and reptiles.
  4. At the rate of insect apocalypse, insects could vanish within a century.

**Why are insects important?**

- Insects outweigh humanity by seventeen times. They are essential for the proper functioning of the ecosystem as pollinators, food for other creatures and as recyclers of nutrients.

**When was the insect decline discussed internationally for the first time?**

- The United Nations Conference of Parties to the Convention on Migratory Species (CMS COP-13) discussed the effects of insects decline on migratory species for the first time. According to the Convention on Migratory Species, insect extinction is to begin.
- A draft resolution was prepared at the convention. The resolution will help understand die off of the insects and its effects on migratory species.

**110. US names Cuba as State Sponsor of Terrorism:**

- The United States recently designated Cuba as a state sponsor of terrorism.

**What is US list of State Sponsors of Terrorism?**

- The United States lists the countries that repeatedly provide support for acts of international terrorism under the State Sponsors of Terrorism. The list was first released in 1979 with Iraq, Libya, Syria and South Yemen in it.

**What is the history of US list of State Sponsors of Terrorism?**

- Cuba was added in 1992, Iran in 1984. Later North Korea and Sudan were added in 1988 and 1993 respectively. Later South Yemen was removed in 1990. Iraq has been removed twice from the list, once in 1982 and then again in 2004. Libya was removed in 2006.
- North Korea was removed in 2008 and again re-added in 2017. Cuba was removed in 2015 and has now been re-added.

**What are the other countries that are currently in the list of state sponsors of terrorism?**

- Iran, Syria and North Korea.

**Which country was recently removed from the list of state sponsors of terrorism?**

- Sudan.

**Why was Sudan removed from the list of state sponsors of terrorism?**

- Sudan was recently removed to sign Israel-Sudan Normalisation Agreement. The agreement was signed in October 2020 to normalize relations between Israel and Sudan.
- The agreement was signed after Bahrain and UAE signed peaceful agreements with Israel.

#### **What are the issues between Cuba and US?**

- Between 1908 and 1902, Cuba had become a US protectorate as per Treaty of Paris. By 1958, after Cuban revolution, the US-Cuba relations had further deteriorated.
- Later again in 2016, a peculiar syndrome had affected US diplomats visiting Havana. It was named the Havana Syndrome and it further soured the relationship between the countries.

#### **What sanctions can US place listing a country under State Sponsor of Terrorism List?**

- The United States can place four categories of sanctions on countries that are part of the list. They are as follows:
  1. Restrictions on US foreign assistance
  2. Ban on defence exports and sales
  3. Controls over exports of dual use items
  4. Miscellaneous financial and other restrictions

#### **111. Supreme Court suspends implementation of Farms Laws:**

- The Supreme Court recently suspended the implementation of three farm laws to end the disagreement between the farmers and Government of India.

#### **What was the judgement pronounced by the Supreme Court?**

- The Supreme Court has directed to form a committee to resolve the issue. The apex court also indicated that it was highly disappointed with the negotiation process between the farmers union and the union government.
- The central government and the farmer unions were unable come to a conclusion even after eight rounds of talks.

#### **What are the Farm Laws?**

- The three farm laws that were recently enacted by the Union Government are as follows:
  1. Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020. This act creates a national framework for contract farming between farmer and buyer.
  2. Farmers Produce Trade and Commerce (Promotion and Facilitation) Act, 2020. The act permits inter-state and intra-state trade of farmers produce beyond the premises of Agricultural Produce Market Committee (APMC). The act abolished market fee. It allows electronic trading. Also, it facilitates lucrative prices for the farmers through alternative trading channels to promote barrier free inter-state and intra-state trade of agricultural produce.
  3. Essential Commodities (Amendment) Act, 2020.

#### **Why are the farmers protesting against the Farm Laws?**

- The laws lay the framework to sell the produce directly to the corporates. The farmers do not trust the corporates. According to the farmers, this might end the Minimum Support Price system in the country.

#### **Why are the protests high in Punjab and Haryana?**

- The agriculture in Punjab and Haryana is high as Green revolution was first introduced in these states. So are the MSP procurement in these states. Around 89% of rice produced in Punjab and 85% produced in Haryana are procured by the Government.

#### **112. Henley Passport Index:**

- The Henley Passport Index was launched by the International air Transport Association. Around 227 different travel destinations are considered to launch the index.
- The index is released based on the number of destinations the holders can access without visa.

**What are the Key findings of Henley Passport Index?**

- Nepal at rank 104 and Pakistan at 107 continue to be the “Worst passports to hold” category. Pakistan had a visa-free score of 32 countries and Nepal had a score of 38 countries.
- The countries such as Afghanistan, Iraq and Syria were the countries with the worst passport to hold with a score of 26, 28 and 29.
- The report said that Japanese citizens can travel to 191 countries and Japan was the top performer.
- Singapore was in second position with a score of 190.
- South Korea and Germany were at third position with a score of 189.
- Countries such as UK, USA, New Zealand and Switzerland were at the seventh position. They are considered as the most powerful passports in the world. Their score was 185.
- Australia was at eighth position with a score of 184.

**What was the rank of India in Henley Passport Index?**

- India ranked 85th in the Henley Passport Index. India scored 58 in the Henley Passport Index.

**What is new about Henley Passport Index, 2021?**

- Over the past sixteen years, the top positions of Henley Passport Index were taken by the European Union countries, USA and UK. This year, the Asia Pacific countries have become the top performers.

**What is Passport Index?**

- The Passport Index is an online tool. It provides insights about visa-free travel option. The Passport Index includes World Openness score, Visa-free scores and Global mobility scores.

**What are Visa free destinations?**

- There are 58 destinations in the world that does not require prior visa. Of these twenty are in Africa and eleven are in Asia.

**113. Management report of National Park and Wildlife Sanctuaries:**

- The Union environment Minister shri Prakash Javadekar recently released Management Effectiveness Evaluation report of 146 National Parks and wildlife sanctuaries. The report is first of its kind in the country

**What are the Key findings of the report?**

- Around 60% of leopard population, 70% of Asiatic lions and 70% of global tiger population are the main reasons for the thriving of the National parks and wild life sanctuaries in the country.
- The top five national parks and wildlife sanctuaries in India are Jaldapara National Park of West Bengal, Raiganj wildlife sanctuary, Tirthan wildlife sanctuary, Sainj wildlife sanctuary of Himachal Pradesh and the Great Himalayan National Park.
- The Turtle Wildlife Sanctuary of Uttar Pradesh, Jai Prakash Narayan Bird Sanctuary of Uttar Pradesh were ranked at the bottom most. The other three bottom most wildlife sanctuaries were located in Rajasthan, Haryana and Assam.
- There are 903 protected areas in the country. These areas cover five percent of the total geographic area.

**What were the highest performing wildlife sanctuaries?**

- In the northern region, Great Himalayan and Tirthan Wildlife sanctuary scored the highest. In the southern region, Someshwara wildlife sanctuary and Gulf of Mannar marine national park scored the highest.
- In the eastern region, Jaldapara Wildlife sanctuary and Raiganj wildlife sanctuary were the highly performers. In the western region, Kuno-Palpur wildlife sanctuary and Pachmarhi wildlife sanctuary were the highest performers. In the north-eastern region, Khangchendzonga National Park and Nongkhyllam wildlife sanctuary of Meghalaya were the highest performers.

**Other announcements:**

- The minister also announced that from 2021, ten best national parks, top five zoos, top five coastal and marine parks are to be ranked in the country.

**From where was the assessment process of the report adopted?**

- International Union for the Conservation of Nature (IUCN) and World Commission on Protected Areas (WCPA)

**What are the key features of the report?**

- The report was generated based on thirty headline indicators developed under six elements of the Management Effectiveness Evaluation framework.

**114. One Planet Summit:**

- The One Planet Summit was held on January 11, 2021. The summit aims to advance the protection of nature.

**What is One Planet summit?**

- The One Planet summit is an international event that focused on biodiversity to mobilize commitments to protect the ecosystems and make links to human health.

**What is the aim of One Planet summit?**

- The One Planet Summit aims to promote worldwide ecological transformation. The summit will measure environmental and climate protection combined with innovation and economy.
- The theme of One Planet Summit, 2021 was **Let's act together for nature.**
- The **One Planet Summit was organized by the** United Nations, World Bank and France.

**Why is One Planet Summit important?**

- The COVID-19 has reminded the importance of nature for our daily lives and economies. It is highly challenging to reverse trend set by the pandemic. The One Planet Summit will help to transform the value chains, consumption habits and business models.
- With the global economic powers like the United States withdrawing from Paris Agreement, it is important for international organizations act swiftly. The One Planet Summit will help the world in this direction.

**When was the first One Planet Summit held?**

- The first One Planet Summit was organised two years since the historic Paris Agreement. It then adopted twelve international commitments. They are as follows:
  1. Responding to the Extreme Events in Island states
  2. Protecting land and water against climate change
  3. Mobilizing researchers and young people to work for the climate
  4. Public procurement and access for local government to green financing
  5. Zero emission targets
  6. Sectoral shifts towards a decarbonized economy
  7. Zero-pollution transport
  8. Work towards a carbon price compatible with the Paris Agreement
  9. Anchoring climate issues at the centre of decisions of financial actors
  10. International mobilization of development banks
  11. Commitment by sovereign funds
  12. Mobilizing institutional investors

**115. Sea Vigil 2021:**

- The second edition of coastal Defence Exercise Sea Vigil-21 is to be conducted between January 12 and January 13, 2021.



- The Sea Vigil exercise will be undertaken along the 7,516 kilo metres coastline. It involves all the thirteen coastal states, Union Territories and the Exclusive Economic Zone. Also, the exercise involves the fishing and coastal communities. The exercise is conducted by the Indian Navy.
- The Sea Vigil is a build-up towards the major theatre level exercise TROPEX that the Indian Navy conducts every two years. Both Sea Vigil and TROPEX will together cover the entire spectrum of maritime security challenges. This includes transition from peace to conflict.
- The first Sea Vigil exercise held in 2019.
- The Sea Vigil exercise held once in two year. Sea Vigil is a biennial exercise.

#### **What is Exclusive Economic Zone?**

- An Exclusive Economic Zone is an area in the sea where a sovereign state has special rights regarding the exploration and use of marine resources. The Exclusive Economic Zone are demarcated according to the United Nations Convention on the Law of the Sea.

#### **What is TROPEX?**

- TROPEX is Tropical Level Readiness and Operational Exercise. It is an inter-service military exercise that involves the participation of Indian Air Force, Indian Army and Indian Navy. It is generally held at the beginning of the year.
- The exercise is held to test the combat readiness of the Indian Navy, Indian Air Force, Indian Army and Indian Coast Guard. The first TROPEX was held in 2005.

#### **How is the TROPEX conducted?**

- The TROPEX is conducted in three phases namely independent workup phase, tactical phase and joint workup phase.

#### **What is the significance of the exercises?**

- According to the US Pentagon, the Chinese PLA Navy is the largest navy in the world. Therefore, it is important for India to maximize its potential in the Indian Ocean region.

#### **116. Legal Entity Identifier System:**

- The Reserve Bank of India recently announced the introduction of Legal Entity Identifier System.
- The Reserve Bank of India introduced the Legal Entity Identifier system for all payment transactions of fifty crores and above through NEFT (National Electronic Funds Transfer) and RTGS (Real Time Gross Settlement).
- The system is being introduced to identify the legal entities involved in financial transaction. The central bank has adopted the system to improve the quality and accuracy of the financial data systems.
- Under the system, the banks have to include information of the remitter and beneficiary.

#### **Under which act has the Legal Entity Identifier system introduced in India?**

- Payment and Settlement Systems Act, 2007.

#### **What is Legal Entity Identifier?**

- It is a twenty-digit unique number. It is a global identifier for entities participating in financial transactions. It is developed by International Organization for Standardization.

#### **What is the validity of Legal Entity Identifier?**

- One year from the period of registration.

#### **Why was Legal Entity Identifier System introduced?**

- During the financial crisis of 2008, the international regulators realized that there was no single code to each financial institution with which it can be identified in all countries universally. Every country had their own set of identity numbers. This made it difficult to assess the risk exposures, analyzing and resolving risks across the market.
- The first LEI issued is 2012.

- The Legal Entity Identifier follows ISO (International Organization for Standardization).

#### **What is the code structure of LEI?**

- It is an alpha-numeric string. The first four characters identify the local operating unit. The characters five to eighteen are assigned by the Local Operating Unit. The last two characters are Checksum digits. The Checksum digits are used to identify the errors that occur during the process of transaction.

#### **117. Heritage Conservation Committee:**

- The Supreme Court recently cleared the Central Vista Project that covers a three kilo metre stretch between the Rashtrapati Bhavan and India Gate. Following this, the Heritage Conservation Committee has approved the construction of a new parliament.
- The Heritage Conservation Committee is set up under the chairmanship of Additional Secretary, Ministry of Urban Affairs under the provisions of Section 23 in Delhi Building Byelaws, 1983 to protect heritage buildings. Only buildings in and around Delhi are governed by these laws. Similar conservation committees are set up at state levels as well.
- The local authority should consult the Heritage Conservation Committee before granting permission. The heritage buildings are graded by the Heritage Conservation Committee for developmental activities.

#### **What are the gradings offered by the Heritage Conservation Committee?**

- The Heritage conservation Committee offers three grades. They are as follows:
- **Grade I:** The buildings under Grade I includes buildings of historic importance. No interventions are permitted either on the interior or exterior of the Heritage buildings unless it is essential in the interest of strengthening the life of the building.

#### **118. ISRO to adopt 100 Atal Tinkering Labs:**

- The Indian Space Research Organization recently announced that it is to adopt 100 Atal Tinkering Labs across the country.
- By adopting hundred Atal Tinkering Labs, ISRO is to facilitate mentoring and coaching of students in cutting edge technologies. It includes technologies related to space as well.
- ISRO will promote scientific temperament among students and will encourage them for space related technologies. The students will gain practical and application-based knowledge of STEM through the programme.

#### **What is the current scenario of Atal Tinkering Labs in India?**

- There are more than seven thousand Atal Tinkering Labs in India. It helps more than three million students to acquire problem solving, innovative and tinkering mindset.
- The Atal Tinkering Labs are established by the NITI Aayog under the Atal Innovation Mission.

#### **What is Atal Innovation Mission?**

- The Atal Innovation Mission was launched to promote entrepreneurship and innovation in the country. It has two core functions namely entrepreneurship through self-employment and innovation promotion.

#### **What are the major initiatives of Atal Innovation Mission?**

- Atal New India Challenges fosters product innovations. It aligns them to the needs of various ministries.
- Atal Incubation Centres fosters world class startups and will add a new dimension to the incubator model.
- Mentor India Campaign is a national mentor network that is launched in collaboration with corporates and public sectors to support all the initiatives of Atal Innovation Mission.

- ARISE is Atal Research and Innovation for Small Enterprises. It stimulates research and innovation in MSME industry.
- AIM-iCREST is Incubator Capabilities Enhancement Programme that is focused on creating high performing startups. It was designed to support established incubators of AIM in the country.

#### 119. Khadi Prakritik Paint:

- The Union Minister Shri Nitin Gadkari is to launch “Khadi Prakritik Paint”.
- Khadi and Village Industries Commission has developed Khadi Prakritik Paint.
- The Khadi Prakritik Paint is a non-toxic eco-friendly paint with anti-bacterial and anti-fungal properties. It is the first-of-its kind product.

#### What is the main ingredient of Khadi Prakritik Paint?

- The Khadi Prakritik Paint was developed with cow dung as its main ingredient. It is odourless and cost-effective.
- Khadi Prakritik Paint is certified by Bureau of Indian Standards.

#### What are the two forms of Khadi Prakritik Paint?

- The Khadi Prakritik paint is available in two forms namely plastic emulsion paint and distemper paint.

#### What are the main advantages of Khadi Prakritik paint?

- The paint is free from heavy metals such as mercury, lead, arsenic, chromium, cadmium.
- The paint will help in doubling farmers income. This is because, the technology adopted in the making of Khadi Prakritik paint will increase consumption of cow dung as raw material for eco-friendly products. This will generate additional revenue to Gaushalas and farmers. The Khadi Prakritik paint is expected to generate an additional income of Rs 30,000 per annum per animal to farmers. On the other hand, utilisation of cow dung will prevent clogging of drains and will clean the environment.

#### Who tested Khadi Prakritik Paint?

- National Test House, Mumbai, National Test House, Ghaziabad and Shri Ram Institute for Industrial research, New Delhi.

#### What are the environmental impacts of normal paint?

- They are high in Chromium and Lead. The conventional paints used in day-to-day life release Volatile Organic Compounds during the drying process, that is, after the coating is applied.

#### What are the environmental labels of paint cans?

- The paints are labelled in the following way based on the release of Volatile Organic Compounds:
- To be labelled as Low Volatile Organic Compound (VOC), the paint should contain less than fifty grams per litre of VOC.
- To be labelled as Zero-Volatile Organic Compound, the paint should contain less than five grams per litre of VOC.
- Volatile organic compound (VOC) are organic chemicals that have a high vapour pressure at room temperature. High vapor pressure correlates with a low boiling point, which relates to the number of the sample's molecules in the surrounding air, a trait known as volatility.
- Common examples of VOCs that may be present in our daily lives are: benzene, ethylene glycol, formaldehyde, methylene chloride, tetrachloroethylene, toluene, xylene, and 1,3-butadiene.

#### 120. Vanadium:

- The Geological Survey of India has found promising concentrations of Vanadium in the Tamang and Depo areas of Arunachal Pradesh.

- According to Geological Survey of India, the Vanadium mineralisation is geologically similar to the “Stone Coal” Vanadium deposits of China. The GSI has discovered about seven metre thick carbonaceous phyllite for a length of more than six kilo metres in Depo area. Vanadium was also found in Subansiri district for a length of 15.5 km and thickness of 7 metres.

#### **What is Vanadium?**

- Vanadium is a by-product obtained from the processing of Vanadiferous magnetite ores. In its pure form, Vanadium is soft, ductile and grey in colour.

#### **How much Vanadium reserves does India hold?**

- According to Indian Bureau of Mines, the total estimated reserves of Vanadium in India is around 24.63 million tonnes. Of this, the estimated Vanadium Pentoxide is 64,594 tonnes.

#### **What is the Vanadium consumption of India?**

- India consumes 3,360 metric tonnes of vanadium annually. This is 4% of Vanadium consumed by the world. Globally, 84,000 tonnes of Vanadium is consumed annually.

#### **What is the Vanadium production and consumption in China?**

- China consumes 44% of world Vanadium production. And China produces 57% of the world Vanadium.

#### **What are the characteristics of Vanadium?**

- Vanadium alloys are durable in extreme environments. They are corrosion resistant. They improve tensile strength of steel and reinforce steel bars used for tunnels, buildings and bridges. Their atomic number is 23.
- What are the major applications of Vanadium?
- The Vanadium Pentoxide is used as a catalyst in the production of Sulphuric acid.
- 85% of the Vanadium produced in the world are used as steel additive. Vanadium steel is used in gears, bicycle frames, axles and other critical components.
- Vanadium Dioxide is used in production of glass coatings that blocks infrared radiation.

#### **121. DRDO Landing Gear System for UAV:**

- The Combat Vehicles Research and Development Establishment operating under DRDO recently developed the Retractable Landing Gear System for Unmanned Aerial Vehicle, TAPAS. These landing gear systems are to be used by the Indian Navy.

#### **What are Retractable Landing Gear System?**

- The Retractable Landing Gear System consists of a hydrogas shock strut integrated with wheel and brake system. It absorbs and dissipates landing impact load to safeguard the aircraft. It has nitrogen combined with hydraulic fluid to absorb and dissipate impact loads.

#### **What is new in Retractable Landing Gear System?**

- It absorbs and dissipates landing impact load to safeguard the aircraft. Also, it supports the aircraft during ground manoeuvres. Also, the Hydro-Gas Strut is new in the design.

#### **What is the purpose of Landing Gearing Systems?**

- The main purpose of Landing Gear systems in Drones is to facilitate safe take-off and landing of Unmanned Aerial Vehicle.

#### **What is TAPAS UAV?**

- TAPAS is Tactical Airborne Platform for Aerial Surveillance beyond horizon. It is also known as RUSTOM-2. It was developed by India on the lines of American Predator Drones. The first flight of TAPAS took place in 2016.

#### **Why are Unmanned Aerial Vehicles important?**

- They are important for search and strike missions. It is expected that by 2050, at least 50% of combat missions will be designated to UAVs.

- India is at its infancy stage in UAV. Israel and US are the leaders of UAV technology. India has signed several agreements with these countries to develop its UAV technology. India has also procured UAVs from Israel and USA. The Heron UAV fleet of India was procured from Israel.
- The production of an Indian Combat Mission capable UAV is at least a couple of decades away.

### 122. Single Window Clearance System for Coal Mines:

- The Union Home Minister Amit Shah recently launched the “Single Window Clearance System” for coal mines.
- The Single Window Clearance System for Coal Mines is an online platform launched to obtain clearances for smooth operationalisation of coal mines. It is aimed at allowing coal bidders to obtain all required clearances from a single portal. Currently, a company has to receive 19 major approvals to start a coal mine. Now with the single Window Clearance System, all the 19 approvals can be obtained in one place. This is one of the major steps in Coal Sector reforms of Government of India.
- The Government of India recently introduced several coal sector reforms. **They are as follows:**
- Commercial mining of coal was allowed with fifty blocks offered to private sector.
- Coal blocks were offered to private companies on revenue sharing basis.
- Coal Bed Methane extraction rights are to be auctioned from Coal India’s coal mines.
- Why were coal sector reforms introduced?
- Coal Sector reforms were introduced to reduce coal imports in the country. Despite of the fact that India is the fourth largest producer of coal in the world, the country is the second largest importer of coal in the world. Therefore, the coal sector reforms were introduced to make India self-reliant in coal sector.

#### What are the benefits of coal sector reforms?

- In 1973, the coal sector was nationalised. This meant that domestic coal can only be mined by public sector companies. However, the coal demand continued to grow at a faster rate. Because of this, the coal imports increased.
- The coal imports stood at 23% between 2009 and 2014. Introduction of commercial mining of coal will help to increase the coal production and bridge the supply gap. The Commercial coal mining will increase investment opportunities and save foreign exchange.

#### What is Coal Bed Methane?

- It is a form of natural gas extracted from coal beds.

#### What are Coal Bed Methane reserves of India?

- 2,600 billion cubic metres.

#### Where are Coal Bed Methane reserves found in India?

- Majority of the coal bed methane reserves are found in the Gondwana sediments of eastern India.

### 123. India to chair 3 UNSC Committees:

- The Ambassador of India to the United Nations recently announced that India has been asked to chair three important committees of the Security Council-Counter-Terrorism Committee, Libya Sanctions Committee and Taliban Sanctions Committee.

#### What is the Counter-Terrorism Committee?

- The Counter-Terrorism committee of the United Nations Security Council was established in the wake of 09/11 terrorist attack in the United States.
- Earlier India had chaired the Counter-Terrorism Committee in 2011-12.

- It monitors and implements counter terrorist activities.

#### **Who are the member states of Counter-Terrorism Committee?**

- There are fifteen member states of Counter Terrorism committee. They are Belgium, Dominic Republic, China, Germany, France, Niger, Indonesia, Saint Vincent and the Grenadines, Russia, South Africa, UK, Vietnam and US.

#### **What is Libya Sanctions Committee?**

- The Libya Sanctions Committee of the United Nations Security Council implements the sanctions regime in Libya.
- It also monitors two-way arms embargo on Libya, travel ban, asset freeze.
- It measured the illicit export of petroleum in the country.
- The member states of the committee are required to prevent sale of arms supply and related material to Libya.

#### **What are UN Sanctions on Libya?**

- The United Nations imposed an Arms Embargo on Libya since February 2011. It is related to the supply of arms and military equipment to and from Libya.

#### **Why did UN impose sanctions on Libya?**

- The UN imposed sanctions in Libya in response to the violence and use of armed forces against civilians in Libya and systematic violations of human rights by the former Qadhafi Regime.

#### **What is Taliban Sanctions Committee?**

- The Taliban Sanctions Committee works to promote stability, peace and security of Afghanistan.
- It is also called the 1988 Sanctions Committee.
- When can the United Nations Security Council impose sanctions?
- The United Nations Security Council can impose sanctions in response to threat to international peace and security.

#### **124. Pravasi Bharatiya Divas:**

- Every year the Pravasi Bharatiya Divas is celebrated on January 9.
- The theme of Pravasi Bharatiya Divas, 2021 was Contributing to Atma Nirbhar Bharat.
- It is celebrated to mark the contribution of overseas Indian community towards the development of India.

#### **Why is important to celebrate Pravasi Bharatiya Divas?**

- It is important to celebrate the Pravasi Bharatiya Divas as it reconnects the Non-Resident Indians with their roots. Also, it celebrates their achievements. It acknowledges the difficulties faced by the Indian expatriate workers living abroad.
- The day acts as a platform to create a network of NRIs in all the countries and connect the younger generation with immigrants. This will help the immigrants to evolve and contribute significantly to the development of the country.

#### **What is Youth Pravasi Bharatiya Divas?**

- The Youth Pravasi Bharatiya Divas was celebrated by the Ministry of Youth Affairs and Sports on January 8, 2021.
- The theme of Youth Pravasi Bharatiya Divas was Bringing together Young Achievers from India and Indian Diaspora.
- The Pravasi Bharatiya Samman Awards are presented to recognize the achievements of NRIs, PIOs or organizations established by NRIs.
- The Pravasi Bharatiya Samman Awards are conferred by the President of India.
- The Pravasi Bharatiya Divas celebrated on January 9 to mark the return of Mahatma Gandhi from South Africa to Mumbai on January 9, 1915.
- The first Pravasi Bharatiya Divas celebrated in 2000.

**Who sponsors Pravasi Bharatiya Divas?**

- It is sponsored by the Ministry of External Affairs, Federation of Indian Chambers of Commerce and Industry, Ministry of Development of North Eastern Region, Confederation of Indian Industries.
- L M Singhvi Committee recommended Pravasi Bharatiya Divas. The L M Singhvi committee was set up by the late PM Shri Atal Bihari Vajpayee.

**125. What is 25th Amendment of US Constitution?:**What is 25th Amendment of US Constitution?

- The 25th Constitutional amendment lays out how a US President or a Vice President can be replaced or succeeded. It includes resolve issues revolving around unfortunate situations like death, resignation to removal of US President and actions to be followed after a President becomes disabled to such a degree that he is unable to fulfil his responsibilities. The amendment has four sections.

**What are the four sections of the amendment?**

- The vice president would assume the position and title of the president in the event of the resignation of the president. Which will effectively prevent the departing current from returning to office.
- The second section of the amendment includes provisions of vacancies in the office of vice president.
- The third section of the amendment provides provisions to determine that a city of presidents to discharge his powers and duties.
- The vice president can take over as acting president if the president declares his or her inability to act as president. When the president is unable to declare his or her incompetent then the fourth section of the amendment is invoked. This section requires the vice president and the cabinet to jointly prove the incompetence of the Vice-President.
- Currently, citizens and leaders of the United States of America or insisting vice president Pence to invoke this fourth section of the 25th Constitutional Amendment against President Trump.

**When was the 25th US Constitutional Amendment introduced?**

- The 25th US Constitutional amendment was proposed in 1965 and was ratified by the states in 1967. The fourth section of 25th US Constitutional Amendment has not invoked so far.

**Why did Trump supporters storm the US Capitol?**

- The Trump supporters stormed the US Capitol building as Trump repeatedly asserted that the US Presidential Election, 2020, in which he lost was rigged.

**126. Rewari-Madar freight corridor section:**

- Prime Minister Narendra Modi recently dedicated the Rewari-Madar section of the Western Dedicated Freight Corridor. The Prime Minister also flagged off the world's first double stack long haul 1.5 km container train.
- The Rewari-Madar Section is situated in Haryana and Rajasthan. It runs for 227 km in Rajasthan. It crosses through Sikar, Jaipur, Ajmer, Nagaur and Alwar districts.

**Why is Rewari-Madar Freight Corridor Section important?**

- Currently, the freight traffic does not get priority over passenger trains. After completion, at least 70% of the freight trains will be transferred to the DFCCIL (Dedicated Freight Corridor Corporation of India) network. This will help in timely movement of cargo.
- With the new track, the freight trains are to run at maximum speed of 100 km/hr. This is because, the Indian Railways is planning to increase the maximum speed of freight trains to 100

km/hr. The line has compatible to achieve such speeds. The weight carrying capacity of the wagons in this route has been increased by 14%.

#### **How will Rewari-Madar Freight Corridor Section help businesses?**

- The Rewari-Madar Freight Corridor section will be of great help to the E-Commerce companies such as Flipkart and Amazon. Apart from the E-commerce sector, the freight corridor will also open up doors for automobile sectors.

#### **Which trains will use Rewari-Madar Freight Corridor?**

- The Rewari-Madar section will help to decongest the existing Kanpur-Delhi main line traffic. The Kanpur-Delhi line handles 150% of line capacity of Indian Railway. The section has more than 50 passenger trains and sixty goods trains. With the new route, more passenger trains and goods trains can be pumped in.
- The route is highly important for the transport of food grains and fertilisers from the northern region to the eastern and north eastern regions. Also, the northern region receives coal, jute, iron ore, petroleum products from the eastern parts through this route.

#### **127. Food Price Index of FAO:**

- The Food and Agriculture Organization recently released the Food Price Index. The Food Price Index has been released for the seventh consecutive month in December 2019.

#### **Key Highlights:**

- The food price index for the month of December was 100 7.5 points.
- The food price index for the month of November was 105.2
- The Food and Agriculture Organisation calculates the food price index measuring the monthly changes of a basket of oilseeds, cereals, meat, dairy products and sugar.
- The food crisis of all the major categories increased for the seventh consecutive month barring sugar.
- For the year of 2020, the food price index was 97.9 point. This is a three-year high and 3.1 % increase as compared to that of 2019.
- The historical peak of the food price index occurred in 2011.

#### **Oil prices:**

- The vegetable oil prices increased by 4.7 % in December 2019 as compared to that of the previous month. This price increase was mainly due to the supply restrictions in major oil producing countries. Especially the trade of palm oil was affected due to a sharp hike in the export duties of Indonesia. Also, the prices of soy oil increased due to the prolonged strikes in Argentina.

#### **Cereals:**

- The price rise of cereals increased by 1.1 % in December 2019. For the year 2020 the price rise of the cereals was 6.6 % more than that of 2019 level. The export prices of sorghum, wheat, rice and Maize increased mainly due to price rise in North and South American countries as well as Russia.

#### **Dairy:**

- The price rise of dairy products increased by 3.2 % in December 2019 as compared to that of the previous month. In 2020, the overall price of dairy products was one percent less than that of 2019.

#### **Meat:**

- The meat index increased by 1.7% in the month of December 2019. The prices of poultry in December 2019 rebounded due to the outbreak of Avian influenza in Europe. The Pig meat trade declined due to the suspension of German exports to Asian Markets and also due to African swine fever outbreak.



**128. Advisory for Human-Wildlife Conflict Management:**

- The National Board of Wildlife recently approved advisory for Human-Wildlife Conflict Management.
- The advisory empowers the Gram Panchayats to deal with problematic wild animals according to the Wild Life (Protection) Act, 1972.
- It encourages to use the crop compensation allocated under Pradhan Mantri Fasal Bima Yojana against crop damage due to human-wildlife conflict.
- The Inter-Departmental Committees at state and local level should adopt early warning systems and dedicate circle wise control rooms. They should operate toll free numbers that could be operated 24/7.
- Caracal
- Apart from providing the advisory the National Board of Wildlife has also included Caracal into list of critically endangered species. Caracal is a medium sized wild cat found in Currently there are twenty-two wild life species under the programme for Critically Endangered species.

**What is the Recovery Programme for Critically Endangered Species?**

- It is one of the three components of centrally funded scheme Integrated Development of Wildlife Habitats. The programme was started in 2009. The Critically Endangered species included under the Recovery Programme for Critically Endangered Species are as follows:

- |                                 |                                |
|---------------------------------|--------------------------------|
| 1. Snow Leopard                 | 12. Vultures                   |
| 2. Bustard (includes Floricans) | 13. Malabar Civet              |
| 3. Solphins                     | 14. Asiatic Lions              |
| 4. Hangul                       | 15. Indian Rhinoceros          |
| 5. Nilgiri Tahr                 | 16. Swamp Deer                 |
| 6. Marine Turtles               | 17. Jerdon's Courser           |
| 7. Edible Nest Swiftlet         | 18. Norther River Terrapin     |
| 8. Dugongs                      | 19. Clouded Leopard            |
| 9. Asian Wild Buffalo           | 20. Arabian Sea Humpback Whale |
| 10. Manipur Brow-antlered Deer  | 21. Red Panda                  |
| 11. Nicobar Megapode            |                                |

**What is Integrated Development of Wildlife Habitat?**

- It was launched during the eleventh five-year plan. The Integrated Development of Wildlife Habitat is an ongoing Centrally sponsored scheme. The three main components of the programme are as follows:
1. Support to Protected Areas
  2. Recovery Programme to save Critically Endangered Species
  3. Protection of wildlife outside protected areas

**129. India-Japan Partnership in Specified Skilled Worker:**

- The Union Cabinet recently approved the Memorandum of Understanding between India and Japan on "Specified Skilled Worker".
- Under the agreement, India will send skilled labours to Japan.
- The MoU will set an institutional framework for cooperation between India and Japan for accepting skilled workers. The only condition is that the workers should have qualified in the required skill test and in Japanese language test.
- According to the MoU, the qualified Indian workers can work in fourteen specified sectors in Japan. The Indian workers are to be provided new status of residence of "Specified Skilled Worker" according to the agreement.

- A joint Working Group is to be set up to implement the Memorandum of Understanding.
- The MoU will also enhance people to people contacts. Also, it will foster mobility of workers and skilled professionals from India to Japan.

#### **What are the 14 sectors included in the MoU?**

- The fourteen sectors are Industrial machinery, building cleaning, nursing care, material processing industry, electric and electronic information related industry, industrial machinery manufacturing industry, shipbuilding and ship-related industry, aviation, automobile maintenance, lodging, aviation, fisheries, agriculture, food and beverages manufacturing industries, food service industry, construction.

#### **What is India-Japan Nuclear Deal?**

- The Nuclear deal between India and Japan was signed in 2016. The deal raised concerns as India was a non-Nuclear Proliferation Treaty member. The deal was very much needed for India as it was key to India's deals with French and US nuclear firms that had stakes in Japan or were owned by Japanese firms.

#### **What are the key India-Japan projects?**

- In 2015, India agreed to introduce the Shinkansen system, the high-speed bullet train of Japan.
- India and Japan had formed Act East Forum that aims to expand the collaboration between India in North East and Japan.

#### **130. Bird Flu:**

- The Department of Animal Husbandry has set up a control room after confirmation of Bird Flu in Rajasthan, Madhya Pradesh, Kerala and Himachal Pradesh.

#### **What is National Action Plan of Avian Influenza?**

- The National Action Plan on Avian Influenza comprises of the following divisions:
  1. Advises to the States and Union Territories on preparedness against Avian Influenza outbreaks.
  2. The second part of the action plan indicates the actions to be taken if an outbreak of the Avian Influenza is suspected.
  3. The third part describes the actions during the outbreak of the disease.
  4. The fourth part identifies the persons who will handle Avian Influenza infected poultry. The person will advise on biosafety and biosecurity measures.

#### **What are the different types of Avian Influenza virus?**

- The Influenza virus is grouped into Type A, B and C. Type A Influenza Virus is known to infect animals only and is zoonotic. This means Type A can infect humans as well. The subtypes of Avian Influenza are H5N1, H7N9 and H9N2. The subtypes are classified based on surface proteins called Neuraminidase and Hemagglutinin.

#### **What is GISRS?**

- It is Global Influenza Surveillance and Response System launched in 1952 by the World Health Organization. It monitors seasonal trends and potentially pandemic Influenza in the world. It is the backbone to the Global Alert System for Influenza.

#### **What is Global Influenza Strategy?**

- It was launched by World Health Organization for 2019-2030. It aims to prevent seasonal influenza and control the spread of the virus from animals to humans.

#### **How severe is the Bird Flu in India?**

- Kerala Government has started culling of ducks and chicken.
- The Tamil Nadu and Karnataka Government have stepped up surveillance and formed guidelines.
- In Madhya Pradesh more than 155 crows died of H5N8 strain.

- Migrant birds died in Pong Dam Lake Sanctuary due to H5N8 infections.
- In Rajasthan, birds in Kota and Baran were found dead with the infection.
- What is Avian Influenza or Bird Flu?
- It is a contagious viral disease caused by Influenza Type A virus. It usually affects poultry birds such as Turkeys and Chickens. There are several types of Influenza Type A virus. Some of the virus may cause low egg production and others result in early cracking of egg shells.

#### **When did the Bird Flu start infecting humans?**

- The humans were first known to have contracted with bird flu in 1997. The H5N1 strain was the first Influenza virus to infect humans. It occurred following an outbreak in a live bird market in Hong Kong.
- According to the World Health Organization, the H5N1 does not spread from person to person. Also, according to WHO, there are no evidences that the virus can spread through properly cooked poultry. The virus is highly sensitive to heat and dies in cooking temperature.

#### **Why is the Bird Flu outbreak creating havoc in the country?**

- The H5N1 is deadly. Around six out of ten bird flu cases have led to deaths in humans. The virus if mutated becomes easily transferable from person to person by altering its shape to grab human cells. This might result in a pandemic. Thus, the bird flu is currently creating a havoc in the country. The pandemic and seasonal flu have jumped from birds to humans through mutation.

#### **131. Global Economic Prospects Report:**

- The World Bank recently released the Global Economic Prospects report.
- What are the key findings of the Global Economic Prospects report?
- According to the report the Indian economy is to contract by 9.6% in 2020-21. The Indian economy is to recover 5.4 percent in 2021-22. The contraction in Indian economy will be mainly due to sharp decline in household spending and private investment. The informal sector that accounts to four fifth of employment in the country has been badly affected.
- On the other hand, the world economy is to expand by 4% in 2021.
- The services and manufacturing sector are gaining Momentum.
- According to World Bank India is facing its first technical recessionary phase.

#### **What is Technical recessionary phase?**

- When the GDP growth is negative for two consecutive quarters or more than the period it is called technical recessionary phase. In India, the Gross Domestic Product declined by 23.9 percent between April and June quarter.
- The Gross Domestic Product growth rate contracted by 7.5 % during the July and September quarter. This clearly shows that the GDP growth of India has been negative for two consecutive quarters. Thus, India is in a technical recessionary phase.

#### **What is the state of unemployment in India?**

- According to the Centre for Monitoring Indian Economy more than 50 lakh salaried persons lost their jobs during the covid-19 pandemic.

#### **What are the predictions made by other Global rating agencies?**

- Several Global rating Agencies have made their predictions for Indian economy. In September 2020 the switch agency sharply lowered its growth forecast of India.
- It said that the gross domestic product of the country for the financial year 2020-21 is expected to contract by 10.5%. Earlier it had predicted a contraction of 5%. The Asian Development Bank predicted that India's growth will contract by 9% in 2020-21.

#### **132. UJALA and SLNP schemes complete six years:**

- The UJALA (Unnat Jyoti by Affordable LEDs for All) and SLNP (Street Lighting National Programme) completed six years of successful implementation. The two programmes revamped household and public lighting system across the country.

#### **What are the achievements of UJALA in six years?**

- Under UJALA, the EESL distributed 6.69 crores of LED bulbs. It has installed more than 1.14 crores of LED street lights. This has helped to save more than 55.33-billion-kilowatt hour of energy per year.
- The scheme helped to reduce Greenhouse gas emissions by 38.59 million tonnes of carbon dioxide per year.
- The scheme distributed 72 lakhs of LED tube lights and 23 lakhs of energy efficient fans at affordable prices.

#### **What are the achievements of SLNP in 6 years?**

- The EESL installed more than 1.1 crores of LED street lights under SLNP. This helped to save 7.67-billion-kilowatt hour of energy per year.
- The scheme helped to reduce the greenhouse gas emission by 5.29 million tonnes of carbon dioxide per year.
- With the help of the scheme the municipalities were able to save 5,210 crores of Rupees in their electricity bills.

#### **What are the awards received by the schemes?**

- SAPIA, 2017 (South Asia Procurement Innovation Award) for innovative use of IT in SLNP
- CIO 100 in 2019
- Global Solid State Lighting Award for excellence in transformational contribution to LED sector
- CII National Award for Excellence in Energy Management, 2020

#### **What are the overall achievement of the schemes?**

- The schemes have helped in the growth of domestic LED markets.
- They have helped to bring down the average household electricity bills by 15%.
- The schemes have helped families to access better brightness in their homes and thereby improved their quality of life.
- Way Forward
- The SLNP has plans to bring investment of Rs 8,000 crores by 2024 to cover entire rural India. More than 30 million LED street lights are to be installed by EESL in coming years.

#### **133. DRDO Biodigester Mk II technology in metro rail:**

- The Defence Research and Development Organisation recently signed a memorandum of understanding with the Maha Metro. Maha Metro is Maharashtra metro rail Corporation. It is a joint venture company of the Government of India and Government of Maharashtra.
- The agreement will render technical support to implement the advanced biodigester Mk II technology to treat human waste in Metro Rail Network.
- The Indian Railways has already installed more than 2.4 Lakh biodigester in its passenger coaches.

#### **How will Bio digester help to control Dal Lake pollution?**

- DRDO recently demonstrated a customised version of bio digester to treat human waste generated from the houseboats in the Dal lake. Around hundred units of biodigester are to be procured for civil Habitat around the lake to minimise water pollution.
- This project is being monitored by a committee of experts constituted by the High Court of Jammu and Kashmir.

#### **Why was the Biodigester technology developed?**

- The biodigester technology was basically developed by DRDO for the Indian armed forces in high altitude Himalayan regions.

#### **What is biodigester technology?**

- The biodigester technology degrades and converts human waste into usable water and gases. The generated gas is used for cooking and water for irrigation purposes. This is done in an eco-friendly manner.

#### **What is the working of bio digester technology?**

- The biodigester technology involves bacteria that feed upon fecal matter. The fecal matter is dumped into a tank along with the bio digesting bacteria. The bacteria through anaerobic process will degrade the fecal matter. During the process water and methane gas are released.
- An anaerobic process is the process that occurs in the absence of free or combined oxygen.

#### **134. National Atomic Time Scale:**

- The Prime Minister Narendra Modi recently inaugurated the National Atomic Scale at the National Meteorology Conclave.
- Atomic Time provides the exact speed at which the clock ticks. In technical words, it measures the actual length of a second. Atomic Clocks deviate only one second in up to 100 million years.
- The International System of Units (SI unit) define one second (in atomic time) as the time taken by the Cesium-133 atom in the ground state to oscillate 9,192,631,770 times. In simple words, the atomic clocks count one second after the Cesium-133 atom has oscillated 9,192,631,770 times.

#### **What is the significance of National Atomic Time?**

- With the newly inaugurated National Atomic Time, India has become self-reliant in measuring time within the range of nanosecond. It has now achieved the accuracy level of 2.8 Nanosecond matching the International Standard Time.
- Reaching an accuracy of 2.8 Nanoseconds in atomic time is of great help to ISRO. Atomic time play huge role in cutting edge technology. Also, accurate atomic time measurement is essential in the field of weather forecast, disaster management, telecom, Defence, Railways and Banking.
- It is calculated by taking weighted average of more than 300 atomic clocks. These clocks are located at more than sixty timing laboratories around the world. It is also called Astronomical time that refers to the Earth rotation. It is computed by the International Bureau of Weights and Measures (BIPM) located in Paris, France.

#### **What is Universal Time?**

- The Universal Time is the time standard based on the rotation of the earth. This is was in use for several decades. However, this is not accurate as the earth's rotation is not constant and is affected by the celestial bodies around it. The Greenwich Meridian Time is a Universal Time.

#### **135. Statement on Climate of India during 2020:**

- The Indian Meteorological Department (IMD) recently released its Statement on Climate of India during 2020. According to IMD, 2020 was the eight warmest year on record since 1901.
- Around twelve out of fifteen warmest years since 1901 were between 2006 and 2020.
- The rainfall as a whole during South West Monsoon was above normal. It was 109% of the Long Period Average (calculated between 1961 and 2010).
- The past decade, 2019-20 was the warmest decade on record.
- Uttar Pradesh and Bihar were the hardest hit states due to adverse weather. More than 350 deaths were reported in these two states due to thunderstorms. Cold wave events and lightning.
- Thunderstorm and Lightning caused 815 deaths in 2020.

- The average Land Surface Air Temperature over India in 2020 was 0.29 Degrees Celsius above normal.
- The mean temperature during winters was also above normal. It was recorded as 0.140 degrees Celsius greater than the normal.
- The Monsoon and post monsoon seasons recorded mean temperature anomalies of +0.430 degrees Celsius and +0.53 degrees Celsius respectively.
- According to the World Meteorological Organization, the Global mean surface temperature anomaly was recorded as +1.2 degrees Celsius.

#### **What were the Cyclones formed during 2020?**

- There were five cyclones formed in the North Indian Ocean in 2020. They were Super Cyclonic Storm AMPHAN, Cyclonic Storm BUREVI, Severe Cyclonic Storm NISARGA and Very Severe Cyclonic Storm NIVAR and GATI. Of these cyclones, Nisarga and Gati formed over Arabian Sea and the remaining formed in Bay of Bengal.
- The IMD operates Ministry of Earth Sciences, Government of India.
- IMD is located in Kolkata, Delhi, Chennai, Mumbai, Nagpur and Guwahati.

#### **Which regions are under the monitoring of IMD?**

- Northern Indian Ocean including Malacca Straits, Arabian Sea, Bay of Bengal, Persian Gulf. It mainly monitors formation of cyclones and issues warnings to these regions.

#### **136. Floating Solar Energy Project:**

- The Government of India is to construct the largest floating solar energy project in the world. The project is to be constructed at Omkareshwar Dam on Narmada River. The project will begin its power generation by 2022 to 2023.
- The energy capacity of the project is 600 megawatts of solar energy. The estimated cost of the project is 300 crores of Rupees, with financial assistance from International Finance Corporation and World Bank.

#### **What are the key features of the project?**

- The project is to have floating solar panels of 600 megawatts of power generation capacity.
- The solar panels are to be installed over the backwaters of the Omkareshwar Dam.
- The project is to be completed in two years.
- The electricity is to be generated in about two thousand hectares of water area by installing solar panels in the dam.
- The solar panels will automatically adjust upward and downward based on the water level of the Dam. The floods and strong waves will not have any effect on the solar panels. The solar panels are to float on the surface of water.
- What is floating solar power plant?
- The floating solar power plant refers to solar panels installed on structures that float on surface of the water.

#### **What are the two types of floating Solar Power Plant?**

- Floating photovoltaic Solar Power plant that uses photovoltaic panels installed on floating platform
- Floating concentrated solar power System. It uses mirrors to redirect the solar power to a tower.
- What are the advantages of floating Solar Power Plant?
- No land Occupancy
- They help to reduce water evaporation. Therefore, is highly water saving.

- Solar power plants have a natural cooling system generated by the water layer beneath the panels.

### **137. India's Rice Exports to Vietnam:**

- Vietnam recently started to buy food grains, especially rice, from India due to its attractive prices. Vietnam has started to import rice from India in spite of the fact that the country (Vietnam) is the third biggest exporter of rice in the world.
- Vietnam has begun to import rice from India because the local prices in the country jumped to the highest in nine years due to Limited domestic supplies. This is mainly because Vietnam has begun to stockpile huge quantity of rice for future.
- Also, the Indian prices of rice are highly attractive. The huge price differences is forcing Vietnam Government to import rice from India.
- The Indian traders are to export 70,000 tonnes of rice at around 310 USD per ton to Vietnam. India is to export broken rice to Vietnam during January and February, 2021.

### **How is stockpiling of rice in Vietnam inducing rice imports from India?**

- The Global pandemic has prompted Vietnam and other countries to stockpile rice. This is because the shrinking supplies of food grains are increasing concerns about food insecurity.
- Vietnam is planning to stockpile 270,000 USD of rice to ensure food availability amidst covid-19 supply chain disruptions worldwide. Thus, it is facing shortage and is relying on imports.
- Why did the international market value of Indian Rice increase?
- India is offering broken rice at 381 USD to 387 USD per ton. On the other hand, Vietnam is offering broken rice at 500 USD to 505 USD per ton. This attractive price of Indian rice has increased its demand from Asian and African countries. It is expected that the other Asian countries like Thailand are to shift towards India for rice imports.
- The total output of Vietnam in 2020 fell by 1.85 % compared to 2019. Also, the rice exports of Vietnam in 2020 have fallen by 3.5% as compared to 2019.

### **138. NHRC recommendations on Manual Scavenging:**

- The National Human Rights Commission recently made recommendations to achieve Zero Manual Scavenging in the country.
- According to the National Human Rights Commission, several States make tall claims that they have achieved zero manual scavenging and Nil sanitary latrines. However, based on regional workshops held by the National Human Rights Commission the claims are far from the truth. Therefore the commission has recommended certain regulations to be followed while reporting by the concerned authorities.
- The rehabilitation process of manual scavengers should be linked to schemes. By this the manual scavengers can immediately start earning. The authorities should revisit to see how their families or doing after rehabilitation.
- The compensation amount being paid as one-time cash assistance for the rehabilitation of manual scavengers should be enhanced to Rs 1 lakh. Currently, the one-time cash assistance of rehabilitation paid to manual scavengers is 40,000 rupees.
- The role of middlemen in making provisions such as direct benefit transfer for collaboration with Non-Governmental organisations should be removed.
- Strict actions should be taken against local authorities for employing manual scavengers. A toll free number and mobile application for registration of complaint should be launched.
- The National Crime Record Bureau should monitor the sewer deaths and include their death in its report.

- The Ministry of Finance should designate a particular nationalized bank for each state to extend loans to the manual scavengers up to 10 lakhs of rupees.
- The National Safai Karmachari Finance and Development Corporation should provide financial assistance to manual scavengers. This will help them startup working in the domain of sanitation.
- The Government of India should plan adequately to facilitate investments in shifting towards Technology based sanitary cleaning. Also, the workers should be trained to operate the technology.
- A Vigilance committee and a monetary mechanism should be established.
- A police investigation officer with special training has to be deployed.

### 139. 40th Indian Scientific Expedition to Antarctica:

- The Government of India recently launched the 40th Indian Scientific Expedition to Antarctica.
- The Indian scientific expedition to Antarctica has been launched by the Ministry of Earth science. Vessel Ice class vessel MV Vasily Golovin has been deployed for the 40th Indian scientific expedition to Antarctica.
- The expectation will be take a team of 40 members to Antarctica and return by April 2021. XL Indian Antarctica expedition has been limited due to existing challenges of covid-19. It will mainly focus on ongoing scientific projects on ocean observations, climate change, electric and magnetic flux measurements, geology, Re supplying of food, environmental monitoring, fuel, and accomplish the return of the winter crew.
- The Indian scientific expedition to Antarctica begun in 1981. The name of the Indian Research base stations in Antarctica are Dakshin Gangotri, Bharti, Maitri.
- Dakshin Gangotri in Antarctica was the first permanent settlement of India built in 1983. It was excavated in 1989 and is being used as supply base and transit camp.
- Maitri was the second permanent settlement of India in Antarctica. The station is located close to Lake Priyadarshini. It accomplished the mission of geomorphological mapping of Schirmacher Oasis.
- Bharti was established in 2015. It will collect evidence of Continental break up to reveal the 120-million-year-old Ancient History of Indian subcontinent.
- The Indian research base stations in Antarctica are managed by **the National Centre for polar and ocean research** located in Goa.

### What is Antarctic treaty?

- The Indian Antarctic program was launched in 1981 after India signed the Antarctic treaty .
- The Treaty was signed in 1961. Currently there are 54 signatories to the Treaty. It is an arms control Treaty signed during cold war.

### 140. TRIFOOD Parks in MP:

- The TRIFED (Tribal Cooperative Marketing Development Federation of India) operating under Ministry of Tribal Affairs signed a memorandum of understanding with Akhil Bhartiya vanvasi Kalyan Ashram to setup TRIFOOD parks in Madhya Pradesh.

### What are the key highlights of the Memorandum of understanding?

- According to the MoU, TRIFED and Akhil Bhartiya vanvasi Kalyan Ashram will together implement Van Dhan Yojana.
- This is to be achieved through mobilization of self-help groups, TRIFOOD parks, Van Dhan Vikas Kendra. They will together provide machinery and equipment, identify self help groups, organised training and building infrastructure.



- They will also focus on other activities such as Horticulture, fisheries, floriculture, animal husbandry and craft. They will mainly work to to improve the livelihood of tribals.

**About TRIFOOD:**

- The TRIFOOD is a joint initiative of Ministry of Tribal Affairs, Ministry of food processing industry and TRIFED. It was launched under Van Dhan Yojana in August 2020. The TRIFOOD Parks are food processing centres. They will aim to promote value addition to the minor forest produce.

**Functions of TRIFOOD:**

- The TRIFOOD Parks will procure raw materials from Van Dhan Kendras. They will then be processed and sold across the country through the tribes India outlets.
- The Ministry of Tribal Affairs decides the minimum support price for minor forest produce. It is revised once in three years by the pricing cell constituted under the ministry.
- The minimum support price of food crops other than the minor forest produce is set by Commission for agricultural costs and prices operating under Department of Agriculture and cooperation.
- There are no laws in India that protect or support the minimum support prices.

**141. Bird Deaths in Pong Dam Sanctuary:**

- More than 1700 migratory birds died in Pong Dam of Himachal Pradesh under mysterious circumstances
- The scientist believe that the birds would have died of viral or bacterial infections. Also, they believe that it might be a flu as the birds are dying in large numbers.
- The forest officials have collected more than 15 samples from different locations. These samples have been sent to Indian veterinary Research Institute in Uttar Pradesh Bareilly, high security animal disease laboratory is situated in Bhopal and to the northern regional disease Diagnostic laboratory in Jalandhar to determine the cause of death.
- Around 95% of birds that were found dead in the Pong Dam Sanctuary were the Bar Headed Geese that migrate from Siberia and Mongolia.

**About Pong Dam Sanctuary:**

- Around 1.15 to 1.2 lakh birds migrate to Pong Dam Bird Sanctuary during winters every year. They nest up to four months in the sanctuary.
- The Pong Dam is also called the Beas dam. It is an artificial embankment Dam constructed across the Beas River in Himachal Pradesh. The Reservoir created by the dam is called Maharana Pratap Sagar and is a renowned Bird Sanctuary. The dam was constructed for hydroelectric power generation and irrigation.
- The Maharana Pratap Sagar is located in the wetland zone of Shivalik Hills.
- Maharana Pratap Sagar Reservoir is one of the International wetland sites of Ramsar convention.

**Other recent incident of mass wildlife deaths in India:**

- Recently bird flu virus was detected in around 50 crows in Madhya Pradesh. They were infected with H5N8 virus.
- Also, bird flu virus was detected in crows of Rajasthan. Around 47 crows have died in Kota, 72 in Baran and hundred in Jhalawar till now.

**142. Sagarmala Seaplane Services Project:**

- The Government of India is to initiate the project of Sagarmala Seaplane Services on selected routes. This project is being implemented by the Ministry of ports, shipping and waterways.
- The project aims to provide air connectivity to numerous tourist, religious, remote and unexplored locations near water bodies. This is to make the journey easier and simulate tourism

on these new locations. Ultimately the project will contribute to boost the GDP of the country in the long run.

- The seaplane services operate under the Central Government scheme Udan-Ude Desh Ka Aam Nagrik scheme.
- The locations included under the Sagarmala Seaplane Services are as follows:

1. Andaman and Nicobar Islands	6. Mumbai as a hub
2. Lakshadweep Islands	7. Dwarka
3. Guwhati riverfront	8. Kandla
4. Yamuna riverfront	9. Khindsi dam
5. Umrangso reservoir	10. Erai Dam
- The sea plane service between kevadiya and Sabarmati riverfront in Ahmedabad is already in Operation. It was inaugurated by Prime Minister Narendra Modi on October 31, 2019. It is operated by SpiceJet subsidiaries Spice shuttle. Currently this is the only seaplane service that is operational in the country.
- The seaplane services are to act as a game changer in providing faster and comfortable transportation all over India.
- It will provide air connectivity to various tourist and religious places. Therefore, it will bring in huge tourism revenue.
- The seaplane services will save travel time.
- It will stimulate localised short distance travelling in hilly regions and across rivers and lakes.
- Increasing connectivity across India will improve tourism and make India as an attractive destination for tourists.

#### 143. Kochi-Mangaluru Natural Gas Pipeline:

Recently, the Prime Minister Narendra Modi has dedicated the Kochi-Mangaluru Natural Gas Pipeline to the country.

##### Key Highlights:

- The pipeline is 444 kilometres long.
- The pipeline is to carry natural gas from the Liquefied Natural Gas regasification terminal at Kochi to Mangaluru. In its way it will pass through Ernakulam, Palakkad, Thrissur, Malappuram, Kannur, Kozhikode and Kasaragod districts. Around 8 districts are to benefit from the pipeline project.
- The main junction of the pipeline is at Kootanad. At the junction, the pipeline bifurcates towards Bengaluru and Mangaluru.
- The pipeline is expected to fulfil the gas demand of 80 to 90 million cubic metres of gas per annum.
- **The cost of Kochi-Mangaluru Natural Gas Pipeline project is (average cost) Rs 5,750 crores.**
- The Kochi-Mangaluru Natural Gas Pipeline project was launched in 2009.
- The pipeline is expected to bring in tax revenue of thousand crores of Rupees.
- GAIL will built the Kochi-Mangaluru Natural Gas Pipeline.
- The transportation capacity of this Natural Gas Pipeline will be 12 million metric standard cubic metres per day.

#### 144. IFSCA in IOSCO:

- The International Financial Services Centres Authority recently became an associate member of the International Organization of Securities Commissions (IOSCO).
- The IOSCO works closely with the Financial Stability Board (FSB) and the G20 nations, to set up the standards that strengthen the securities markets.

- According to FSB, IOSCO membership is one of the key standards for sound financial system. This will increase the reputation of the member in the global market.
- IOSCO membership will provide the International Financial Services Centres Authority a platform to interchange information at global level and at regional levels.

#### **About IOSCO:**

- The International Organization of Securities Organizations is an association of national securities regulatory commissions spread all over the world.
- It includes, the Financial Service Authority (UK), Exchange commission & Securities in (US) and 100 other similar bodies.

#### **Key roles of IOSCO members:**

- To cooperate in developing, implementing, promoting and obeying internationally recognized and consistent standards of regulations and enforcement
- To protect the investors and to maintain fair and efficient markets. This will address systematic risks
- To promote investor confidence in rightness of securities markets through strengthened information exchange and enforcement against misconduct
- Interchange information at both global and regional levels
- To help in strengthening infrastructure of markets
- What was the most important agreement signed by IOSCO and IFRS?
- IFRS is International Financial Reporting Standards. The IFRS and IOSCO signed an agreement in 2013 on a set of protocols to improve the consistency in the implementation of IFRS. This agreement increased the reputation of IOSCO members further.

#### **IOSCO on IFRS identifies four new areas for mutual supportive work:**

- Use of IFRS's jurisdictions- IOSCO and IFRS foundation will frequently share information to maintain accurate data
- Security Regulators affected by IASB standards- IFRS foundation will note and explain implementation aspects of IASB's new amendment standards.
- IFRS enforcement matters- IOSCO will organize annual IFRS discussion sessions to clarify the issues and other enforcement matter with IASB members.
- Timely input of IFRS foundation will help IOSCO members to make opinions.

#### **145. FSSAI new Trans Fat levels:**

- The Food Safety and Standards Authority of India recently announced that all edible refined oils, vegetable fat spreads, Vanaspati, margarines, Bakery shortening and mixed fat spreads can contain only 3% or less trans fats. This is to be implemented by January 2021.
- By January 2022, this is to be further reduced to 2%. This is being introduced because the World Health Organisation has called for global elimination of trans fat by 2023.

#### **How are trans fats created?**

- The trans fats are created artificially during the hydrogenation process of vegetable oils. They result in partially hydrogenated vegetable oils. These partially hydrogenated vegetable oils are the major source of Trans fats. Some trans fats are also formed during manufacturing processes. For instance, trans fats are formed during high temperature refinement process used in making vegetable oils.

#### **Risks of Trans fats:**

- Consumption of Trans fats results in heart diseases. In 2017, the Global market volume of partially hydrogenated oils (the main source of Trans Fats) was 13.6 million tonnes. Eliminating trans fats can save more than 17 million lives in next 25 years.
- India has the highest burden of heart diseases due to high trans-fat in the world.

- According to REPLACE annual report of World Health Organisation that was released in September 2020, more than 40 countries have implemented the “Best practice policies to eliminate trans fats”. The best practice policies limit trans fats to 2% or less. India has so far not implemented the practice. Therefore, the recent regulation introduced by FSSAI is important.

#### **About REPLACE:**

- It was launched by the World Health Organisation in 2018. REPLACE is six areas of actions as follows
- Review dietary sources of industrially produced trans fats
- Promote the replacement of industrially produced trans fats with healthy oils and fats
- Legislate regulatory actions to eliminate trans fats
- Assess trans-fat content in food supply and changes in trans-fat consumption
- Create awareness about the ill effects of Trans fats
- Enforce complaint policies and regulations

#### **146. Japan’s Solution for Space Debris:**

- In order to solve the problem of space debris, Japanese researches are to launch wooden satellites by 2023.
- These satellites are made of wood. They will burn up without releasing harmful substances into the atmosphere when they plunge back to the earth. With this the satellite will not leave out any waste in space after it completes its service or when it becomes de functional.
- The wooden satellites are being designed by the Sumitomo Forestry and Kyoto University. The Sumitomo Forestry is a 400-year-old wood working company of Japan. Both the entities will research on tree growth and use of wood materials in space. They will experiment different types of wood in extreme environments on the earth.

#### **What is the issue of space debris?**

- All the satellites that re-enter the earth atmosphere burn and create tiny Alumina particles. These particles float in upper atmosphere for many years. According to NASA, 95% of man-made objects in orbit were space junk. These objects are dangerous to functioning live satellite.

#### **How are space debris created?**

- According to European space agency, there are 128 million pieces of debris in the orbit. Out of these only 34000 objects are larger than 10. However, when these larger objects collide, they produce smaller ones. The smaller particles can travel more than 20000 miles per hour that collide with other particles to make even smaller particles.

#### **Why are wooden satellites needed?**

- According to World Economic Forum there are more than 6000 satellite circling the earth. Out of these 60% of them are de-functional. It is estimated that thousand satellites will be launched every year this decade. With this there will be 15000 satellite by 2028. Therefore, potential damages to live satellites will increase.
- In 2006 a very tiny piece of space debris collided with the International Space Station and took out a chip of the heavily reinforced window. This costed severe damages. Therefore, it is essential to develop solutions like wooden satellites to completely remove space debris.

#### **147. Ice Age Woolly Rhino:**

- A perfectly preserved woolly Rhinoceros was found by scientists in Yakutia in Russia.
- Where was the Ice Age Rhino found?
- The Ice Age Rhino was discovered on the bank of Tirekhtyakh river.

- Most of the intestine of the Rhino was intact. Also, the Rhino had perfectly preserved hair, soft tissue and a lump of fat. Its horn was found near its uncovered site. According to scientists, the animal died when it was three to four years old. The age of the carcass has been dated as 20,000 to 50,000 old.

#### **How was the Ice Age Woolly rhino found?**

- It was revealed due to the melting of permafrost in Russia. Several other animals such as Mammoths, cave lion and foals have been found in the region due to permafrost melting.

#### **How will Permafrost Melting affect Russia?**

- Around 65% of Russia is covered by permafrost. Currently Russia is warming 2.5 times faster than the other regions of the world that is causing the permafrost in the region to melt rapidly.
- The Norilsk Oil Spill is the major industrial disaster that occurred in May 2020 due to melting of permafrost.

#### **What is Norilsk Oil Spill?**

- This was the second largest oil spill in Russian history. Around 20,000 tonnes of diesel were leaked into Ambarnaya river. The oil spill turned the river into Crimson red.

#### **What is Permafrost?**

- Permafrost is the ground that remains completely frozen for at least two years. Permafrost is defined based on temperature and duration.
- The permafrost are Grounds that are known to be below 22% of the land surface on the earth.
- They are mostly located in polar zones and regions with high mountains. The permafrost is found in Russia, Canada and Alaska.

#### **148. RoDTEP Scheme:**

- The Government of India recently announced that the benefits of RoDTEP (Remission of Duties and Taxes on Exported Products) scheme is to be extended to all goods.

#### **About RoDTEP Scheme:**

- The RoDTEP Scheme was launched in 2020 to boost exports of India in International markets. Under the scheme, a mechanism will be created for reimbursement of levies, taxes or duties at central, state and local levels. Prior to the scheme, the reimbursements were not done under any mechanism.

#### **Which scheme was replaced by RoDTEP Scheme?**

- Merchandise Exports from India Scheme (MEIS). It was introduced to offset infrastructural inefficiencies and associated costs involved in exporting goods that are produced in India. The MEIS was not WTO-compliant.

#### **How is RoDTEP Scheme WTO-compliant?**

- The RoDTEP Scheme will coordinate with the World Trade Organization to reduce the post production transaction costs for the exporters. In order to achieve this, the RoDTEP Scheme implementation measures must provide production-oriented processes. This is in accordance to WTO rules. This will help to boost the production of MSMEs.
- Also, under the scheme the indirect taxes are consumed in production process. This is also consistent with WTO. In simple words, according to WTO principles, indirect taxes on exports shall be reimbursed to boost the exports.

#### **Benefits of RoDTEP Scheme:**

- Under the RoDTEP Scheme, the exporters of India will meet international standards for exports. This will boost the value of Indian products in the international market. It is being achieved through certification and affordable testing that will be provided under the scheme rather than relying on international organizations.

- By replacing MEIS, the RoDTEP Scheme created an automated route for the Input Tax Credit. The Input Tax Credit is provided to set off the taxes paid on purchase of consumables, raw materials that are used in the manufacturing goods and services. Therefore, it helps to avoid double taxation.

#### **149. Pradhan Mantri Ujjwala Yojana:**

- The Ministry of Petroleum and Natural Gas recently announced that more than 14 crores of free of cost cylinders have been provided under Pradhan Mantri Ujjwala Yojana to the beneficiaries of the scheme during covid-19 crisis.

#### **What is the reason behind the recent LPG price rise?**

- The Oil marketing companies revise the prices of gas cylinders on the first day of every month. The price revise is based on the international market rates. The recent price rise is due to changes in international price changes.

#### **How are LPG prices fixed in India?**

- The LPG pricing in India is done on the basis of Import Parity Price. The Import Parity price is determined based on LPG prices in the international market. It is based on LPG prices of Aramco of Saudi Arabia. It also includes free on-board prices, custom duty, Ocean freight charges, insurance, port dues, etc.
- The retail selling price of the non-subsidised LPG cylinder include the cost of Inland right, GST, bottling charges, marketing costs and margins charged by the Oil Companies, dealer Commission.
- Therefore, a weak performing rupee will also lead to higher prices of LPG in India. The current price rise in the recent past few months is due to this reason.

#### **What is Import Parity Price?**

- According to the United Nations World Food Programme, the Import Parity Price is the price at the border of a goods being imported. It includes International transport cost and tariffs.

#### **150. RBI Digital Payments Index:**

- The Reserve Bank of India recently released the Digital Payments Index to measure the growth in cashless transactions in India.
- The Digital Payments Index comprises of five broad parameters. These parameters have different weight to measure the penetration of digital payments in the country. The parameters of the Digital Payments Index and its penetration are as follows:
  1. Payment Enablers: 25%
  2. Payment Infrastructure-Demand Side factors: 10%
  3. Payment Infrastructure-Supply Side factors: 15%
  4. Payment Performance: 45%
  5. Consumer Centricity: 5%

#### **Sub-parameters of Payment Enablers of Digital Payments Index:**

- The sub factors of the payment enablers of the Digital Payments Index comprises of internet, mobile, bank account, merchants and participants.

#### **Sub-parameters of Payment Infrastructure of Digital Payments Index:**

- The sub parameters for the Payment Infrastructure of Digital Payments Index comprises of credit card, prepaid payment instruments, debit card, point-of-sale terminals, quick response codes, automated teller machines.

#### **Sub-parameters of Payment Performance of Digital Payments Index:**

- The Payment Performance carries the highest weightage in the Digital Payments Index. The Sub parameters of Payment Performance of Digital Payments Index are paper clearing, cash

withdrawal rules, e volume and value of digital payments, unique users and currency in circulation.

**Sub-parameters considered under Consumer Centricity of Digital Payments Index:**

- The RBI would consider customer education and awareness, complaints, frauds, system declines under the consumer centricity of the Digital Payments Index.

**Base year of Digital Payments Index of RBI:**

- The Reserve Bank of India has set the base year of Digital Payments Index as 2018.
- The Digital Payments Index for the year 2019 was 153.47 and for that of 2020 was 207.84 respectively.
- RBI is to publish the Digital Payments Index on a semi-annual basis from March 2021.

**Why is the Digital Payments Index needed?**

- The digital payments in India have seen a rapid increase in adoption of digital platforms lately. According to the Unified Payments Interface (UPI), in December 2020 around 223 crores of transactions worth 4.16 lakh crores of rupees were made as compared to that of 221 crores of transactions worth 3.9 lakh crores of rupees in November 2020.
- This clearly shows that the digital transactions in the country are increasing day by day. Therefore, it is essential to measure its growth and launch respective initiatives to support the growth.

**151. Sea Wing Underwater Drones:**

- China has recently deployed underwater drones called Sea Wing Glider in the Indian Ocean region. The Sea Wing Glider Drone is used for Naval surveillance. It can operate for months under the sea.
- The Sea Wing Glider Drone is a type of an uncrewed underwater vehicle. It was launched in December 2019.
- Apart from Indian ocean region China has also deployed the Sea Wing Glider Drone in the Arctic Ocean. Also, these drones are deployed in South China Sea, East China Sea and other waters of the Western Pacific.

**What is China's stand in use of Sea Wing Glider Drone?**

- According to the Chinese, Sea Wing Glider Drones have been deployed for research and development purposes.
- According to Defence ministry, around 14 Sea Wing Glider Drones have been deployed in the Indian Ocean region. Our only 12 are being used. They have been employed for long range missions.
- With the help of Sea Wing Glider Drone the Chinese are gathering oceanography data in the Indian Ocean region. It gathers information such as salinity, seawater temperature, turbidity, oxygen content, chlorophyll and ocean current changes.
- The Sea Wing Glider Drones are capable of carrying acoustic sensors such as acoustic Doppler current profile sensor, hydrophones and underwater acoustic communication devices.
- According to the Government of India, the Chinese might use these drones to listen to Indian Naval communication and might track Indian Naval ships in the Indian Ocean region.
- China has been increasing its presence in International waters in the name of research and development. According to India, with this the Chinese are trying to disturb the sovereignty of international waters. This is against the UNCLOS (United Nations convention for the Law of the Sea).

**152. Light House Project:**

- The Prime Minister Narendra Modi recently laid the foundation of the Light House Project in six states.
- The Light House Projects are to be implemented in Agartala (Tripura), Ranchi (Jharkhand), Lucknow (Uttar Pradesh), Indore (Madhya Pradesh), Rajkot (Gujarat) and Chennai (Tamil Nadu) under the Global Housing Technology Challenge-India.
- The Light House Project is to be implemented by Union Urban Ministry.

#### Key Features:

- Under the Light House Projects, people are provided sustainable housing considering the local climate and ecology.
- Under the project, cheap and strong houses are built using special techniques.
- The Beam-columns and panels of the houses are to be prepared from factories and brought to the place of construction.
- The entire carpet area of this project will be in 34.50 square meters.
- Under this, 14-storey towers will be built.
- A total of 1,040 flats are to be built. Each flat will be 415 square feet.

#### Benefits of Light House Project project:

- The main advantage of the project is that the duration and cost of construction is reduced.
- The houses built under the Light House project will be completely earthquake resistant.
- They will be durable and environmentally friendly due to the use of pre-fabricated materials.

#### Advanced technologies to be used in Light House Project:

- Under the project, the houses being built in Indore will not have brick and mortar walls, but a pre-fabricated sandwich panel system will be used in it.
- Monolithic concrete is to be used in the houses to be built in Rajkot. This technology of France will give momentum and the new one will be able to withstand more disaster.
- Canada technology is being used in a house built in Lucknow, it will have walls already made, there is no need to plaster and paint these walls.
- The technology of steel frames is to be used in Agartala. This technology has been sourced from New Zealand.
- In Chennai, Finland's and America's precast concrete system will be used.
- In Ranchi, 3-D construction system of Germany is to be used to construct houses.

#### 153. LYNX U2 GFCS:

- Recently, the Ministry of Defence has signed an agreement with the Bharat Electronics Limited to supply ten LYNX U2 GFCS.
- It is a **Naval Gun Fire Control System**. It has been designed to track and engage targets amidst sea clutter. It can accurately track air and surface targets. Also, it can generate required target data to predict weapon aiming points. The target engagement is done using Russian A190, AK176 and AK630.
- The Gunfire Fire Control System is designed with open and scalable architecture that permits simple and flexible implementation in different configurations.
- It has been in service in Indian Navy for more than two decades now. It has been meeting tactical requirements in the Indian Navy meeting the requirements of Indian Naval ships of different classes such as frigates, destroyers, missile boats, corvettes.
- The ten LYNX U2 GFCS being acquired from BEL is to be installed on Naval Offshore Patrolling Vessel Talwar and Teg class of ships.
- The system has servo and weapon control modules, tracking radars. It ensures maximum up-time. The current LYNX U2 GFCS proposed in the contract is of the fourth generation and is completely indigenized.



- The LYNX U2 GFCS is developed in true spirit of Atma Nirbhar Bharat (self-reliant India). India has been trying to increase its domestic defence production lately. The agreement will help India in increasing its domestic production.

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