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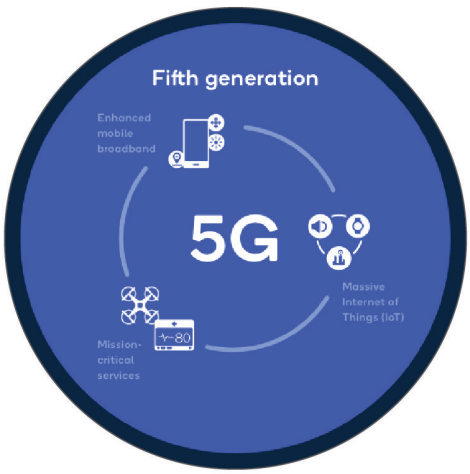
(Institute for Civil Services Examination)

65/-

JANUARY 2021

the RECITALS

Explore Current Affairs Through Q&A







Featured Articles • **Mains Q & A** • **Prelims Q & A** • **Bridging Gaps**

Future of Food

Vaccine Maitri Initiative

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From the Desk of the Director

Dear Students

The preparation of current affairs magazine is an evolutionary process as its nature and content keeps changing according to the demands of Civil Service Exam. As you are aware about the importance of current affairs for the prelims as well as mains exam, our aim is to follow an ***integrated approach*** covering all stages of examination from prelims to interview. Keeping these things in mind, we, at Vajiram and Ravi Institute, are always in the process of evolving our self so as to help aspirants counter the challenges put forward by UPSC.

In fulfillment of our objective and commitment towards the students, we have introduced some changes in our current affairs magazine. The CA Magazines, now with the name of "**The Recitals**", will have four sections. These are:

1. **Feature Article**: As you are aware of the fact that civil service mains exam has become quite exhaustive and analytical, especially since 2013 after the change in syllabus, we have decided to focus on 2-3 topics every month that will provide an insight into the issue so as to help students understand the core of the issue. This will help in Essay writing as well as Mains Exam.
2. **Mains Q&A**: New students quite often struggle to find out that in what way the given topic is useful for them and in what form questions can be framed from the article. To help those students, we at Vajiram and Ravi have designed an innovative way to teach current affairs. Now, we will cover the current issues through questions and answers so as to make it more targeted towards exam. This will not just provide the information and analysis on current issues but will also help in learning the art of answer writing. Further the related information on the topics on which questions have been framed but that is outside the purview of answer will be given in the Box as '***Extra Mile'***.
3. **Prelims Q&A**: This section will contain prelims based MCQs that will test your diligence while reading the current issues. These MCQs will be of UPSC standard and will contain detailed explanation. Students are advised to attempt these MCQs honestly and read the Explanation carefully. The idea is to also provide students with a question bank of around 600 current affairs MCQs (50 Qs × 12 months = 600 Qs) just before their prelims examination, which will act as revision on issues spanning over the entire year.
4. **Bridging Gaps**: This section will contain miscellaneous topics which has not been covered through Q&A. That is why it is called Bridging Gaps, meaning the left-over topics.

So, the new magazine is a complete overhaul of what we have been doing for so long. We hope that the new beginning will be to the liking of students.

Thanks

Best Wishes

Future of Food

The food system is fundamental for human life. It provides the energy and nutrition that people need as a basis for economic and social advance. It provides an income source for billions of people, many of whom are poor, and it is the largest user of the world's natural resources.

The food system operates across many sectors and touches upon many aspects of society—agriculture, health and nutrition, environment, business, culture, to name a few. As a result, improvements in its operations that help end hunger can also contribute to ending extreme poverty. However, the future of food and agriculture faces uncertainties that give rise to serious questions and concerns regarding its performances and sustainability. Uncertainties revolve around different factors, including population growth, dietary choices, technological progress, income distribution, the state of natural resources, climate change, the sustainability of peace, etc. Nobody knows with precision how these factors will evolve over time, however, they are certain to shape the future.

Issues

- The world's population is expected to grow to almost 10 billion by 2050, boosting agricultural demand – in a scenario of modest economic growth. The decline in the share of agriculture in total production and employment is taking place at different speeds and poses different challenges across regions.
- Income growth in low- and middle-income countries would hasten a dietary transition towards higher consumption of meat, fruits and vegetables, relative to that of cereals, requiring commensurate shifts in output and adding pressure on natural resources.
- Although agricultural investments and technological innovations are boosting productivity, growth of yields has slowed to rates that are too low for comfort. However, the needed acceleration in productivity growth is hampered by the degradation of natural resources, the loss of biodiversity, and the spread of transboundary pests and diseases of plants and animals, some of which are becoming resistant to antimicrobials.
- Satisfying increased demands on agriculture with existing farming practices is likely to lead to more intense competition for natural resources, increased greenhouse gas emissions, and further deforestation and land degradation.
- Critical parts of food systems are becoming more capital-intensive, vertically integrated and concentrated in fewer hands. This is happening from input provisioning to food distribution. Small-scale producers and landless households are the first to lose out and increasingly seek employment opportunities outside of agriculture.
- Conflicts, crises and natural disasters are increasing in number and intensity. They reduce food availability, disrupt access to food and health care, and undermine social protection systems, pushing many affected people back into poverty and hunger, fuelling distress migration and increasing the need for humanitarian aid.
- Hence, improving the performance of the food system is critical to sustainably feed nearly 10 billion people by 2050 while raising farmer incomes, protecting them from climate change and helping them to thrive.

Measures For A Sustainable Food System

A. Harnessing Digital Technologies



- Harnessing digital technologies to improve food system outcomes looks at the opportunities from digital technologies, including better transparency of agricultural value chains, smarter farms, and improved public services. It also reviews some of the risks, including an over-concentration of service providers, poor data governance, and exclusion.
- Digital technologies can significantly reduce the costs of linking sellers and buyers; reduce inequalities in access to information, knowledge, technologies and markets; help farmers make more precise decisions on resource management by providing, processing, and analyzing an increasing amount of data faster; and potentially reduce scale economies in agriculture, thereby making small-scale producers more competitive.
- Adoption of digital technologies varies significantly across countries, with lower current adoption rates in low-income countries. Increasing its adoption in the food system will require addressing supply side factors such as low rural network coverage and availability of digital application; and demand side factors, including need for better skills and knowledge, trust, affordability, and the absence of complementary investments.

B. Maximizing Finance For Development In Agri Chains

- Current levels of investment in agricultural value chains are insufficient to achieve key development goals including ending poverty and hunger and boosting shared prosperity through more and better jobs.
- There is still a critical need for public resources to finance essential public goods and services such as human capital, agricultural research, and complementary public infrastructure. Crowding-in private investment in the agriculture sector can help achieve development goals and optimize the use of scarce public resources.
- Factors that can help maximize finance for agricultural development include: improving the enabling environment for the private sector, promoting responsible investment, improving the policy and regulatory environment; using public financing to improve private incentives and to reduce transaction costs and risks—including through blended finance.

C. Shaping Food System To Deliver Jobs

- The food system currently employs the majority of people in both self and wage employment in developing countries, and will continue to do so for the foreseeable future.

- Jobs in the food system extend beyond agricultural production and account for a large share of the global economy's manufacturing and services sectors. As per capita incomes increase and eating patterns shift, the demand for jobs in these off-farm segments of the food system – including processing, distribution, transportation, storage, retailing, preparation and restaurants -- will increase.
- Agriculture and family farming in particular, must be more firmly linked to the broader rural and urban economy. This can be done by developing agro-industries and setting up infrastructure to connect rural areas, small cities and towns.
- Further, strong institutions supported by efficient fiscal systems, are needed to ensure economy-wide income-earning opportunities, effective social protection, and competitive and equitable domestic and international markets for inputs and outputs. All these aspects are critical to improve the efficiency and equity of economic systems and facilitate their structural transformation.

D. Improved Nutrition And Health

- Malnutrition and food-borne diseases impose large current and future human, economic, fiscal, and social costs on countries. Key among these is child stunting that has life-long consequences, reducing cognitive development and lifetime earnings of individuals, and undermining the future competitiveness of countries.
- Reducing these costs requires multisector approaches. Shaping food systems to deliver improved nutrition and health requires a combination of improved knowledge, sound policies, regulations, and investments across the production-to-consumption continuum.
- The goal is to stimulate behavioural change in food producers, post-harvest handlers, food processors, food distributors, and consumers. As the link between food systems and household nutrition and health passes primarily through women, greater consideration of this gender dimension is needed across all interventions.
- Consumer awareness and education regarding the nutritional content of food and diet-related diseases are also critical to reduce the "triple burden" of malnutrition that is, undernourishment, micronutrient deficiencies, and overweight and obesity.
- Food prices should reflect the inherent nutritional value of food as well as the full range of costs associated with their production and consumption along the entire food value chain.
- This can help limit the growth of food demand and reduce food losses and waste, while contributing to the preservation of natural resources and the improvement of nutrition

E. Climate Smart Agriculture

- Droughts, floods and rising temperatures are already cutting crop yields, threatening food, fish and meat supply and pushing people deeper into poverty. Climate change and the effects of climate shocks are dampening the prospects for future productivity growth. Agriculture and land use changes already contribute significantly to greenhouse gas emissions.
- Meeting the rising demand for food and ending hunger and food insecurity requires a climate-smart food system that improves agricultural productivity, has greater resilience to climate change and lowers greenhouse gas emissions.

- Efforts to rehabilitate degraded land and practices that limit degradation are required to maintain the resource base and reduce the use of inputs. This has to be coupled with increasing the efficiency of water use.
- There is a need to develop communities, scientists, investors, and civil society to rally behind governments and farmers to support integrated approaches and overcome barriers to adoption of CSA.
- To ensure that sufficient land and water resources are available to meet total demand from agriculture, significant investments are required in the research and development of sustainable technologies and practices, infrastructure and human capital.
- There is a growing spectrum of interventions—policies, practices and innovations— that must help secure the triple win of higher agricultural productivity, increased resilience to climate change and lower emissions.

F. Additional Measures

- Permanently eliminating hunger, malnutrition and extreme poverty requires building resilience to protracted crises, disasters and conflicts, and preventing conflicts by promoting inclusive and equitable global development.
- Eradicating extreme poverty, and ensuring that vulnerable people who escape poverty do not fall back into it, requires action to reduce inequalities. That means addressing inequalities both between and within countries, in levels of income, in opportunities and in ownership of assets, including land.
- Thus ensuring a more equitable distribution of income within and across countries is indispensable in the quest for food security, better nutrition and environmental sustainability of food systems

It is evidently clear that business-as-usual is not an option. Major transformations of agricultural systems, rural economies and natural resource management will be needed to meet the multiple challenges and realize the full potential of food and agriculture to ensure a secure and healthy future for the entire planet.

Vaccine Maitri Initiative

India has dispatched 500,000 doses of **Covishield vaccines to Sri Lanka** as grant assistance under its "**Vaccine Maitri" initiative**. This initiative has already delivered nearly **five million doses to seven countries in the neighbourhood**.

India-Sri Lanka Bilateral Relations during COVID times

- To ensure financial stability of the country during the COVID-19 pandemic, India extended a USD 400-million currency swap facility to Sri Lanka.
- It gifted around **26 tons of essential lifesaving medicines and equipment** to Sri Lanka.

Besides facilitating the repatriation of several hundred Sri Lankan citizens from various Indian cities, **New Delhi was the first** to send such a consignment on-board two special Air India aircrafts.

What is Vaccine Maitri Initiative?

- Launched on January 20, 2021, this initiative is also known as Vaccine Friendship Initiative. Under this initiative, **India is supplying Made-in-India Covid-19 vaccines to its neighbouring countries**.
- Apart from countries in India's immediate and extended neighbourhood, these vaccines are also being supplied to India's close strategic partners such as Brazil, Morocco etc.

Distribution of Vaccine Under This Initiative

- Bhutan and Maldives became the first two countries to receive 150,000 and 100,000 vaccines respectively.
- Later Bangladesh, Nepal, Myanmar Seychelles, Mauritius, Sri Lanka etc. received the vaccine.
- The two million doses gifted by India to Bangladesh were the **single largest consignment of vaccine**s provided by India to any country thus far.
- There are many countries including South Africa, Saudi Arabia, UAE and a host of others that have **signed commercial agreements with Indian manufacturers**.

Country And Date	Grant	Comm. Export
Maldives, Jan 20	1L	
Bhutan, Jan 20	1.5L	
Nepal, Jan 21	10L	20L*
Bangladesh, January 21-25	20L	50L
Myanmar	15L	20L*
Mauritius, Jan 22	1L	
Sri Lanka, Jan 28	5L	
Seychelles, Jan 22	50,000	
Bahrain, Jan 28	1L	
Oman, Jan 30	1L	
UAE		20L

Country And Date	Grant	Comm. Export
Brazil, Jan 22	20L	
Morocco, Jan 22	20L	
Mongolia	1.5L*	10L*
Saudi Arabia		30L*
Egypt		50,000
Algeria		50,000
Kuwait		20L
Nicaragua	2L	3L*
Barbados	1L*	
Dominica	70,000*	
COVAX (Africa)	100L*	
Afghanistan	5L*	*In Feb

- Regulatory approvals by Afghanistan are awaited to effect supplies to it.

Analysis

A. Helping India's Foreign Policy

- India produces **60 per cent of all vaccines manufactured** in the world. The head of the WHO recently complained that the **developed countries monopolised** the Pfizer and Moderna vaccines for their own populations and were not making them available to developing countries.
- Against this backdrop, this initiative is basically strengthening India's foreign policy which is governed by its age-old maxim of **''Vasudhaiva Kutumbakam''** (The World is One Family).
- This initiative in itself is a reflection of India's commitment to its "**Neighbourhood First**" Policy and **SAGAR doctrine** in which the island nation has an important position.
- **Bangladesh** government, after receiving the vaccine, had commented that India had stood by the country during the Liberation War of 1971 as well as during the pandemic.

- India's vaccine assistance reached **Nepal** within a week of a request made by Nepalese Foreign Minister. This gesture to Nepal came at a time when its ties have been strained by a territorial dispute as well as concerns over China's expanding influence.
- There is huge demand for vaccines in countries who are tourism-dependent economies. This has provided an important opportunity for the Indian government to expand and strengthen its outreach.
- The US State Department, the WHO, Bill Gates and several others have spoken warmly and appreciatively of the **selfless manner in which India is helping several developing countries with the vaccines**. It will add to India's global image.

B. Took China by Surprise

- India's 'Vaccine Maitri' Mission appears to have taken China by surprise and put it on the back foot.
- China is seeking to **step-up its vaccine diplomacy** amid projections from experts that **India could become the "engine" for the distribution of the jabs to the world**.
- Beijing had announced that it would supply three lakh vaccines to Sri Lanka after New Delhi dispatched five lakh doses to Colombo. China has also offered its vaccine supplies to Nepal, Maldives and Brazil, which has already received the first batch of supplies from India.
- Not only that, around seven million made-in India doses of AstraZeneca's Covishield vaccine will be part of Pakistan's vaccine drive. Pakistan is procuring these vaccines under the global Covax alliance (COVAX is a global initiative, which aims at ensuring that middle and lower-income countries get timely access to coronavirus vaccines).
- China's 'iron friend' Pakistan had to send its aircraft to Beijing to airlift 500,000 doses of the vaccine. This is in stark contrast to the dispatch effected by India to Nepal and Bangladesh in Air India special flights.
- Brazil which had also imported Chinese vaccines, is wary of using them because it finds that their efficacy is just around 50 per cent, which is much lower than all other vaccines in use in the world.

Conclusion

- While the world is witnessing the aggressive and threatening demeanor of China, the humane and caring attitude of India, in stark contrast, is evident.
- In the rapidly evolving global geo-political landscape, the healing and supportive actions by India through supply of Covishield and Covaxin vaccines will have a huge impact in promoting peace, security, cooperation and prosperity in the region and the world.
- India's 'Vaccine Maitri' initiative has further **strengthened its image as the first responder in emergency situations**. This is all the more commendable when there are only **five countries in the world who have thus far been able to successfully manufacture Covid-19 vaccines**.

[Also refer the topic "**Vaccine Diplomacy**" (in Feature Article section) from August 2020 edition of CA magazine as well as the topic "**Vaccine Nationalism**" (in Prelims section) from June 2020 edition of the Magazine]

1. What do you understand by Judicial review? Discuss the features of Judicial Review in India and the issues associated it?

Answer

Judicial Review refers to the **power of the judiciary to interpret the constitution and to declare any such law or order of the legislature and executive void,** if it finds them in conflict the Constitution of India.

Under Article 13(2) of the Constitution of India, any law made by the parliament that abridges the right conferred to the people under Part 3 of the constitution is void-ab-initio. The power to interpret the Constitution of India to its full extent lies within the Judiciary. Power of Judicial Review is vested in many articles such as 13, 32,136, 142, 147 of the constitution.

Features of Judicial Review in India:

- Judicial Review Power is used by **both the Supreme Court and High Courts**. But the final power to determine the constitutional validity of any law is in the hands of the Supreme Court of India.
- **Judicial Review of both Central and State Laws:** Judicial Review can be conducted in respect of all Central and State laws, the orders and ordinances of the executives and constitutional amendments.
- **It covers laws and not political issues**: Judicial Review applies only to the questions of law. It cannot be exercised in respect of political issues.
- **Judicial Review is not automatic**: The Supreme Court does not use the power of judicial review on its own. It can use it only when any law or rule is specifically challenged before it or when during the course of hearing a case the validity of any law is challenged before it.
- **Principle of Procedure established by Law**: Judicial Review is governed by the principle of "Procedure established by law" as given in Article 21 of the Indian Constitution. The law has to pass the test of constitutionality if it qualifies it can be made a law. On the contrary, the court can declare it null and void.
- **Clarification of Provisions which a rejected law violates:** While declaring a law unconstitutional, the Supreme Court has to cite the provisions of the constitution which it violates. The court has to clearly establish the invalidity of the concerned law or any of its part.

Issues Associated With Judicial Review In India

- **Undemocratic**: The critics describe Judicial Review as an undemocratic system. It empowers the court to decide the fate of the laws passed by the legislature, which represent the sovereign will of the people.
- **Lack of Clarity**: The Constitution of India does not clearly describe the system of Judicial Review. It rests upon the basis of several articles of the Constitution.
- **Source of Administrative Problems:** Now a law can face judicial review only when a question of its constitutionality arises in any case being heard by the Supreme Court. Such a case can come before the Supreme Court after 5 or 10 or more years after the enforcement of that law. As such when the Court rejects it as unconstitutional, it creates administrative problems.

- **Delaying System:** Judicial Review is a source of delay and inefficiency. The people in general and the law-enforcing agencies in particular sometimes decide to go slow in respect of the implementation of a law. They prefer to wait and let the Supreme Court first decide its constitutional validity in a case that may come before it at any time.
- **Tends To Make The Parliament Less Responsible:** Judicial Review can make the Parliament irresponsible as it can decide to depend upon the Supreme Court for determining the constitutionality/ reasonableness of a law passed by it.
- **Reversal Of Its Own Decisions By The Supreme Court:** It is on record that on several occasions the Supreme Court reversed its earlier decisions. The judgment in the Golaknath case reversed the earlier judgments and the judgment in the Keshwananda Bharati case reversed the judgment in the Golaknath case. The same enactment was held valid, then invalid and then again valid. Such reversals reflect the element of subjectivity in the judgments.

Conclusion

In India, we have adopted the concept of **separation of power** so we cannot assume the power of judicial review in full extended form. If the courts presume full and arbitrary power of judicial review, it will lead to the poor performance of work by all the organs of government. So, to keep all the functions work properly, each has to work in its provided sphere. In India, we have the concept of judicial review **embedded in the basic structure of the constitution**. It helps the courts to keep a **check and balance upon the other two organs of government** so that they don't misuse their power and work in accordance with the constitution.

Extra Mile

Central Vista project

- Recently the Supreme Court **refused to treat the Central Vista project as a unique one requiring greater or "heightened" judicial review.**
- **The central vista project** aims to renovate and redevelop 86 acres of land in Lutyens's Delhi, in which the landmark structures of the Indian government, including Parliament House, Rashtrapati Bhavan, India Gate, North Block and South Block, etc. stand.

Supreme Court's view

- Government may examine advantages or disadvantages of a policy at its own end, it may or may not achieve the desired objective. It is not the court's concern to enquire into the priorities of an elected government.
- Judicial review is never meant to venture into the mind of the government and thereby examine validity of a decision.
- The government is "entitled to commit errors or achieve successes" in policy matters without the court's interference as long as it follows constitutional principles.

2. The Ministry of Health and Family Welfare recently release the Longitudinal Aging Study in India (LASI). What is LASI? Highlight the findings of the study.

Answer

- Launched in 2016, LASI is a full–scale national survey of scientific investigation of the health, economic, and social determinants and consequences of population ageing in India.

- LASI, Wave 1 covered 72,250 individuals aged 45 and above for the 2017-18 period. This included 31,464 people aged 60 and above and 6,749 aged 75 and above from all states and Union territories, excluding Sikkim.
- Funded by the Union Ministry of Health and Family Welfare, it is India's first and the world's largest-ever survey that provides database for designing policies for the older population in the broad domains of social, health, and economic well-being.
- Similar studies have been carried out in 41 countries. In Asia, China, Korea, Japan, and Indonesia have taken up the exercise.
- The study was carried out by the ***International Institute of Population Sciences (IIPS)***, Mumbai in collaboration with Directorate General of Health, ***Harvard School of Public Health, University of Southern California***, ***United Nations Population Fund (UNFPA)*** & ***National Institute on Ageing.***

Key Findings

- In the 2011 census, people aged 60 and above formed 8.6% of India's population, accounting for 103 million elderly people. Growing at around 3% annually, the number of elderly-age population will rise to 319 million in 2050.
- The study shows that, the prevalence of single morbidity and multi-morbidity conditions increases with age.
- Around, 26% of older adults age 45 and above reported that they have been diagnosed with single morbidity and 18% have been diagnosed with multi-morbidities. Around a quarter (23%) of the elderly age 60 and above have multi-morbidities.

Mental Health Issues

- As per the study, one in five elderly persons in India has mental health issues.
- While age associated-decline in cognitive ability score is consistent across states and socioeconomic spectrum, it was found to be closely related to educational attainment across all ages.
- For instance, 9 percent of people with less than primary education had depression and it dropped sharply to 5 percent in people with 10 or more years of schooling.
- More women suffered from depression than men in the rural areas.

Work Limiting Health Conditions

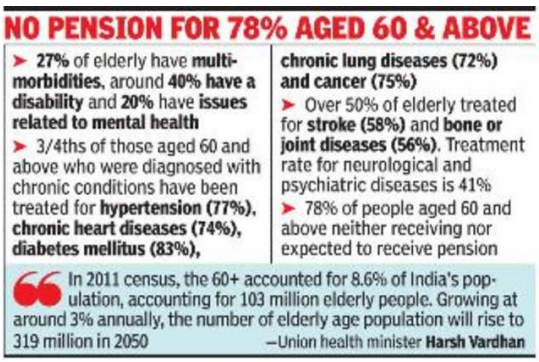
- More than 40% of those aged 60 and above, who are either currently working or had worked in the past, reported having work-limiting health conditions.
- In the above-60 category, 11 per cent suffered from at least one form of impairment — locomotor, mental, visual or hearing — compared with 6 per cent in the 45-59 age bracket.
- Almost one-fourth of those over 60 face at least one limitation in pursuing daily activities such as movement in bed, changing position from sitting to standing, feeding, bathing, dressing, grooming, personal hygiene.

Treatment Rates

- Around 75% of those 60 and above who were diagnosed with chronic conditions have been treated for hypertension (77%), chronic heart diseases (74%), diabetes mellitus (83%), chronic lung diseases (72%) and cancer (75%).
- More than half the elderly have been treated for stroke (58%) and bone or joint diseases (56%) whereas the treatment rate for neurological and psychiatric diseases is 41%.
- The treatment rate for all chronic health conditions is higher among the elderly in urban areas.

Social Security Benefits

- About one-fifth of those 60 and above, who are officially retired, are currently receiving pension and an additional 3% are expected to receive it. A large proportion (78%) are neither receiving nor expected to receive pension.
- More than half of people aged 60 and above (54%) with 10 or more years of schooling, and who are officially retired, are receiving pension. In comparison, just 4% of those with no schooling get pension.
- Social security coverage is significantly higher in smaller states and UTs where people are mostly engaged in full-time jobs and in public sector units. North, east and central Indian states have almost negligible social security coverage.



The evidence from LASI will be useful in strengthening and broadening the scope of National Programme for Health Care of the Elderly and will also help in establishing a range of preventive and health care programmes for older population and most vulnerable among them.

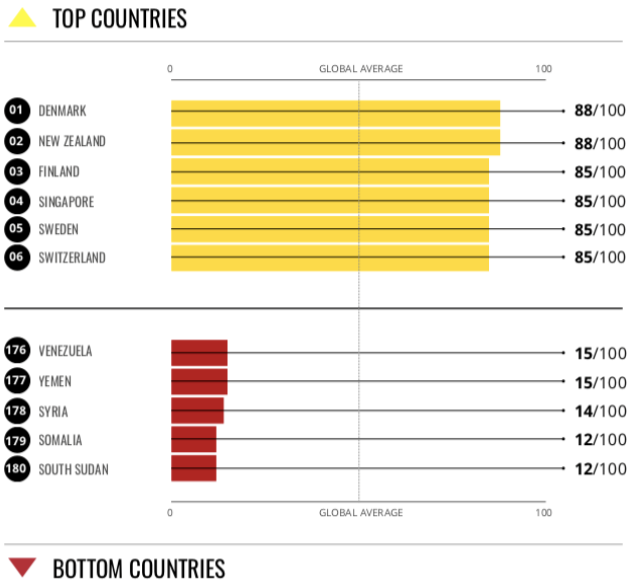
3. Transparency International recently released the Corruption Perception Index 2020. Highlight the findings of the index and the impact of corruption in a public health emergency along with measures to reduce corruption.

Answer

The Corruption Perception Index, released annually by Transparency International, ranks 180 countries by their perceived levels of public sector corruption according to experts and business people. It uses a scale of zero to 100, where zero signifies the highest level of corruption and 100 is very clean.

Global Highlights

- ***Denmark and New Zealand*** topped the list with scores of 88, followed by Finland, Singapore, Sweden and Switzerland (85 each). Syria with a score of 14, Somalia and South Sudan with scores of 12 each come last on the CPI 2020.
- The data shows that despite some progress, most countries still fail to tackle corruption effectively. Like in previous years, more than two-thirds of countries scored below 50 in CPI 2020, with a global average score of just 43.
- Since 2012, 26 countries have significantly improved their CPI scores and the CPI scores have decreased in 22 countries.
- Nearly half the countries have been stagnant on the index for almost a decade, indicating lack of government efforts to tackle the root causes of corruption.



Highlights from Asia Pacific

- The average score in the Asia-Pacific region, which covers 31 countries, is 45. ***New Zealand*** was the top performer in the region. Other top-scoring countries in this region were Singapore (85), Australia (77) and Hong Kong (77).
- ***India's ranking*** on the CPI 2020 slipped from 80 to 86 even as its score decreased only by one point to 40 (in 2020) from 41 in 2019.
- India's score of 40 is below both the global average and the Asia-Pacific average. India's score is also lower than that of China, which scored 42 with a rank of 78. However, Pakistan, fared poorly with a score of 31 and a rank of 124.

Corruption In A Public Health Emergency

- Corruption poses a critical threat to citizens' lives and livelihoods, especially when combined with a public health emergency. Clean public sectors correlate with greater investment in health care.
- Uruguay, that has the highest CPI score in Latin America (71), invests heavily in health care, which aided its response to COVID-19 and other infectious diseases, like yellow fever and Zika.
- In contrast, Bangladesh scores just 26 and invests little in health care due to which there is high corruption during COVID-19, ranging from bribery in health clinics to misappropriated aid.
- Countries with higher corruption levels also tend to be the worst violators of rule of law and democratic institutions during the COVID-19 crisis. For instance, Philippines (34), where the response to COVID-19 has been characterised by major attacks on human rights and media freedom.

Measures To Address Corruption

- Governments must ensure open and transparent contracting to identify conflicts of interest and ensure fair pricing.
- Anti-corruption authorities and oversight institutions must have sufficient funds, resources and independence to perform their duties.
- Governments must also publish relevant data and guarantee access to information to ensure the public receives easy, accessible, timely and meaningful information.

Taking appropriate measures to tackle corruption will not only ensure that the resources actually reach where they are intended to and to those who need them the most, along with creating the right conditions and the social infrastructure to deal with future public health emergencies.

Extra Mile

Transparency International (TI)

- Transparency International (TI) is an international non-governmental organization which is based in Berlin, Germany, and was founded in 1993.
- It has a vision of a world in which government, politics, business, civil society and the daily lives of people are free of corruption.
- Its mission is to stop corruption and promote transparency, accountability and integrity at all levels and across all sectors of society.

4. A new report by Oxfam International has found that the Covid pandemic deeply increased existing inequalities in India and around the world. Highlight the findings of the report.

Answer

- Oxfam International recently released a report, titled '**The Inequality Virus'**, according to which the pandemic is the first time since records began that inequality is rising in virtually every country at the same time.
- The 1,000 richest people on the planet recovered their Covid-19 losses within just nine months, but it could take more than a decade for the world's poorest to recover.
- The wealth of Indian billionaires increased by 35 per cent during the lockdown and by 90 per cent since 2009 to $422.9 billion.
- Since March, India's top 100 billionaires saw their fortunes increase by Rs 12.97 trillion — enough money to give every one of the 138 million poorest Indians a cheque for Rs 94,045 each. In stark contrast, 170,000 people lost their jobs every hour in the month of April 2020.
- In fact, the increase in wealth of the top 11 billionaires of India during the pandemic could sustain the NREGS scheme for 10 years or the health ministry for 10 years.

Sectoral Impact

- Sectorally, India's large informal workforce was the worst hit as it made up 75 per cent of the 122 million jobs lost. Informal workers had relatively fewer opportunities to work from home and suffered more job loss compared to the formal sector.
- The 40-50 million seasonal migrant workers, typically engaged working in construction sites, factories etc. were particularly distressed.
- Over the past year as education shifted online, India saw the digital divide worsening inequalities. On one hand, private digital education providers experienced exponential growth yet, on the other hand, just 3 per cent of the poorest 20 per cent of Indian households had access to a computer and just 9 per cent had access to the internet.
- In terms of healthcare, globally, the poor, marginalised and vulnerable communities have higher rates of COVID-19 prevalence.
- The spread of disease was swift among poor communities, often living in crammed areas with poor sanitation and using shared common facilities such as toilets and water points.
- Only 6 per cent of the poorest 20 per cent households had access to non-shared sources of improved sanitation, compared to 93 per cent of the top 20 per cent households in India.
- In terms of caste, just 37.2 per cent of SC households and 25.9 per cent of ST households had access to non-shared sanitation facilities, compared to 65.7 per cent for the general population.

Widening Gender Disparities

- The pandemic has also widened gender disparities. The unemployment rate among women rose from already high 15 per cent before Covid-19 to 18 per cent.
- This increase in unemployment of women can result in a loss to India's GDP of about 8 per cent or $218 billion. Of the women who retained their jobs, as many 83% were subjected to a cut in income.
- Beyond income and job losses, poorer women also suffered healthwise because of the disruption in regular health services and Anganwadi centres.
- It is predicted that the closure of family planning services will result in 2.95 million unintended pregnancies, 1.80 million abortions (including 1.04 million unsafe abortions) and 2,165 maternal deaths. The pandemic also fuelled domestic violence against women.

The crisis has exposed the inability of the world's deeply unequal economy to work for all. Yet it has also shown the vital importance of government action to protect health and livelihoods. Transformative policies that seemed unthinkable before the crisis have suddenly been shown to be possible. Taking this as an opportunity, citizens and governments must act on the urgency to create a more equal and sustainable world.

Extra Mile

Oxfam

- Oxfam is a confederation of 19 independent charitable organisations focusing on the alleviation of global poverty, founded in 1942 and led by Oxfam International.
- Oxfam's programmes address the structural causes of poverty and related injustice and work primarily through local accountable organizations, seeking to enhance their effectiveness.
- In the year 2000, Oxfam adopted the rights based approach as the framework for all the work of the Confederation and its partners.
- In doing so, it recognizes the universality and indivisibility of human rights and has adopted the following aims to express these rights in practical terms - the right to a sustainable livelihood; the right to basic social services; the right to life and security; the right to be heard and the right to an identity

5. The India Innovation Index was recently released by NITI Aayog. What is India Innovation Index? Delineate the findings of the index along with the significance of the index.

Answer

- NITI Aayog recently released the second edition of the India Innovation Index. The first edition of the index was launched in October 2019 and is on the lines of the Global Innovation Index (GII), which ranks countries annually.
- The Index aims to create an extensive framework for continuous evaluation of India's innovation environment. In doing so, the index aims to accomplish the following **three functions**:
  - Rank all states and union territories based on their index score.
  - Identify opportunities and challenges.
  - Assist in modifying governmental policies to promote innovation.

Formulation Of The Index

- The India Innovation Index 2020 measures innovation inputs through **five Enablers parameters** and innovation output through **two Performance parameters.**
- Human Capital; Investment; Knowledge Workers; Business Environment; Safety and Legal Environment are the five Enablers parameters. There are 25 indicators under the five enablers.
- Knowledge Output and Knowledge Diffusion are chosen as the two performance parameters. There are 11 indicators under the two performance parameters.
- The states and union territories have been divided into 17 'major states', 10 'North-Eastern and hill states', and 9 'city states and Union Territories', for effectively comparing their performance.

Significance Of The Index

- India's innovation journey has been restricted to certain regions that have been privileged with economic growth and have a history of industrialization.
- The index helps to showcase the innovative capabilities of the States, highlighting their strengths, which can be used in other States, and weaknesses, which can be corrected.
- It also helps states to assess their own capacities in identifying areas that have the potential to boost the development of innovation-led entrepreneurship and attract start-ups and hi-tech companies.
- The learnings from the index can be useful for formulating policies and developing strategies at both the state and the national levels.

Findings of the index

- Overall, **Delhi** has scored the highest on the index in the country with a score of 46.6, while **Lakshadweep** has the lowest score at 11.7.
- Delhi recorded the highest number of trademark and patent applications, along with the establishment of new start-ups and companies in the last financial year.

Major States

- Amongst the major states, **Karnataka** was at the top for the second consecutive year, followed by **Maharashtra** at the second position.
- Karnataka, Tamil Nadu, Telangana and Kerala —occupy the top five positions on the index, apart from Maharashtra.
- Karnataka's success is due to a high number of venture capital deals, registered GIs (Geographical Indications) and ICT (Information and Communication Technology) exports. Karnataka's high FDI inflow has also enhanced the innovation capabilities of the state.
- **Jharkhand, Chhattisgarh and Bihar** were at the bottom in the major states category.

Innovation report card

Rank	Major States	Score
1	Karnataka	42.50
2	Maharashtra	38.03
3	Tamil Nadu	37.91
4	Telangana	33.23
5	Kerala	30.58
6	Haryana	25.81
7	Andhra Pradesh	24.19
8	Gujarat	23.63
9	Uttar Pradesh	22.85
10	Punjab	22.54

Rank	NE and Hill States	Score
1	Himachal Pradesh	25.06
2	Uttarakhand	23.50
3	Manipur	22.78
4	Sikkim	20.28
5	Mizoram	16.93

Rank	UTs And City States	Score
1	Delhi	46.60
2	Chandigarh	38.57
3	Daman & Diu	26.76
4	Puducherry	25.23
5	Goa	24.92

Source: NITI Aayog, India Innovation Index 2020

North East and Hill States

- Amongst North East and hill states, Himachal Pradesh was the best performer followed by Manipur and Sikkim.
- With 31.9 per cent of the total employment generated in Himachal Pradesh being knowledge-intensive, it benefits from a high number of knowledge workers.

UTs and city states

- Among city states and union territories, Delhi was the judged the most innovative, followed by Chandigarh, Daman & Diu, and Puducherry.
- Lakshadweep and Jammu and Kashmir occupy the last two positions in this group.

As India moves into an uncertain future where the global economy is still recovering from the pandemic, innovation holds the key to transition from a developing economy to a developed economy. The index will prove to be a powerful tool for all the states and UTs in their collective journey to make India an innovation-driven economy.

Extra Mile

Research and Development in India

- India spends around 0.7% of its GDP on research and development (R&D), which is much lower than the top spenders, such as Israel (4.95%), South Korea, Sweden, and Japan.
- This relative ranking puts India at par with other developing countries, such as Mexico, and much ahead of countries in the South and West Asian region.
- However, India lies below other BRICS nations in terms of the percentage of GDP spent on R&D.
- However, in absolute terms, the Gross Expenditure on R&D (GERD) has consistently increased over the years, tripling from Rs 39,437 crores in 2007-08 to Rs 1,13,825 crores in 2017-18. For the year 2018-19, GERD in India is estimated to be Rs. 1,23,847 crores.

6. GST collections in December reached the highest level of collections since the July 2017 introduction of GST. What are the reasons for the record level of collections? Also mention the interventions made to improve GST collections.

Answer

- Goods and Services Tax (GST) collections in December (for sales in November) increased by 11.6 per cent year-on-year to Rs 1,15,174 crore. This is the highest level of GST collections since the July 2017 introduction of GST. The previous high of Rs 1.13 lakh crore, was recorded in April, 2019.
- GST collections, which are an indicator of economic activity, had dropped to a record low of Rs 32,172 crore in April, 2020 following the Covid-19 pandemic lockdown.
- With the opening up of the economy, GST revenues started to improve since September. December was the fourth month in which GST revenue collections have shown a year-on-year growth.
- Sectors such as automobiles, electronics and consumer goods have seen a strong improvement in demand. However, economic activity in sectors such as hospitality and tourism have still not returned to normal levels.

Reasons For Improved Collections

- GST collections in December improved due to higher festive season sales on account of Diwali and higher prices of some goods.
- Moreover, revenues from the import of goods in December were 27 per cent higher. Significant increase in GST on imports, indicates revival in demand on high end products like cell phones and electronic items.
- Further, the introduction of new technological systems and increased investigations to catch tax evaders also contributed to increase in GST collections.

E-invoicing

- Under GST laws, e-invoice for B2B (business to business) transactions have been made compulsory for companies with turnover of over Rs 500 crore from October 1 last year.
- The e-invoicing system is connected to a central portal, which receives and validates invoices in real time. By doing so, it helps to reduce tax evasion and leakages.
- It was earlier notified, that the e-invoicing system will be extended to businesses with over Rs 100 crore turnover from January 1, 2021 and is likely to be extended to all businesses from April 1.

- The proposed extension of electronic invoicing to more businesses is expected to further prevent leakage in GST revenues.

Data analytics and AI

- Data exchange between Income tax, customs, banks and GST has improved, and is used to conduct data analytics, using artificial intelligence (AI).
- Due to this, the department is able to trace all fake transactions from the beginning of GST. For example, if someone has issued a fake bill in July, 2017, even that would be detected.
- Even if the bill may have passed through multiple intermediaries, a network diagram created through AI, helps to identify everyone who is involved in the tax fraud.
- Through these efforts, around 7000 companies have been identified who have been issuing fake bills or using fake bills to avoid GST and Income Tax.

Prevention of excess input tax credit

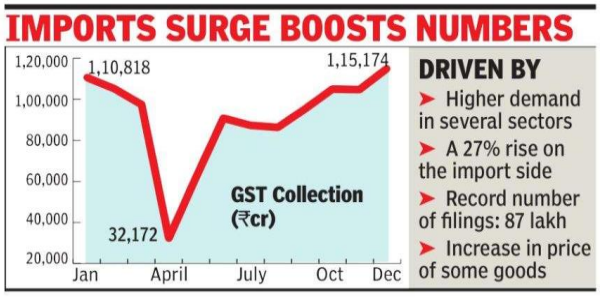
- Another important step taken to improve GST collections, is to prevent fake claims of input tax credit.
- To do this, at the time of filing returns the amount of input tax credit a person can claim is clearly shown. This is calculated based on the returns filed by his suppliers. Therefore, any excess input tax credit (ITC) claim becomes very difficult.

The rollout of vaccines in the country and a drop in Covid-19 cases in the country along with the above mentioned interventions will help to significantly boost the GST collections, which can be invested to revive the economy from the shocks of the pandemic.

Extra Mile

Input Tax Credit

- Input credit means at the time of paying tax on output, a person can reduce the tax he/she has already paid on inputs.
- For example, for a manufacturer if tax payable on the output (final product) is Rs. 500 and tax paid on input (purchases) is Rs 300, he can claim input tax credit of Rs 300 and has to deposit only Rs. 200 (difference between 500 and 300) as tax.



7. As regards the increasing rates of melting of Arctic Sea ice, the interests of the Arctic Council nations may not coincide with those of the wider world. Explain.

Answer

The Arctic Council is the leading intergovernmental forum promoting cooperation on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic. It was established by the eight Arctic States — *Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States*, the countries whose territories fall in the Arctic region — through the **Ottawa Declaration** of 1996. Besides them, six organisations representing the indigenous people of the Arctic region have been granted the status of permanent participants. are the **member nations** of this council.

Due to climate change, Arctic temperatures are rising twice as fast as in the rest of the world. This has increased the rate of melting of the Arctic Sea Ice thereby creating a conflict. Additional evidence of Arctic warming comes from widespread **melting of glaciers and sea ice,** and a **shortening of the snow season**. Increasing global concentrations of carbon dioxide and other greenhouse gases due to human activities, primarily **fossil fuel burning,** are projected to contribute to additional Arctic warming of about 4-7 C over the next 100 years.

Interests of Arctic Council Nations

The Arctic region presents huge ***commercial and economic opportunities***, particularly in shipping, energy, fisheries and mineral resources.

- **Oil and natural gas deposits**, estimated to be 22 per cent of the world's unexplored resources, mostly in the Arctic ocean, will be open to access.
- **The shipping (sea transport) industry** would benefit from greater use of Arctic and shipping routes such as the **Northern Sea Route** (along the Russian Arctic coast that connects Europe to the Asia Pacific region), **Northwest passage** (along the North American coastline), or **Bering Strait** (between Siberia and Alaska) with reduced ice cover extent and thickness and **longer ice-free periods** increasing seasonal availability to maritime traffic. These nations believe that Arctic sea lanes could become the 21st-Century Suez and Panama Canals.
- **The mineral industry** would benefit from increased physical access to mineral resources such as lead and zinc in Alaska, gold in Canada, rare earth elements in Greenland, diamonds and iron in Canada etc.
- **Arctic tourism industry will be benefitted** directly. It has opened up previously inaccessible areas for exploration and use by the expedition cruise ship industry as well as lengthened the shipping season.
- **The limited Arctic manufacturing industry** would benefit from increased inputs availability such as fish for processing (Iceland, Greenland), rare earth minerals for electronics (Arctic Finland), and aluminium for smelting (Iceland) etc.

Concerns of Wider World

- Retreat of Arctic sea ice **threatens polar bears and marine species**, but also contributes *to rising sea levels, adding to the risk of coastal flooding*.
- **Arctic vegetation zones are very likely to shift:** Treeline is expected to move northward and to higher elevations, with forests replacing a significant fraction of existing tundra, and tundra vegetation moving into polar deserts. More productive vegetation is likely to increase carbon uptake, although reduced reflectivity of the land surface is likely to outweigh this, causing further warming.
- It presents **major pollution risk** if energy and transport firms find it easier to exploit the pristine Arctic wilderness.
- The melting of ice can also lead to **loosing climate history** stored in these ice sheets.

Conclusion

- Considering the Arctic as 'the common heritage of mankind', the scenario could result in strained relations.
- However, there is sufficient room to work provided Arctic Council Nations realize that climate change posed a serious threat to the Arctic and the wider world.

- This realization would force them to collaborate for scientific research as the region offers some unique opportunities to carry out research related to atmospheric and climate sciences that cannot be done anywhere else.

Extra Mile

India In Arctic Council

- After a gap of a year due to COVID-19 pandemic, India's annual expedition to the Arctic will resume in June 2021. It will be held from June to October.
- India is **Observer** to the Arctic Council since 2013. Its membership as an observer was renewed in 2019 for another five years.
- The Observer status is granted to entities that support the objectives of the Arctic Council, and have demonstrated capabilities in this regard, including the ability to make financial contributions.

India's Interests In Arctic Region

- India's extensive coastline makes us **vulnerable to the impact of Arctic warming** on ocean currents, weather patterns, fisheries and most importantly, our monsoon. Scientific research in Arctic developments, in which India has a good record, will contribute to our **understanding of climatic changes** in the Third Pole — the Himalayas.
- With some parts of the Arctic melting due to global warming, the region also opens up the possibility of **new shipping routes** that can reduce existing distances.
- Countries which already have ongoing activities in the Arctic hope to have a stake in the **commercial exploitation of natural resources** present in the region.
- **Diversification of energy imports** remains a crucial endeavour for India. Arctic region has gas fields on Russian side and Oil fields on Norwegian side.
- **The Arctic region also holds mineral resources**, as mentioned earlier, including gold, nickel, cooper, graphite and uranium.
- These minerals are utilised in the manufacture of high-technology products such as mobile phones and nuclear energy, which can help push India's 'Make in India' programme.
- The **strategic implications of an active China in the Arctic** and its growing economic and strategic relationship with Russia are self-evident and need close monitoring.

India's Involvement In The Arctic

- India is one of the very few countries to set up a permanent station in the Arctic for the purposes of scientific research. It launched its **first scientific expedition** to Arctic in 2007.
- Subsequently, India has been sending scientific teams every summer and winter for carrying out studies in the Arctic, primarily in the fields of glaciology, hydrochemistry, microbiology, and atmospheric sciences.
- The **Himadri research station**, located in *Ny Alesund, Svalbard in Norway*, about 1200 km south of the North Pole, was started in July 2008. Himadri is manned for about 180 days a year.
- In 2014, India deployed **IndArc,** a multisensory observatory in **Kongsfjorden**.
- In 2016, India's northernmost atmospheric laboratory was established at **Gruvebadet** to study clouds, precipitation, long-range pollutants, and other background atmospheric parameters.

India's Draft Arctic Policy

- India has unveiled a new **draft 'Arctic' policy** that commits to **expanding scientific research, sustainable tourism** and **mineral oil and gas exploration** in the Arctic region.
- According to the draft policy, India could be **particularly impacted as changes in the Arctic** have an effect on **water security and sustainability,** w**eather conditions and monsoon patterns, coastal erosion and glacial melting, economic security** and critical aspects of national development.
- **Goals of India's Arctic Mission:**
    - Better understand the scientific and climate-related linkages between the Arctic and the Indian monsoons.
    - Harmonise polar research with the third pole (the Himalayas).
    - Advance the study and understanding of the Arctic within India.
- India's Arctic Policy draft rides on **five pillars**: science and research activities, economic and human development cooperation, transportation and connectivity, governance and international cooperation, and national capacity building.
- The Goa-based **National Centre for Polar and Ocean Research** is expected to lead scientific research and **act as a nodal body.** It would coordinate among various scientific bodies to promote domestic scientific research capacities by expanding earth sciences, biological sciences, climate change and space-related programmes, dove-tailed with Arctic imperatives.
- India also proposes to focus on vast resources of the Arctic region including hydrocarbons, minerals and renewable power to ensure its energy security.

Importance of Studying Arctic

- The climate change has meant that seasons in the Arctic influence tropical weather. The Arctic influences **atmospheric, oceanographic and biogeochemical cycles of the earth's ecosystem.**
- The loss of sea ice, ice caps, and warming of the ocean and atmosphere would lower **salinity in the ocean, increase the temperature differential between land and oceans** in the tropical regions, dry subtropical areas and increase precipitation at higher latitudes.
- Arctic research will **help India's scientific community to study melting rates of the third pole — the Himalayan glaciers,** which are endowed with the largest freshwater reserves in the world outside the geographic poles.

8. The Unlawful Activities Prevention Act, 1967 (UAPA) provides enough ammunition to the government to stifle dissent. Critically Comment.

Answer

- UAPA was introduced as a legislation to set out **reasonable restrictions** on the freedoms under Article 19(1) of the Constitution. Its main objective is **to make powers available for dealing with activities directed against the integrity and sovereignty of India**.
- However, arrests of several activists in recent times have pointed towards possible misuse of the draconian UAPA law. National Crime Record Bureau (NCRB) data shows that around **67% of the cases registered under UAPA ended in acquittal or discharge**.

- Many analysts have termed this law as draconian and regressive has been strategically put in place to exterminate both, dissent and dissidents.
- They highlight multiple incidents of misuse of UAPA such as – arrest of Masrat Zahra, an internationally-acclaimed photojournalist in J&K, arrest of Jamia Millia Islamia students Meeran Haider and Safoora Zargar etc.

Criticism:

- The provisions of UAPA have an **extremely wide ambit**, which makes it possible to use them against not just criminals and terrorists, but even authors, academics, lawyers for alleged terrorists, and human rights activist.
- The definition of unlawful activities includes terms which are vague and broad. For instance, questioning the territorial integrity of India and activities to cause "**disaffection against India**" are an unlawful activity.
- There is no definition of membership in the UAPA, making it susceptible to misuse.
- SC in 2011 had ruled that **mere membership** of a banned organization **will not make a person a criminal**. However, under UAPA, if one is found to be a member of banned organisations, he/she **could be imprisoned for life**.
- Some of the provisions such as e**xtended detention periods, no anticipatory bail, no bail if case seems prima facie true** etc. have been termed as draconian.
- It contains **no sunset clause** and **provisions for mandatory periodic review**, which makes UAPA a permanent statute.

Way Forward:

- Misuse of UAPA does not mean there is no need for such stringent laws. UAPA has been enacted to deal with certain situations and it is the duty of government that these laws be used for rightful purpose.
- For this, there is an urgent need for **some sort of checks and balances** that will safeguard the interest of any innocent accused while still enforcing the spirit behind this act.
- A simple yet effective safeguard might be a **periodical review of the Act and sunset clauses**.
- **Re-defining terrorism** with a reduced ambit and **fixing the accountability** in case of misuse will be very useful.

PDP Youth Leader Booked under UAPA

- Peoples Democratic Party leader Waheed Para was booked under the Unlawful Activities (Prevention) Act (UAPA).
- He was booked in a case related to suspended Jammu and Kashmir Police officer Davinder Singh, who is under the scanner for alleged links to militants.
- Later he was granted bail by a National Investigation Agency court. While in custody, he also won the Pulwama-1 seat in Jammu and Kashmir's District Development Council elections.

9. What do you understand by the 5G technology? What are the challenges faced by India in 5G technology adoption? Also suggest measures to overcome these challenges?

Answer

The Department of Telecommunications (DoT) has recently sought inputs from telcos and other industry experts on the **sale and use of radio frequency spectrum** over the next 10 years, including **the 5G bands.** 5G or fifth generation is the latest upgrade in the **long-term evolution (LTE) mobile broadband networks.** It enables a new kind of network that is designed to **connect virtually everyone and everything together including machines, objects, and devices**.

5G wireless technology is meant to deliver **higher multi-Gbps peak data speeds, more reliability, massive network capacity, increased availability,** and a more uniform user experience to more users. It has the potential to enable fundamentally new applications that require high data-rate instantaneous communications, low latency, and massive connectivity for new applications for **e-Health, autonomous vehicles, smart cities, smart homes, and the Internet of Things (IoT).**

In the light of its various advantages, global telecom companies have already started building 5G networks and rolling it out to their customers on a trial basis. Companies from **US, China, South Korea** have taken the lead when it comes to rolling out commercial 5G for their users.

On par with the global players, India had, **in 2018, planned to start 5G services** as soon as possible, with an aim **to capitalise on the better network speeds and strength** that the technology promised. However, the government and the Indian telecom companies face many challenges in its implementation:

a) **Lack of adequate capital** with the telecom companies hinders the research and development of 5G.

b) One of the reasons that the 5G spectrum auction has been delayed in India is because **it's too expensive for telecom companies.** India's **debt-ridden operators** are still reeling under the pressure to keep 4G costs low.

c) The biggest challenge when deploying 5G is **acquisition of sites.** As network connectivity expands, more towers and more antennas will be required.

d) **Indian operators have far less spectrum** in comparison to international operators. The **high investment cost** also makes telecom companies unsure about Return on Investment.

e) Faster rounds of new technology introduction when **prior technology investments have not been recouped** add further complexity.

f) **Designing IT architecture,** that can allow localized technology to cater to different regions and be deployed globally, is a challenge.

The task before India's policy makers will be to **ensure that the advantages of the telecom infrastructure** and related technologies **supports its divergent demography, economic conditions and urbanisation.** The government can take following measures to augment the process of 5G adoption in India:

a) **Reasonable pricing & swift allocation** of spectrum.

b) **Policy framework and investment to enable extensive fiberisation** and incentivisation to share fiber networks.

c) Push for **"Make in India" manufacturing for 5G equipment** and handsets.

d) **Indigenous technology advancements** through R&D, and IPR development for standards, technology, spectrum, and security.

e) **Public-private partnerships for broadband growth and penetration,** 5G trials and testing, network densification among others.

5G is being seen as a likely game changer for India, with the potential to create an **economic impact of more than US$1 trillion by 2035.** India has the opportunity to mature its ICT portfolio and unlock mega

monetization opportunities. As such, the Government can take some definitive steps to create an environment that provides the **necessary impetus for the next evolution of growth** in the sector and resolve some long outstanding issues.

Extra Mile

Different Bands of 5G

i) Low Band Spectrum

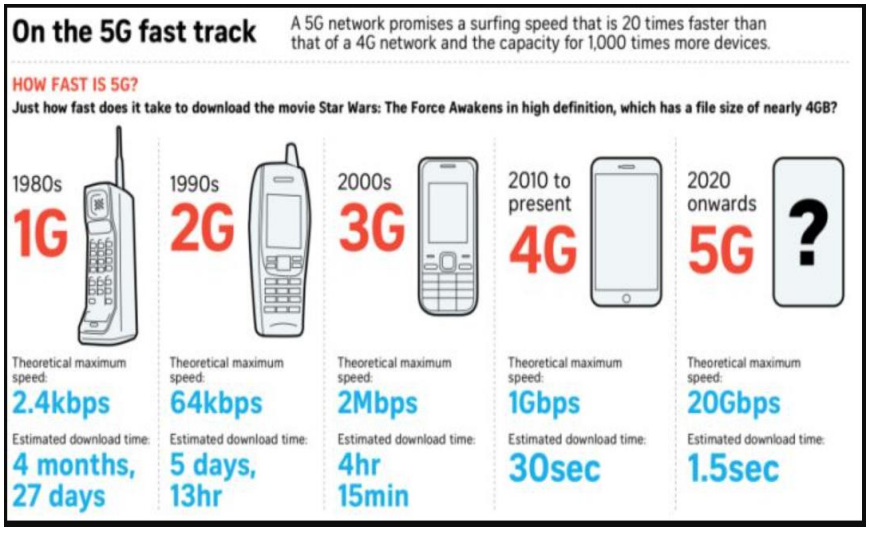
- It has shown great promise **in terms of coverage and speed of internet** and data exchange, the maximum speed is limited to 100 Mbps (Megabits per second).
- Telcos can use and install it for commercial cellphone users who may not have specific demands for very high speed internet.
- However, the low band spectrum **may not be optimal for specialised needs of the industry.**

ii) Mid-band Spectrum

- It offers higher speeds compared to the low band, but has **limitations in terms of coverage area and penetration of signals.**
- This band may be used by industries and specialised factory units for building captive networks that can be moulded into the needs of that particular industry.

iii) High-band Spectrum

- It offers the **highest speed** of all the three bands, but has **extremely limited coverage and signal penetration strength.**
- Internet speeds in the high-band spectrum of 5G have been tested to be as high as 20 Gbps (gigabits per second).



National Digital Communication Policy (NDCP) 2018

India's digital communication policy is trying to create a conducive environment to promote investments, and policy support to increase the digital footprint. The current policies set directions to lay foundations for the 5G ecosystem with the aim to:

- Enhance **contribution** of the digital communication sector to **8% of India's GDP.**
- Propel **India to top 50 nations** in the ICT development index of International Telecommunication Union (ITU).
- Enhancing India's contribution to Global Value Chains.
- Ensuring Digital Sovereignty.
- It aims at US$ **100 billion investment in the sector** and ensuring broadband coverage at 50 mbps for every citizen.

- Establish a comprehensive data protection regime for digital communications that safeguards the privacy, autonomy and choice of individuals.

10. According to a recent report by Central Pollution Control Board (CPCB), India has collected just 3% e-waste generated in 2018, 10% in 2019. In this light discuss the Issues related to E-wastes in India?

Answer

Electronic waste (e-waste) typically includes discarded computer monitors, motherboards, mobile phones and chargers, compact discs, headphones, television sets etc. According to the Global E-Waste Monitor 2017, **India ranks fifth among e-waste producing countries,** after the US, China, Japan and Germany.

Data shared by Central Pollution Control Board (CPCB) with the National Green Tribunal (NGT) shows **India generated more than 10 lakh tonnes of e-waste in 2019-20**, an increase from 7 lakh tonnes in 2017-18. Against this, the e-waste dismantling capacity has not been increased from 7.82 lakh tonnes since 2017-18.

Issues related to E-waste in India:

- **Lack of infrastructure:** There is huge gap between present recycling and collection facilities and quantum of E-waste that is being generated. No collection and take back mechanisms are in place. There is lack of recycling facilities.
- **Health hazards:** E-waste contains over 1,000 toxic materials, which contaminate soil and ground water. Exposure can cause health issues and recyclers may suffer liver, kidney and neurological disorders. Due to lack of awareness, they are risking their health and the environment as well.
- **Lack of incentive schemes:** No clear guidelines are there for the unorganized sector to handle E-waste. Also, no incentives are present to lure people engaged to adopt formal path for handling E-waste.
- **E-waste imports:** Cross-border flow of waste equipment into India - 80 percent of E-waste in developed countries meant for recycling is sent to developing countries such as India, China, Ghana and Nigeria.
- **Security implications:** End of life computers often contain sensitive personal information and bank account details which, if not deleted leave opportunity for fraud.
- **Reluctance of authorities involved:** Lack of coordination between various authorities responsible for E-waste management and disposal including the non-involvement of municipalities.
- **Involvement of Child Labor:** In India, about 4.5 lakh child laborers in the age group of 10-14 are observed to be engaged in various E-waste activities and that too without adequate protection and safeguards in various yards and recycling workshops.

Way forward

- **Institutional infrastructures**, including e-waste collection, transportation, treatment, storage, recovery and disposal, need to be established, at national and/or regional levels for the environmentally sound management of e-wastes.
- **Model facilities** employing environmentally sound technologies and methods for recycling and recovery are to be established.

- **Criteria** are to be developed for recovery and disposal of E Wastes. Policy level interventions should include development of e-waste regulation, control of import and export of e-wastes.
- **An effective take-back program** providing incentives for producers to design products that are less wasteful, contain fewer toxic components, and are easier to disassemble, reuse, and recycle may help in reducing the wastes.
- **It should set targets for collection and reuse/recycling**, impose reporting requirements and include enforcement mechanisms and deposit/refund schemes to encourage consumers to return electronic devices for collection and reuse/recycling.
- **End-of life management** should be made a priority in the design of new electronic products.

PRELIMS MCQs

1. ShramShakti Portal, recently in news, was launched by

a) Ministry of Tribal Affairs

b) Ministry of Women and Child Development

c) Ministry of Social Justice and Empowerment

d) None of the above

Answer: A

Explanation:

- The **Union Minister of Tribal Affairs** has virtually launched **"ShramShakti", a National Migration Support Portal** at Panjim, Goa.
- Shram Shakti would be able to successfully **address the data gap and empower migrant workers** who generally migrate **in search of employment** and income generation.
- It would also help the government for **linking the migrant population with the existing Welfare Scheme-** under Atma Nirbhar Bharat.
- The various data that will be recorded via Shram Shakti include demographic profile, livelihood options, skill mapping and migration pattern.
- The Portal will help in **ensuring safe livelihood and social security** at their village before migration, as well after migration at destination towns and cities.
- It would effectively help in smooth formulation of state & national level programs for migrant workers.

ShramSaathi

- The Ministry of Tribal Affairs also launched a tribal training module- ShramSaathi, to ensure that the process of livelihood migration is safe and productive.
- After training via this module, tribal migrant workers will be able to demand and access services, rights and entitlements related to livelihood and social security at their village before migration, as well after migration at destination towns and cities.

Migration Cell

- Further, Goa will become the first destination state of India to set up dedicated migration cell to address diverse issues of migrant workers.
- The cell would address multiple needs of migrants – legal support, skill development, job linkages, access to public services health, insurance and financial inclusion.

2. Consider the following statements with regard to Question Hour

1. **The first hour of every parliamentary sitting is slotted for Question Hour.**
2. **A starred question requires a written answer and hence, supplementary questions cannot follow.**

Which of the statements given above is/are correct?

a) 1 Only **b) 2 Only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: **A**

Explanation:

Question Hour, which had been suspended by the government during the monsoon session, will resume when Parliament meets for the budget session from January 29, 2021.

About Question Hour

- The first hour of every parliamentary sitting is slotted for **Question Hour**. During this time, the members ask questions and the ministers usually give answers. The questions are of three kinds, namely, **starred, unstarred and short notice**.
    - **A starred question** (distinguished by an asterisk) requires an oral answer and hence supplementary questions can follow.
    - **An unstarred question**, on the other hand, requires a written answer and hence, supplementary questions cannot follow.
    - **A short notice question** is one that is asked by giving a notice of less than ten days. It is answered orally.
- In addition to the ministers, the questions can also be asked to the private members. The procedure in regard to such question is the same as that followed in the case of questions addressed to a minister.
- The list of starred, unstarred, short notice questions and questions to private members are **printed in green, white, light pink and yellow colour,** respectively, to distinguish them from one another.

3. Consider the following statements with regard to Central Vigilance Commission (CVC)

1. CVC was set up by the Government in 1964 on the recommendations of the K. Santhanam Committee on Prevention of Corruption.

2. The Chief Technical Examiner's Organization constitutes the technical wing of the CVC.

Which of the statements given above is/are correct?

a) 1 Only **b) 2 Only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: **C**

Explanation:

The Central Vigilance Commission (CVC) has directed all Ministries/Departments of the Union government to strictly adhere to the time limits for various stages of disciplinary proceedings in vigilance cases since unexplained delay was causing undue advantage or harassment to the charged officials.

About CVC

- It is the main agency for preventing corruption in the Central government. CVC was set up by the Government in February,1964 on the recommendations of the **Committee on Prevention of Corruption, headed by Shri K. Santhanam.** Thus, originally the CVC was neither a constitutional body nor a statutory body. Later, in 2003, the **Parliament enacted a law conferring statutory status on the CVC.**
- **Composition**: The CVC is a multi-member body consisting of a Central Vigilance Commissioner (chairperson) and not more than two vigilance commissioners.

- **Appointment**: They are appointed by the president on the recommendation of a three-member committee consisting of the Prime Minister as its head, the Union Minister Of Home Affairs and the Leader of the Opposition in the Lok Sabha.
- **Removal**: The Central Vigilance Commissioner or any Vigilance Commissioner can be removed from his office only by order of the President on the ground of proved misbehavior or incapacity after the Supreme Court, on a reference made to it by the President, has, on inquiry, reported that the Central Vigilance Commissioner or any Vigilance Commissioner, as the case may be, ought to be removed.
- **Term**: They hold office for a term of four years or until they attain the age of sixty five years, whichever is earlier. After their tenure, they are **not eligible for further employment** under the Central or a state government.

Organization Structure

- The CVC has its own Secretariat, Chief Technical Examiners' Wing (CTE) and a wing of Commissioners for Departmental Inquiries (CDI).
- **Chief Technical Examiners' Wing (CTE):** It is the **technical wing of the CVC** and is manned by two Engineers of the rank of Chief Engineers (designated as Chief Technical Examiners) with supporting engineering staff. The main functions assigned to this organisation are:
  - Technical audit of construction works of Governmental organisations from a vigilance angle;
  - Investigation of specific cases of complaints relating to construction works;
  - Extension of assistance to CBI in their investigations involving technical matters and for evaluation of properties in Delhi; and Tendering of assistance to the Commission and Chief Vigilance Officers in vigilance cases involving technical matters.

4. Consider the following statements about the TOP Scheme:

1. **TOP scheme prepares all the national level sports persons to win medals at the Olympic and Paralympic Games.**
2. **TOP scheme is formulated under the National Sports Development Fund.**

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: B

Explanation

- Renowned physiologist and sports science expert Dr. Genadijus Sokolovas will be visiting the National Swimming camp that will be conducted in Bangalore this year.
- His visit is expected to give a boost to the training and preparation of TOPS Developmental swimmers, who will get access to an internationally renowned expert.

Target Olympic Podium Scheme

- The Target Olympic Podium (TOP) Scheme is a flagship program of the **Ministry of Youth Affairs and Sports**, to provide assistance to India's top athletes. The scheme was formulated in 2014 under the National Sports Development Fund (NSDF).

- The aim of the scheme is to identify and prepare athletes who have the potential to win medals at the Olympic and Paralympic Games.
- To fulfill the objective of this scheme, a **committee (TOPS Elite Athletes' Identification Committee)** has been constituted to identify the elite athletes.
- Currently, the scheme aims to identify athletes who can potentially win medals in the Olympic Games in Paris in 2024 and Los Angeles Games in 2028 and fund their development.
- A high priority category has been created to incentivise those sports in which India has won medals in the last Asian Games and Commonwealth Games or in which India has a good chance of winning medals in Olympics.
- Presently, nine sports disciplines viz., athletics, badminton, hockey, shooting, tennis, weightlifting, wrestling, archery and boxing have been categorised as 'High Priority'.

Mission Olympic Cell (MOC)

- The Mission Olympic Cell is a dedicated body created to assist athletes who are selected under the TOP Scheme.
- The Director General, Sports Authority of India (DG, SAI) is the chairman of MOC.
- The idea of the MOC is to debate, discuss and decide the processes and methods to provide the best assistance to athletes.
- It focuses on selection, exclusion and retention of athletes, coaches, training institutes that can receive TOPS assistance.
- It approves customised programs for athletes chosen under the TOP Scheme.

Success of TOPS

- TOPS sponsored athletes gained relative success at the 2016 Rio Olympics and the 2018 Commonwealth Games. P V Sindhu and Sakshi Malik won silver and bronze in Badminton and Wrestling respectively at the 2016 Rio Olympics.
- Out of the 70 athletes who won medals at the 2018 Commonwealth Games, 47 of them were supported under the TOP Scheme.
- In the 2016 Paralympic Games, the TOPS athletes won 2 Gold, 1 Silver and 1 Bronze demonstrating the effectiveness of the scheme.

5. Consider the following statements regarding Atal Innovation Mission (AIM)

1. Atal Innovation Mission is a flagship initiative launched by Ministry of Skill Development and Entrepreneurship.

2. Atal Tinkering Labs are set up only in government schools.

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: D

Explanation

- Atal Innovation Mission and Indian Space Research Organization (ISRO) have announced that ISRO will be adopting 100 Atal Tinkering Labs (ATLs).
- Scientists and engineers from ISRO centres, would actively coach and mentor students, in advanced technologies of the 21st century, including space related technologies.
- They will also interact with teachers in these ATLs for encouraging experiments, brainstorming ideas and spreading awareness in space activities.
- The students will not only gain theoretical, but also practical and application-based knowledge of STEM and space education related concepts such as electronics, physics, optics, space technology, material sciences and many more.

Impact

- The initiative will help in promoting innovation and the spirit of experiential learning among the school kids compared to traditional learning.
- Such project-based learning will improve the attitude of students towards research from the school itself.

Atal Innovation Mission

- Atal Innovation Mission (AIM) is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the country.
- AIM has the following programs to encourage and support innovation in the country:
  - Atal Tinkering Labs
  - Atal Incubation Centres
  - Atal New India Challenges and Atal Grand Challenges
  - Industry, Academia, Government and Global Collaborations

Atal Tinkering Labs

- Atal Tinkering Laboratories (ATLs) are established in schools across India to transform children into innovators. The aim is to have at least one or more Atal Tinkering Labs in each district of the country.
- ATL is a workspace where young children can give shape to their ideas through hands-on do-it-yourself mode, and learn innovation skills.
- Over seven thousand ATLs have already been established across the country enabling more than three million students between classes six to 12 acquire a problem solving and innovative mindset.
- Schools managed (minimum Grade VI-X) by Government, local body or private trusts or societies are eligible to establish ATLs.

6. Consider the following statements:

1. DIKSHA is a teacher training program.

2. NISHTHA provides curriculum linked e-content to students.

Choose the correct answer from the codes given below:

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: D

Explanation:

- The Ministry of Education recently informed that an implementation plan on National Education Policy (NEP 2020) for school education has been made and work has already begun on it.
- To achieve the goals and objectives of NEP 2020, the implementation plan links each recommendation with tasks, responsible agencies to carry out the task, timelines and outputs.

Implementation of NEP

- The recommendations in NEP have different timelines as the policy is made for next 20 years. Therefore, the implementation of NEP is being carried out in a phased manner.
- All efforts are being made to make the implementation plan realistic, flexible and collaborative by inviting suggestions from all sections of the society.
- It is hoped that the implementation plan will be able to translate the vision of the policy in the field and will reach the grass root level.
- By doing so, it will create adequate awareness and motivation among concerned stakeholders and help to transform school education in the country.

Activities Undertaken Till Now

The Department of School Education and Literacy (DoSEL) under Ministry of Education has initiated implementation of NEP by undertaking following activities in accordance with the recommendations of the policy -

A. Expansion of E-learning

- E-learning has been expanded through DIKSHA. Launched in 2017, DIKSHA is 'one nation; one digital platform' for school education for all states and the central government for grades 1 to 12.
- DIKSHA provides access to a large number of curriculum linked e-content through several solutions such as QR coded Energized Textbooks (ETBs), courses for teachers, quizzes etc.
- 18 modules covering all aspects of elementary education have been launched under NISHTHA, for in service teacher training in the online mode on DIKSHA platform.
- This has so far seen more than 3.4 crore course wise registrations and 2.8 crore completions from more than 23 lakh teachers.
- NISHTHA is a national teachers training program. It is a capacity building programme that aims to build capabilities among all the teachers and school principals at the elementary stage.

B. Exam Reforms

- Competency based questions have been introduced in the Board exams for class X and XII in a phased manner, increasing by 10% every year.
- CBSE will introduce improvement examination from the year 2021. Under this, students will be allowed to take Board Exams twice during any given school year, one main examination and one for improvement, if desired.

C. Miscellaneous Steps

- Approval has been given for setting up the National Mission on Foundational Literacy and Numeracy. A Committee has been formed for preparing framework on Foundational Literacy and Numeracy, codification of learning outcomes etc.
- An initiative called Manodarpan has been launched for mental health and wellbeing of students. It aims to provide emotional support and counselling to students under distress.

- A Memorandum of Understanding (MoU) has been signed between Indian Sign Language Research and Training Centre (ISLRTC) and NCERT to develop Indian Sign Language dictionary for school education.
- The department is also aligning its existing schemes i.e, Samagra Shiksha, Mid-Day Meal and Padhna Likhna Abhiyan with the recommendations of NEP 2020.

7. Kayakalp Awards are given by:

a) Ministry of Education

b) Ministry of Skill Development and Entrepreneurship

c) Ministry of Health and Family Welfare

d) None of the above

Answer: C

Explanation:

- The Ministry of Health and Family Welfare (MoHFW) recently awarded the 5th National Kayakalp awards. Kayakalp was launched in 2015 to ensure hygiene, sanitation and cleanliness in public health facilities in India.
- District Hospitals, Sub-divisional hospitals, Community Health Centres (CHC), Primary Health Centres and Health & Wellness Centres in public healthcare system who have achieved high level of cleanliness, hygiene and infection control were felicitated with awards.

Objectives

- To inculcate a culture of ongoing assessment and peer review of performance related to hygiene, sanitation and infection control.
- To incentivize and recognize public healthcare facilities that show exemplary performance in adhering to standard protocols of cleanliness, infection control and sanitation,
- To create and share sustainable practices related to improving cleanliness in public health facilities which lead to positive health outcomes.

Impact of Kayakalp

- The scheme, which saw the participation of 716 district hospitals and central government institutions in its first year, has spread to over 26,000 public health facilities now.
- Kayakalp has led to healthy competition among government hospitals and it has brought sense of pride, ownership among health providers and involvement of local leaders, communities, NGOs, PRIs, local bodies and private sector hospitals.
- Kayakalp has not only been able to improve the condition of public health facilities but has also made significant impact in improving the behaviour of masses.

Swachh Swasth Sarvatra program

- Encouraged by the success of Kayakalp initiative, MoHFW had collaborated with ***Ministry of Drinking Water and Sanitation*** and launched Swachh Swasth Sarvatra (SSS) program.
- Under SSS, one community health centre (CHC) situated within Open Defecation Free block receives one-time grant of Rs 10 lakhs under the National Health Mission for undertaking improvement activities, so that the CHC becomes kayakalp CHC.

8. Consider the following statements regarding Prevention of Cruelty to Animals (PCA) Act, 1960:

1. **The PCA Act provides guidelines related to experimentation on animals for scientific purposes.**
2. **As per PCA Act, if an owner of an animal is found guilty of an offence, the animal can be confiscated.**
3. **The Animal Welfare Board of India is established under the PCA, Act.**

Which of the statements given above is/are correct?

a) 1 and 2 only **b) 2 and 3 only**

c) 1 and 3 only **d) 1, 2 and 3**

Answer: D

Explanation:

The Supreme Court (SC) recently said that authorities have no power under the Prevention of Cruelty to Animals (PCA) Act to confiscate animals from traders, before they were found guilty of cruelty towards animals.

Background

- As per section 29 of the Prevention of Cruelty to Animals Act (PCA), 1960, the animal can be confiscated from its owner, only if the owner is found guilty of any offence under the PCA Act.
- Later, in 2017 the Centre introduced two rules — the **Prevention of Cruelty to Animals (Care and Maintenance of Case Property Animals) Rules** and the **Prevention of Cruelty to Animals (Regulation of Livestock Market) Rules** — and notified them in May 2018.
- The 2017 Rules allow a **Magistrate** to confiscate the cattle of an owner facing trial under the Prevention of Cruelty to Animals Act. The animals are then sent to hospitals, gaushalas (cow sheds), animal welfare organisation etc. These authorities can further give such animals for adoption.
- Both rules were challenged in July 2017, and the Centre informed the SC that the rules would be amended and re-notified. However, the questionable rules have not been amended till now.
- Later, the Delhi-based Buffalo Traders Welfare Association challenged the 2017 rule in the SC in May 2019.

Petitioner's Claims

- The petitioners claim that the new rule is against the provisions of the PCA Act and is being used to forcibly confiscate cattle even from legitimate owners.
- The new rule has strengthened anti-social elements who have started looting cattle traders.
- These incidents are also increasing the communal polarisation of the society and if not stopped immediately they will have disastrous consequences for the country.

SC Order

- The Supreme Court said that the PCA Act clearly states that only a person who is found guilty and is convicted can lose his animals.
- The Court pointed that the animals are a source of livelihood and cannot be confiscated without the conviction of the owner.
- The Court has asked the Centre to delete the rules in question or the Court will itself stay the Rules.

Prevention of Cruelty to Animals Act, 1960

- The Prevention of Cruelty to Animals Act, 1960, was enacted in 1960 to prevent cruelty against animals and to amend laws related to the prevention of cruelty to animals.
- The act provides for punishment for causing unnecessary cruelty and suffering to animals. It provides guidelines related to experimentation on animals for scientific purposes.
- It also includes provisions related to the exhibition of performing animals, and offences committed against performing animals.
- As per the provisions of the Act, the government formed the *Animal Welfare Board of India.*

Animal Welfare Board of India (AWBI)

- The AWBI is a statutory body established under the PCA Act, 1960. The Board oversees Animal Welfare Organisations (AWOs) by granting recognition to them if they meet its guidelines.
- It provides financial assistance to recognised Animal Welfare Organisations (AWOs).
- It suggests changes to laws and rules about animal welfare issues.
- It issues publications to raise awareness of various animal welfare issues.

9. Consider the following statements about the Padma Awards:

1. Padma Vibhushan is the second highest civilian award in India.

2. The Padma award amounts to a title and can be used as a suffix or prefix to the awardees' name.

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: A

Explanation

- The Padma Award for the year were recently announced. 7 Padma Vibhushan, 10 Padma Bhushan and 102 Padma Shri awards were announced for this year.
- **Former Japanese Prime Minister Shinzo Abe**, under whose leadership India and Japan reinforced and cemented their strategic partnership has been awarded the Padma Vibhushan award.
- The Padma Awards are one of the highest civilian honours of India announced annually on the eve of Republic Day.
- The Awards are given in **three categories**: Padma Vibhushan, Padma Bhushan and Padma Shri. The Padma Vibhushan is the second-highest civilian award of the Republic of India, second only to the Bharat Ratna.
- The Padma award seeks to recognize achievements in all fields of activities or disciplines where an element of public service is involved.
- The Padma Awards are conferred on the recommendations made by the Padma Awards Committee, which is constituted by the Prime Minister every year. The nomination process is open to the public. Even self-nomination can be made.

- All persons without distinction of race, occupation, position or sex are eligible for these awards. However, Government servants including those working with PSUs, except doctors and scientists, are not eligible for these Awards.
- A higher category of Padma award can be conferred on a person only where a period of at least five years has elapsed since conferment of the earlier Padma award. However, in highly deserving cases, a relaxation can be made by the Awards Committee.
- The award does not amount to a title and cannot be used as a suffix or prefix to the awardees' name.

10. Consider the following statements about Avian Influenza:

1. Avian influenza is a contagious bacterial disease.

2. Avian influenza only infects birds.

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: D

Explanation

- **National Institute of High Security Animal Diseases (NIHSAD)** in Bhopal, has confirmed **avian influenza,** after scores of crows were reported dead in Rajasthan. The avian influenza subtype **H5N8** has been detected in 11 districts of the state, including the state capital.
- The influenza virus, which causes illness, is classified by WHO into four types: A, B, C, and D. According to the US Centers for Disease Control and Prevention (CDC), only the influenza A and B viruses are known to cause epidemics.
- The C type virus usually causes mild respiratory illness, while the D type virus typically affects cattle and is not known to infect humans.

Avian Influenza

- Avian influenza is a highly contagious viral disease caused by Influenza Type A viruses which generally affects poultry birds such as chickens and turkeys.
- There are many strains of the virus – some of them are mild and may lead to low egg production or other mild symptoms among chickens, while others are severe and lethal.
- Wild aquatic birds such as ducks and geese are the natural reservoirs of Influenza A viruses. Many birds carry the flu without developing sickness, and shed it in their droppings.
- Many water birds that migrate and travel long distances, help to spread the virus to poultry and terrestrial birds. Sometimes, the virus jumps to mammals such as pigs, horses, cats and dogs.

Bird Flu Infection In Humans

- Bird flu outbreaks have been affecting poultry for decades, but it was in 1997 when humans first contracted bird flu after an outbreak in a live bird market of Hong Kong.
- The outbreak in Hong Kong was controlled, but re-emerged a few years in various other parts of the globe and caused hundreds of human deaths, particularly in Southeast Asia.

- Movement of infected poultry and migratory birds, and an illegal bird trade are believed to be the causes of the spread. Several strains of the virus have jumped from animals to humans, thus becoming a global public health concern.
- As per WHO, there is no evidence that the disease can be spread to people through properly prepared and cooked poultry food. The virus is sensitive to heat, and dies in cooking temperatures.
- However, if the virus mutates and becomes easily transmissible from person to person, it can potentially cause a pandemic.

Economic Impact Of Bird Flu

- According to the Ministry of Agriculture and Farmers Welfare, India's poultry sector is worth ₹80,000 crore. Poultry product exports from India, mainly focused on West Asia, neighbouring countries and East Asia, were valued at ₹532 crore in 2017.
- According to the National Action Plan for Egg and Poultry 2022, India has a base of over 729 million poultry birds.
- This large base shows that a serious outbreak of HPAI, as was witnessed during 2005-06 in some states, can be economically disastrous. During that year, officially, over one million birds were culled.
- Where culling of birds is undertaken to deal with bird flu, the National Action Plan prescribes compensation to be given to farmers at fixed rates.

11. Consider the following statements about Co-WIN:

1. In India, every person who registers on Co-WIN will also get a Unique Health Identity.

2. It is compulsory to use Aadhaar for registering on Co-WIN.

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: D

Explanation:

Recently the COVID-19 vaccination drive started in India. The Centre has also conducted dry runs of COVID-19 vaccination to check if the systems for the operationalisation of vaccine delivery are working well. The dry run was also conducted to see if the electronic vaccine intelligence network, eVIN, used during routine immunisation programmes, and remodelled as Co-WIN, was functional at the field-level.

Co-WIN App

- The government has launched the **mobile app Co-WIN (COVID -19 Vaccine Intelligence Network)** to ensure smooth running of the vaccination programme.
- It will help in **monitoring the COVID-19 vaccine delivery across India** and enable people to register to get the vaccine.
- The system allows for the **creation of users, registration of beneficiaries,** facilities/planning unit and session sites followed by planning and **scheduling sessions and implementation of the vaccination process.**

- Co-WIN is an **extension of the electronic vaccine intelligence network (eVIN,)** the cloud-based IT solution platform that's been built to provide real-time feedback of vaccine stocks, power outages, temperature fluctuations, etc.
- It will **facilitate real time information of vaccine stocks, storage temperature and individualized tracking of beneficiaries for COVID-19 vaccine.**
- To protect privacy, the **data sets did not include names of any stakeholders or any other information that would allow identification of respondents.** All electronic data is stored on a password-protected computer while backup of all data and analysis reports has been stored on an external encrypted hard drive.

UHID Generation

- Aadhar or any accepted photo ID card may be used to verify the identity of the applicant to prevent misuse. Additionally, documents authorised by specialists to indicate co-morbidities or any other health conditions may be demanded.
- If a Covid-19 vaccine seeker provides his/her Aadhaar as identity proof, the government will generate a unique health identity (UHID) for the individual.
- Once a UHID is generated, a person's health records are digitally maintained in hospitals and become a part of government records.
- UHID is required for smooth movement of people seeking treatment from one state to another. The objective is to have digital health documentation of all citizens. However, generation of UHID is optional.

12. Consider the following statements regarding Compressed Natural Gas (CNG):

1. **CNG is heavier than air.**
2. **CNG does not contain lead.**
3. **Ethane is the main component of CNG.**

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) 1 and 3 only **d) 2 and 3 only**

Answer: B

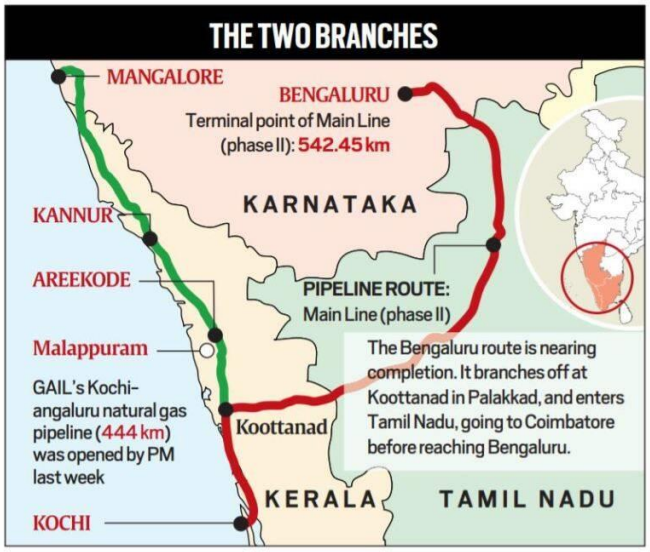
Explanation:

- The Kochi-Mangaluru natural gas pipeline was recently inaugurated. The 444-km long natural gas pipeline was launched in 2009 at an estimated cost of Rs 2,915 crore and was to be commissioned in 2014.
- However, opposition on safety and commercial grounds, both from political parties and the public, delayed the project. This led to the project cost nearly doubling to over Rs 5,750 crore.
- Laying the pipeline was an engineering challenge as the route of the pipeline required it to cross water bodies at more than 100 locations.

Details Of The Pipeline

- The pipeline built by Gail Authority of India Limited (GAIL), has a transportation capacity of 12 million metric standard cubic metres per day.

- It will deliver liquefied natural gas (LNG) sourced from a terminal in Kochi built by Petronet LNG in 2013. The terminal's objective is to supply natural gas for domestic and industrial use in Kerala and South India.
- The terminal in Kochi has a capacity of 5 million tonnes annually but 90 per cent capacity was not being utilised due to the delay in completing the Kochi-Mangalore pipeline.
- In the first phase, a 44-km line was laid in Kochi, linking the terminal with local industrial users.
- The pipeline already supplies 3.8 million cubic metres of gas a day to industrial and residential customers in Kochi. With the completion of the pipeline, the capacity utilisation of the LNG terminal in Kochi will increase to 25-30%.



Benefits Of The Pipeline

- The pipeline will supply environment-friendly and affordable fuel to households and commercial and industrial units.
- Thus, the pipeline would improve the ease of living in both the states and reduce the expenses of the poor, middle class and entrepreneurs of both the states.
- Consumption of cleaner fuel will help in improving air quality by reducing air pollution.
- The pipeline will have a positive impact on the economic growth of these two states and would develop a new ecosystem of employment and self-employment as it would help the fertilizer, petrochemical and power sector.
- It will also help the country in saving thousands of crores of foreign exchange for the country by reducing fuel imports.

Compressed Natural Gas (CNG)

- CNG (Compressed Natural Gas) is a mixture of hydrocarbons consisting of approximately 80 to 90 percent methane in gaseous form. CNG is compressed so that enough fuel can be stored in the vehicle. It is colourless, odourless, non-toxic and is lighter than air.
- Commonly referred to as the green fuel because of its lead free characteristic, it reduces harmful emissions and is non-corrosive, which increases the life of spark plugs in vehicles.
- Superior to petrol, it operates at one-third the cost of conventional fuel and is hence, increasingly becoming popular with automobile owners.

Liquefied Natural Gas (LNG)

- Liquefied natural gas (LNG) is natural gas (predominantly methane, with some mixture of ethane) that has been cooled into a liquid form for ease of transportation.
- LNG is a clear, colourless and non-toxic liquid which forms when natural gas is cooled to -162ºC (-260ºF). The cooling process shrinks the volume of the gas 600 times, making it easier and safer to store and ship. LNG does not ignite in its liquid state.
- When LNG reaches its destination, it is turned back into a gas at regasification plants. It is then delivered in pipes to homes, businesses and industries.

- As world energy consumption increases, experts anticipate that the LNG trade will grow in importance.

13. Consider the following statements about Vanadium:

1. **Vanadium is used to strengthen steel and titanium.**
2. **Vanadium is used in batteries.**

Which of the statements given above is/are incorrect?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: C

Explanation:

- An exploration carried out by Geological Survey of India (GSI) has placed Arunachal Pradesh on the vanadium map of the country.
- Geologists have found promising concentrations of vanadium in the palaeo-proterozoic carbonaceous phyllite rocks in the Depo and Tamang areas of Arunachal Pradesh's Papum Pare district. This was the first report of a primary deposit of vanadium in India.

Vanadium

- Vanadium in its pure form is a soft, grey and ductile element primarily derived from mined iron ore, carbonaceous shale or phyllites and steel slag.
- Phyllite is fine-grained metamorphic rock formed by the reconstitution of fine-grained, parent sedimentary rocks, such as mudstones or shales.
- It is a high-value metal used in strengthening steel and titanium. Vanadium alloys are durable in extreme temperature and environments, and are corrosion-resistant.
- Its addition improves the tensile strength of steel and of reinforcing bars used for buildings, tunnels and bridges.
- Apart from increasing fuel-efficiency in automotive and aviation industries due to its high strength-to-weight ratio, the metal forms the integral part of vanadium redox batteries that have the least ecological impact in energy storage.

Vanadium Production

- India is a significant consumer of vanadium but is not a primary producer of the strategic metal.
- According to GSI data, India consumed 4% of about 84,000 metric tonnes of vanadium produced across the globe in 2017.
- **China,** which produces 57% of the world's vanadium, consumed 44% of the metal. The largest deposits are in China, followed by Russia and South Africa.
- The vanadium find in Arunachal Pradesh can help boost the local and national economy.

14. Which state has the GI tag for Nendran Bananas?

a) Andhra Pradesh **b) Tamil Nadu**

c) Kerala **d) None of the above**

Answer: C

Explanation:

- The CSIR-National Institute for Interdisciplinary Science and Technology (NIIST) in Kerala has come up with a new product, Banana Grit or granules developed from raw Nendran bananas.
- Banana Grit looks similar to 'rava' and broken wheat and can be used to make a wide range of dishes.
- The grit can be used for making upma, or it can be mixed with banana powder for making porridge with milk or coconut milk for use as a health drink.
- The concept was introduced to utilise the presence of resistant starch in bananas, which is reported to improve gut health.
- Hence, the dishes prepared with Banana Grit and its byproduct banana powder help to improve gut health, which is important to maintain health and well-being.

Nendran Bananas

- Chengazhikodan Nendran Banana, also known Chengazhikode Banana, is among the most popular traditional fruits cultivated in Thrissur district, Kerala. It has also been given the Geographical Indication (GI) tag.
- It is famous for its characteristic taste, bunch shape and fruit colour. The mature fruits are pale yellow and, on ripening, turn golden yellow with red patches.
- The crop is mainly cultivated in organic mode and the crop duration is 13-14 months.

15. Consider the following statements about Specified Skilled Worker (SSW) system:

1. **SSW is a status of residence in Japan.**
2. **Applicants must know Japanese language to be entitled under SSW.**

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: C

Explanation:

India and Japan have signed a Memorandum of Cooperation (MoC) for operation of the 'Specified Skilled Worker' (SSW) system. The MoC sets a framework between the governments of Japan and India to facilitate smooth implementation of the SSW system.

Background

- The MoC is in line with other steps taken by India and Japan to increase cooperation in skills development.
- In 2016, the two sides signed the **Manufacturing Skill Transfer Promotion Programme** (MSTPP) agreement for training 30,000 people over 10 years with Japanese-style manufacturing skills.
- The training under MSTPP is conducted through the Japan-India Institutes for Manufacturing (JIM) and Japanese Endowed Courses (JECs) in Indian colleges. A total of 13 JIMs and five JECs are already operational.

Specified Skilled Worker System

- SSW is a new status of residence created in Japan in April, 2019, to accept foreign nationals who have a certain level of expertise and skill.
- Once foreign nationals get the status of SSW, they are entitled to stay and work in Japan up to five years.
- There are 14 specified industry fields that fall under SSW and workers and professionals in these sectors including nursing, industrial machinery, shipbuilding, aviation, agriculture and the food services industry are eligible under it.
- As the foreign nationals are expected to have a certain level of expertise and skill as well as basic Japanese language proficiency, only those who pass relevant exams are entitled under SSW.
- Thus, Indian nationals with certain professional and language skills will be eligible to work under the SSW system.
- Japan is already running a scheme called **Technical Intern Training Program (TITP)** with India since 2017 to allow Indian youth for internships in Japan in manufacturing, healthcare, construction, textiles and agriculture.
- Those who completed a certain level of TITP can also transition to the status as SSW, without taking exams on expertise or Japanese language.

Impact

- The MoC will enhance people-to-people contacts and will open new opportunities for Indian nationals to get employment in Japan, along with giving a boost to India's remittance economy.
- According to World Economic Forum (WEF), more than 27% of the population in Japan is over 65 years of age, with a birth rate of 1.43 in 2017— well below the replacement level.
- Japan will face a shortage of 6.44 million people in the labour force by 2030. Thus, the legal movement of skilled workers will help to meet the needs of Japan's skilled labour market by addressing such shortages.

16. In India, which of the following metrics are used to calculate the First Advance Estimate of GDP:

1. **Index of Industrial Production.**
2. **Financial performance of listed companies.**
3. **Passengers handled by civil aviation.**
4. **Accounts of state governments.**
5. **Cargo handled at sea ports.**

Choose the correct option using the codes below:

a) 3, 4 and 5 only
b) 1, 2, and 4 only
c) 1, 2, 3 and 5 only
d) 1, 2, 3, 4 and 5

Answer: D

Explanation:

- The National Statistical Office (NSO) has released the First Advance Estimates (FAE) for the current financial year (2020-21). According to NSO, India's gross domestic product (GDP) will contract by 7.7 percent in 2020-21.
- The **real GDP** in 2020-21 is likely to attain a level of ₹134.40 lakh crore, against the provisional GDP estimate for 2019-20 of ₹145.66 lakh crore. The projected contraction reflects a loss of Rs 11.3 lakh crore of GDP in real absolute terms from last year.

First Advance Estimates of GDP

- For any financial year, the NSO provides regular estimates of GDP. The first such instance is through the First Advance Estimates (FAE), which is generally presented on January 7th.
- The Union Finance Ministry uses the FAE to decide the next financial year's Budget allocations.
- The FAE will be quickly updated as more information becomes available. On February 26th, NSO will come out with the Second Advance Estimates of GDP for the current year.

Calculation of FAE

The FAE are derived by extrapolating the available data. The sector-wise estimates are obtained by extrapolating the following indicators:

i) Index of Industrial Production (IIP) of first 7 months of the financial year.

ii) Financial performance of listed companies in the private corporate sector available up to quarter ending September, 2020.

iii) The 1st Advance Estimates of crop production.

iv) The accounts of central & state governments.

v) Information on indicators like deposits & credits, passenger and freight earnings of railways, passengers and cargo handled by civil aviation, cargo handled at major sea ports, sales of commercial vehicles, etc., available for first 8 months of the financial year.

17. The World Economic Outlook is published by:

a) World Bank
b) World Economic Forum
c) International Monetary Fund
d) None of the above

Answer: C

Explanation:

- The International Monetary Fund recently released the World Economic Outlook update for 2021.
- The WEO report is **published twice a year** by the International Monetary Fund (IMF). It presents an analysis of global economic developments during the near and medium term.
- It gives an overview as well as detailed analysis of the world economy, by considering issues affecting industrial countries and developing economies. It also addresses important topics of current interest in the world.

Highlights of WEO

- According to the WEO, the global economy is projected to grow at 5.5 % in 2021 and 4.2 % in 2022. The 2021 forecast is revised up by 0.3 percentage point from the previous forecast in October.

- The global growth contraction for 2020 is estimated at 3.5 percent, an improvement of 0.9 percentage points from the 4.4% decline predicted in October.
- The revision in the forecast is based on the strengthening of economic activity due to availability of vaccines and additional policy support in few large economies.
- However, the WEO has warned that the world economy continued to face 'exceptional uncertainty' and global activity would remain well below pre-COVID projections.
- Close to 90 million people are likely to fall below the extreme poverty threshold during 2020-2021 and the pandemic will erase the progress made in reducing poverty over the past two decades.

OVERVIEW OF WORLD ECONOMIC OUTLOOK PROJECTIONS

	YEAR-OVER-YEAR (% CHANGE) PROJECTIONS	
Nation	2021	2022
The United States	5.1	2.5
Germany	3.5	3.1
The UK	4.5	5.0
China	8.1	5.6
India*	11.5	6.8

*For India, data and forecasts are presented on a fiscal year basis and GDP from 2011 onward is based on GDP at market prices with fiscal year 2011/12 as a base year; source: IMF

Country Wise Highlights

- In 2020, the Indian economy is estimated to have contracted by eight per cent. China is the only major country which registered a positive growth rate of 2.3% in 2020.
- Revising its earlier projection, the IMF has projected an impressive 11.5% growth rate for India in 2021. In its forecast made in October, it had projected a growth of 8.8 per cent.
- With this, India will emerge as the only key nation to record a double-digit growth and reclaim the status of the world's fastest-growing major economy.
- China is next with 8.1% growth in 2021 followed by Spain (5.9%) and France (5.5%). The U.S. economy is expected to grow by 5.1% in 2021.
- In 2022, India's economy is projected to grow by 6.8% and China is projected to grow by 5.6%.

Reasons for India's Growth

- India has taken decisive action to deal with the pandemic and the economic consequences of the pandemic.
- Moreover, the second wave of Covid-19 did not take place in India and there has been a very strong decline in Covid-19 cases in India.
- These factors together have led to a faster pace of recovery in economic activity in India.

Way Ahead

- Strong multilateral cooperation is required to bring the pandemic under control everywhere.
- Such efforts include increase in funding to accelerate access to vaccines for all countries, universal distribution of vaccines, and access to therapeutics at affordable prices for all.
- Many countries, particularly low-income developing economies, entered the crisis with high debt that is set to rise further during the pandemic.
- Thus, the global community will have to work closely to ensure adequate access to international liquidity for these countries.

18. Which of the following institution publishes the annual list of Global Systemically Important Banks?

a) Basel Committee on Banking Supervision
b) Financial Stability Board
c) World Bank
d) None of the above

Answer: B

Explanation

- The Reserve Bank of India has announced the 2020 list of Domestic Systemically Important Banks (D-SIBs).
- In its announcement, RBI said that State Bank of India (SBI), ICICI Bank and HDFC Bank will continue to be identified as D-SIBs or what is commonly called as lenders that are too-big-to-fail.

Background

- During the 2008 global financial crisis, it was observed that problems faced by certain large and highly interconnected financial institutions negatively impacted the economy. Thus, government intervention was considered necessary to ensure financial stability.
- In 2010, the Financial Stability Board (FSB) recommended that all member countries should have a framework to reduce risks related to Systemically Important Financial Institutions (SIFIs) in their jurisdictions.
- The Basel Committee on Banking Supervision (BCBS) developed a framework in 2011 for identifying the Global Systemically Important Banks (G-SIBs) and the amount of additional capital required to absorb losses in G-SIBs.
- The BCBS further required all member countries to have a regulatory framework to deal with Domestic Systemically Important Banks (D-SIBs).

Global Systemically Important Banks

- G-SIB status is determined using **five main criteria**: cross-jurisdictional activity; interconnectedness; size; substitutability; and complexity. The methodology is also used to rank a G-SIB's level of systemic importance relative to other G-SIBs.
- Since 2011, the Financial Stability Board has published a list of global systemically important banks (G-SIBs).
- The list of G-SIBs is reviewed annually, and banks can move in or out of G-SIB classification or be re-classified at a different level of systemic importance.

Domestic Systemically Important Banks

- In India, RBI had issued the framework for dealing with D-SIBs in 2014. The assessment methodology adopted by RBI is primarily based on the BCBS methodology for identifying the G-SIBs with suitable modifications to capture domestic importance of a bank.
- The **indicators** used for assessment of D-SIBs are: size, interconnectedness, substitutability and complexity.
- Based on the sample of banks chosen, a **Systemic Importance Score (SIS)** of the banks is calculated. RBI determines a cut-off score beyond which banks are considered as D-SIBs.
- These banks are then placed in five different buckets depending upon their Systemic Importance Scores (SISs). Based on the bucket in which a D-SIB is placed, an additional common equity requirement has to be applied to it.
- The additional Common Equity Tier 1 (CET1) requirement for D-SIBs was phased-in from April 1, 2016 and became fully effective from April 1, 2019.
- In case a foreign bank having branch presence in India is a G-SIB, it has to maintain additional CET1 capital surcharge in the country, proportionate to its Risk Weighted Assets (RWAs).

- The D-SIB framework requires the RBI to annually disclose the names of banks designated as D-SIBs starting from 2015.

Significance

- According to RBI if a D-SIB fails, there would be significant disruption to the essential services they provide to the banking system and the overall economy.
- The too-big-to-fail tag also indicates that in case of distress, the government is expected to support these banks. Due to this perception, these banks are given certain advantages in funding.
- It also means that these banks have a different set of policy measures regarding systemic risks and moral hazard issues.
- D-SIBs are subjected to higher levels of supervision to prevent disruption in financial services in case of any failure.

Common Equity Tier1 (CET1)

- Common Equity Tier1 (CET1) capital includes the core capital that a bank holds in its capital structure. The core capital of a bank includes equity capital and disclosed reserves such as retained earnings.
- CET1 ratio compares a bank's capital against its risk-weighted assets to determine its ability to prevent financial distress.
- The additional CET1 requirement as a percentage of Risk Weighted Assets (RWAs) in case of the State Bank of India (SBI) is 0.6 per cent and for HDFC Bank and ICICI Bank is 0.2 per cent.

Risk Weighted Assets

- Risk-weighted assets are used to determine the minimum amount of capital that must be held by banks and other financial institutions in order to reduce the risk of insolvency.
- The capital requirement is based on a risk assessment for each type of bank asset.
- The assets are assigned a weight according to their level of credit risk. For example, cash in hand would have a weight of 0%, while a loan can carry different weights of 20%, 50%, or 100%, depending on how risky it is.

Financial Stability Board (FSB)

- The Financial Stability Board (FSB) is an international body that monitors and makes recommendations about the global financial system. It was established after the G20 London summit in 2009 as a successor to the Financial Stability Forum (FSF).
- The Board includes all G20 major economies, FSF members, and the European Commission. The board's headquarters is in Basel, Switzerland.

Basel Committee on Banking Supervision (**BCBS)**

- The Basel Committee on Banking Supervision (BCBS) is a committee of banking supervisory authorities established in 1974.
- It provides a forum for regular cooperation on banking supervisory matters. Its objective is to enhance understanding of key supervisory issues and improve the quality of banking supervision worldwide.
- The Committee's **Secretariat** is located at the Bank for International Settlements (BIS) in Basel, Switzerland.

19. Which of the following is not a component of New Industrial Development Scheme for Jammu & Kashmir?

a) Capital investment incentive
b) Capital interest subvention
c) GST refund incentive
d) Working capital interest incentive

Answer: C

Explanation:

The Union Government has formulated a **New Industrial Development Scheme for Jammu & Kashmir** (J&K IDS, 2021) as Central Sector Scheme for the development of industries in Jammu & Kashmir. The financial outlay of the proposed scheme is Rs.28,400 crore for the scheme period 2020-21 to 2036-37.

Need Of The Scheme

- The scheme has been announced in the backdrop of the reorganisation of Jammu & Kashmir in 2019, into the Union Territory of Jammu & Kashmir under the J&K Reorganisation Act, 2019.
- After the reorganisation, it is believed that industry and service led development of J&K needs a fresh boost by attracting new investment and supporting the existing industries.
- The main purpose of the scheme is to generate employment beyond government jobs in both manufacturing and service sectors.

Incentives Under The Scheme

A. Capital Investment Incentive

- The capital investment incentive will be available at the rate of 30 per cent in Zone A (urban) and 50 per cent in Zone B (rural).
- The incentive will be available on investment made in plant and machinery (in manufacturing) or construction of building and other durable physical assets (in service sector).
- Units with an investment upto Rs. 50 crore will be eligible to avail this incentive. Maximum limit of incentive is Rs 5 crore and Rs 7.5 crore in Zone A & Zone B respectively.

B. Capital Interest subvention

- Capital interest subvention will be available at an annual rate of 6 per cent for maximum seven years.
- The interest subvention will be available on loan amount of up to Rs 500 crore for investment in plant and machinery (in manufacturing) or construction of building and all other durable physical assets (in service sector).

C. GST Linked Incentive

- GST linked incentive is a financial incentive based on gross GST. It is not a reimbursement or refund of GST but gross GST is used to measure eligibility for industrial incentive.
- It will incentivise output up to 300 per cent of the eligible value of actual investment made in plant and machinery (in manufacturing) or construction in building and all other durable physical assets (in service sector) for 10 years.
- However, the amount of incentive in a financial year will not exceed one-tenth of the total eligible amount of incentive.

D. Working Capital Interest Incentive

- Working capital interest incentive is for all existing units at the annual rate of 5% for maximum five years and maximum limit of incentive is Rs 1 crore.

- **Working capital** is the capital of a business which is used in its day-to-day trading operations. It is basically an indicator of the short-term financial position of an organization.

Impact Of The Scheme

- The scheme is expected to bring about a significant transformation in the existing industrial ecosystem of J&K with emphasis on job creation, skill development and sustainable development.
- It is likely to attract significant investment and give direct and indirect employment to about 4.5 lakh persons.
- Additionally, because of the working capital interest subvention the scheme is likely to give indirect support to about 35,000 persons.
- If implemented effectively, it will aid J&K to compete nationally with other leading industrially developed States/UTs of the country.

20. The Digital Payments Index has been launched by:

a) NITI Aayog **b) Reserve Bank of India**

c) Securities and Exchange Board of India **d) None of the above**

Answer: B

Explanation

- The Reserve Bank of India (RBI) has constructed a composite digital payments index (DPI) to capture the extent of digitization of payments services in India.
- The RBI-DPI comprises five broad parameters, which measure the penetration of digital payments in the country over different time periods
- These parameters include:
  - Payment enablers (weight 25%)
  - Payment infrastructure—demand-side factors (10%)
  - Payment infrastructure —supply-side factors (15%)
  - Payment performance (45%) and
  - Consumer centricity (5%)
- Besides, each parameter has sub-parameters, which in turn, consist of various measurable indicators.
- The RBI-DPI has been constructed with March 2018 as the base period, meaning DPI score for March 2018 is set at 100.
- The DPI for March 2019 and March 2020 work out to 153.47 and 207.84, respectively, indicating appreciable growth.
- Going forward, RBI-DPI shall be published on its website every six months from March 2021 with a lag of four months.

21. Which of the following is true regarding Sensex?

a) Sensex represents all the large cap stocks listed on the Bombay Stock Exchange.

b) Sensex represents 50 large stocks listed on the Bombay Stock Exchange.

c) Sensex represents 30 large stocks listed on the Bombay Stock Exchange.

d) None of the above

Answer: C

Explanation:

From a multi-year low of 25,639 points on March 24 last year, the Sensex recently crossed the 50,000 mark for the first time.

Sensex

- There are thousands of listed companies in India and, it is not easy to track every single stock. So, a market index plays a very important role as it acts as a representative of the whole market.
- Hence, Sensex (Sensitive Index) and Nifty (Net Index of Fifty) are two important market indicators which are used to measure the behaviour of the market.
- Sensex, in simple words, is the combined value of stocks of 30 large, liquid and representative companies listed on Bombay stock exchange (BSE). The Sensex was launched in 1986, with the base year of 1978-79.
- NIFTY is an index on fifty shares listed on the National Stock Exchange of India. It covers 50 stocks from different sectors of the Indian economy.

Composition of Sensex

- Only five companies that were initially part of the sensex still retain their place — Reliance Industries, HUL, ITC, L&T, and M&M.
- Thirty-five years ago, there were no IT companies and banking stocks in the Sensex. From zero weightage in 1986, the financial sector accounts for 42% of the sensex. There are 9 stocks from banking and finance and 4 information technology companies.
- This is highly unusual for a large economy like India, where industry and non-financial services account for a significant part of the GDP.
- The big risk of dominance of financial sector is that a bad loan problem in banking could negatively impact the entire economy.
- The primary reason for the dominance of financial sector is that many of the steel, textiles and auto companies in the original sensex are doing poorly and there have been no competitors to take their place.
- Further, services such as IT and financials have thrived in India because they are less dependent on infrastructure and therefore less affected by factors that determine the ease of doing business.
- Absence of a developed bond market in India has resulted in corporates relying upon bank loans. This has also led to an increase in their dominance.

22. Risa is a traditional attire from:

a) Tripura

b) Madhya Pradesh

c) Gujarat

d) None of the above

Answer: A

Explanation:

- The State government of Tripura is trying to promote risa nationally as Tripura's signature garment.
- Risa is part of Tripuri female attire comprising three parts - risa, rignai and rikutu.
- Risa is a handwoven cloth used as a female upper garment, and also as headgear, a stole, or a present to express respect.
- Rignai is primarily worn as the lower garment and literally translates into 'to wear'. It can be understood as an indigenous variety of the sari of mainland India.
- Rituku is mainly used as a wrap, or like a 'chunri' or a 'pallu' of the Indian saree. It is also used to cover the head of newly married Tripuri women.
- These garments were traditionally handwoven. Handloom remains an integral part of the Tripuri household, even with the advent of powerloom manufactured garments.

Cultural significance

- Woven in colourful designs and worn as an upper garment, the risa also has a host of crucial, social and religious utilities.
- Adolescent Tripuri girls are first given a risa to wear in an event called Risa Sormani, at age 12 to 14.
- The risa is used in religious festivals such as Garia Puja by tribal communities and as a turban by men during weddings and festivals.

23. Monpa handmade paper is from:

a) Tamil Nadu
b) Chattisgarh
c) Arunachal Pradesh
d) None of the above

Answer: C

Explanation:

- The Khadi and Village Industries Commission (KVIC) recently revived the art of making Monpa handmade paper in Tawang, Arunachal Pradesh
- The heritage art of making Monpa handmade paper originated over 1000 years ago. The fine-textured handmade paper, which is called Mon Shugu in the local dialect, is integral to the vibrant culture of the local tribes in Tawang.
- The paper has great historic and religious significance as it is the paper used for writing Buddhist scriptures and hymns in monasteries.
- Once produced in every household in Tawang, this handmade paper was a major source of livelihood for the locals.
- Back then, such was the scale of production that the paper was sold to countries like Tibet, Bhutan, Thailanand and Japan as no paper making industry existed in these countries at that time.
- However, the local industry gradually began declining and the indigenous handmade paper was taken over by inferior Chinese paper. The Monpa handmade paper industry almost disappeared in the last 100 years.

- The handmade paper has high commercial value that can be harnessed to create local employment in Arunachal Pradesh. The paper unit will also serve as a training centre for the local youths.
- KVIC will provide marketing support and explore markets for the locally manufactured handmade paper. KVIC also plans to set up more such units in different parts of the country.

24. Army Contingent of which of the following country had participated in Republic Day 2021 parade?

a) UAE **b) Bangladesh**

c) France **d) Maldives**

Answer – B

Explanation

- Marking **50 years of the 1971 India-Pakistan war** that led to the liberation of Bangladesh, a 122-member **contingent of the Bangladesh Armed Forces** participated in the Republic Day parade.
- This is the **third time** the Republic Day parade in India has witnessed the **participation of a military contingent from abroad** — French troops marched in 2016 and UAE troops in 2017.

25. Consider the following statements regarding the Pravasi Bharatiya Divas (PBD):

1. **PBD is celebrated on 9th January every year to mark the contribution of Overseas Indian community in the development of India.**
2. **The Pravasi Bharatiya Samman Award is conferred on overseas Indians by the Prime Minister of India.**

Which of the above statements is/are Correct?

a) 1 Only **b) 2 Only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer – D

Explanation

- The **16th PBD Convention** was held virtually on 9th January in New Delhi.
- **Theme** - "**Contributing to Aatmanirbhar Bharat**".
- **Chief Guest** - President of Suriname Chandrikapersad Santokhi.
- India highlighted various initiatives taken for Indian Diaspora. These included:
  - **Vande Bharat Mission** - More than 45 lakh Indians were rescued during pandemic.
  - **Skilled Workers Arrival Database for Employment Support (SWADES) -** an initiative for returning immigrants from the Gulf and other areas.
  - **Global Pravasi Rishta Portal** - for better connectivity and communication with the Pravasi Bharatiyas

About Pravasi Bharatiya Diwas:

- The decision to celebrate Pravasi Bharatiya Diwas (PBD) was taken by the former Indian Prime Minister, late Shri Atal Bihari Vajpayee.
- The 1st PBD was celebrated on 9th January, 2003 in New Delhi.
- **January 9** was chosen as the day to celebrate PBD as it was on this day in 1915 that Mahatma Gandhi, had returned to India from South Africa.
- PBD conventions are being held every year since 2003. **Since 2015, its format has been revised. PBD is now celebrated once in every two years.**
- It provides a platform to the overseas Indian community to engage with the government and reconnect with their roots.
- During the Convention, **Pravasi Bharatiya Samman Award (PBSA)** is conferred on the selected overseas Indians for their significant contributions to various fields both in India and abroad
- **PBSA is conferred by the President of India**.

26. Consider the following statements about the International Organization of Securities Commissions (IOSCO):

1. **IOSCO is an inter-governmental body which regulates the world's securities and futures markets.**
2. **It is a member of G-20.**
3. **It is headquartered at Madrid, Spain.**

Which of the above statement(s) is/are Correct?

a) 1 and 2 Only **b) 2 and 3 Only**

c) 1, 2 and 3 **d) 3 Only**

Answer – D

Explanation

- International Financial Services Centres Authority (IFSCA) has become **an associate member** of the International Organization of Securities Commissions (IOSCO).
- It should be remembered that Securities and Exchange Board of India (SEBI) is an **ordinary member** of IOSCO.

About IOSCO:

- IOSCO is **a global cooperative of securities regulatory agencies** that aims to establish and maintain worldwide standards for efficient, orderly and fair markets.
- It is **NOT an inter-governmental body**. It regulates the world's securities and futures markets.
- It was founded in 1983 and is **headquartered at Madrid, Spain**. IOSCO Asia Pacific Hub is located in Kuala Lumpur, Malaysia.
- The IOSCO **works closely with the G20 nations** and the **Financial Stability Board** (FSB), in setting up the standards for strengthening the securities markets.

[*FSB is an international body that monitors and makes recommendations about the global financial system*]

- Membership of IOSCO is divided into three categories. These include:
  - **Ordinary members**, which include the primary futures markets and securities regulators in a given jurisdiction. Each ordinary member has one vote.
  - **Associate members**, consisting of additional futures and securities regulators in those jurisdictions that have multiple regulatory bodies. Associate members do not have a vote.
  - **Affiliate members**, which include self-regulatory organizations, stock exchanges, and stock market industry associations. These members do not have a vote.

About International Financial Services Centres Authority (IFSCA)

- The first International Financial Services Centre (IFSC) in India has been set up at the **Gujarat International Finance Tec-City (GIFT) in Gandhinagar**.
- To regulate all financial services in this region, the government has established International Financial Services Centres Authority. It has been created under the **International Financial Services Centres Authority Act, 2019**.
- It will also regulate any other financial products, financial services, or financial institutions in an IFSC, which may be notified by the central government.

27. Recently, a UK based think tank has published a report in which it has coined the term "Difficult Four" Countries. As per the report, which among the following countries is not included in this category?

a) India **b) Pakistan**

c) China **d) Saudi Arabia**

Answer – B

Explanation

- Recently, Chatham House, the century-old UK-based policy institute also known as the Royal Institute of International Affairs, has published a report **proposing a blueprint for Britain's future foreign policy after Brexit**.
- The report classified I**ndia** as one of the **"difficult four" countries** along with **China, Saudi Arabia and Turkey**.

Key Highlights:

- Title of the Report - **"Global Britain, Global Broker**"
- Along with *Russia, Turkey and Saudi Arabia, India* is classed as one of the "difficult four" countries, destined to count among the **UK's "rivals" or "awkward counterparts"** as it pursues its global goals.

Why is India among Difficult Four?

- The report highlights the complex fragmented domestic politics in India as a reason for such label.
- The report highlighted the fact that intolerant majoritarianism is replacing the vision of a secular, democratic India.
- The report also states that **India is a reluctant supporter of liberal democracy. It** is "**ambivalent" about human rights abuses** within other states".

- It criticized India for not raising its voice against China over the issues like human rights violations in Xinjiang and National Security Law in Hong Kong.
- It highlighted the fact that Indian politics is entering into **ethno-nationalist phase** – a phase where the **nation and nationality are defined in terms of ethnicity**.
- As a result of India entering ethno-nationalist phase, D10 coalition might end up as D9 damaging the relations between India and UK.

[The D10 group of countries was proposed by Britain to include all the G7 countries and additionally India, Australia and South Korea. It means **Ten biggest democracies** in the world.]

28. Which of the following institution had organized the Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) India Forum 2021?

a) Ministry of environment forest and climate change, India

b) United Nations Framework Convention on Climate Change

c) World Bank

d) Ministry of Statistics & Programme Implementation, India

Answer – D

Explanation

- The Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) India Forum 2021 was organized by the **Ministry of Statistics & Programme Implementation** in virtual format.
- The Forum highlights the activities taken up by the Ministry under the Project. It also highlights the uses to which natural capital accounts can be put

NCAVES Project

- Initiated by **European Union** in 2017
- **Aim** - to help nations advance the knowledge on **environmental-economic accounting**, in particular ecosystem accounting, that can help in ensuring sustainable economic growth.
- **Objectives**:
    - Improving the measurement of ecosystems and their services (both in physical and monetary terms) at the (sub)national level;
    - Mainstreaming biodiversity and ecosystems at (sub)national level policy planning and implementation;
    - Contribute to the development of internationally agreed methodology and its use in partner countries.
- Project is being **implemented in five countries** – India, Brazil, China, Mexico and South Africa
- **Implementing Agencies** - the United Nations Statistics Division (UNSD), United Nations Environment Programme (UNEP) and the Secretariat of the Convention of Biological Diversity (CBD).
- In India, Ministry of Statistics & Programme Implementation is taking initiatives under the NCAVES Project. The Ministry is conducting NCAVES India Forum (in a virtual format), in collaboration with UNSD, European Union and UNEP.
- The project will have a **duration until the end of 2021.**

Benefits Of The Project

- **EnviStats India:** The participation in the project has helped MOSPI commence the compilation of the Environment Accounts as per the UN- System of Environmental-Economic Accounting (SEEA) framework and release environmental accounts in its publication "EnviStats India" on an annual basis since 2018.
- **India-EVL Tool**: Development of the India-EVL Tool which is essentially a look-up tool giving a snapshot of the values of various ecosystem services in the different States of the country. An additional benefit of this tool is that it provides a critical view on the literature that is available and the applicability of estimates spatially across India according to bio-geographical areas.

29. The International Migration 2020 report has been released by

a) International Organization for Migration **b) United Nation**

c) World Bank **d) World Economic Forum**

Answer – B

Explanation

- International Migration 2020 report has been published by the Population Division of the **United Nations Department of Economic and Social Affairs** (UN DESA).
- The report provides the latest estimates of the number of international migrants by country of destination, origin, age and sex for all countries and areas of the world.

Key Highlights of the Report:

- The disruptions caused by the COVID-19 pandemic may have **reduced the number of international migrants** by around two million globally by mid-2020.
- This disruption would lead to a likely **decline of 14 per cent in remittance flows** to low- and middle-income countries by 2021.
- As world population is ageing rapidly, there is an increasing '**gender-specific demand'** for migrant workers, especially for care-related work in many high-income countries.
- Women now comprise **slightly less than half** of all international migrants. In 2020, **48 per cent** of all international migrants worldwide were women or girls.
- Also, it was observed that **women migrate on their own for study or work**, unlike earlier when they used to do so as dependants of spouses or other family members.
- There is rapidly increasing **masculinisation of migration** in high- and middle-income countries in West Asia and Northern Africa.
- The demand for male workers outpaced the demand for female workers in several oil-producing countries of the Gulf Cooperation Council, and countries that relied primarily on temporary labour migration contracts.
- The report observed that the migrant women are catalysts of change, promoting positive social, cultural and political norms within their homes and throughout their communities.
- **Europe had the largest number of international migrants** in 2020: 87 million.
- USA remained the **largest destination of international migrants** with 51 million migrants in 2020.

India Specific Observation

- India topped the list of countries with the **largest diasporas in 2020**, with **18 million Indians living outside their country of birth**.
- In 2019 India received USD 83 billion in remittances from its diaspora.
- The **Indian diaspora is distributed** across a number of major countries, with the **UAE** (3.5 million), the **U.S**. (2.7 million) and **Saudi Arabia** (2.5 million) hosting the largest numbers of migrants from India.
- Other countries with large numbers of migrants from India include Australia, Canada, Kuwait, Oman, Pakistan, Qatar and the U.K.

30. Consider the following statements regarding the International Energy Agency (IEA):

1. **IEA is a Paris-based autonomous intergovernmental organisation established in the framework of the Organisation for Economic Co-operation and Development (OECD).**
2. **IEA has broadened its focus on energy security, economic development, and environmental protection for the effectual energy policy.**

Which of the above statements is/are Correct?

a) 1 Only **b) 2 Only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer – C

Explanation

- India and the International Energy Agency have signed a **framework for a strategic partnership**. The **aim of this agreement** is to strengthen cooperation and mutual trust and for enhancing global energy stability, security, and sustainability.
- The agreement will lead to an extensive exchange of knowledge in the energy sector. It will also be a stepping stone for India towards becoming a full member of the Paris-based IEA.
- The development comes at a time when **international energy markets have been volatile** and **amid rising tensions between China and India**, the world's second- and third-largest crude oil importers.

About International Energy Agency (IEA)

- The IEA was created in 1974 to help co-ordinate a collective response to major disruptions in the supply of oil.
- It is a **Paris-based** autonomous intergovernmental organization. It was established in the framework of the Organisation for Economic Co-operation and Development (OECD).
- The Agency's mandate has been broadened to focus on the **"3Es" of effectual energy policy**: energy security, economic development, and environmental protection.
- The IEA has a broad role in promoting alternate energy sources (including renewable energy), rational energy policies, and multinational energy technology co-operation.
- Eligibility criteria for becoming a member includes **maintaining emergency oil reserves equivalent to at least 90 days of net imports**.

IEA and India

- In March 2017, **India joined the IEA as an association country**. The agency is keen on India becoming a member as India's entry will boost the global energy security apparatus.
- It would also add heft to its dealings with the Organization of the Petroleum Exporting Countries (OPEC)-plus grouping. Saudi Arabia, the world's largest oil producer has recently cut production, leading to price volatility.
- OPEC makes up about 40% of global output and 83% of India's oil imports.
- **India stores 10 days of the country's crude oil requirements** currently, with domestic refiners also maintaining 65 days of crude storage. In addition, the government is building **strategic crude oil reserves** to support another 12 days of crude oil needs.

31. Recently, successful maiden trial of SAHAYAK-NG air-droppable container was conducted. The trial was conducted by

a) Indian Air Force and DRDO
b) Indian Army and DRDO
c) Indian Air Force and ISRO
d) Indian Navy and DRDO

Answer – D

Explanation

The DRDO along with the Indian Navy has conducted a successful maiden trial of the SAHAYAK-NG air-droppable container.

Key Highlights:

- SAHAYAK-NG is India's first indigenously designed and developed air droppable container.
- It is **aided by GPS**, can carry a payload of up to 50 kg and can be dropped from a heavy aircraft.
- It will enhance its operational logistics capabilities of Indian Navy and provide critical engineering stores to ships which are deployed more than 2000 km from the coast.
- SAHAYAK-NG is an **advanced version of SAHAYAK Mk I air droppable container**.

32. Recently concluded exercise Sea Vigil 2021 is a

a) Maritime exercise between India and Maldives
b) Coastal defence exercise conducted by Indian Navy
c) Maritime exercise between India and Sri Lanka
d) Maritime exercise between members of IORA

Answer – B

Explanation

- The second edition of the **biennial pan-India coastal defence exercise 'Sea Vigil-21'** was conducted in January 2021. The **inaugural edition** of the exercise was conducted in **January 2019.**
- The exercise was undertaken along the **entire 7516 km coastline and Exclusive Economic Zone of India** and involved all the 13 coastal States and Union Territories along with other maritime stakeholders, including the fishing and coastal communities.

- It is **coordinated by the Indian Navy.** The entire coastal security set up was reorganised after the 26/11 Terror attack at Mumbai which was launched via the sea route.
- This exercise also validated the technical surveillance infrastructure called the **National Command, Control, Communication and Intelligence (NC3I) Network.**
- SEA VIGIL provides opportunity, at the apex level, to assess preparedness in the domain of maritime security and coastal defence by providing a **realistic assessment of the strengths and weaknesses**.
- The exercise is a build up towards the major Theatre level exercise **TROPEX [Theatre-level Readiness Operational Exercise]** which Indian Navy conducts every two years.
- **SEA VIGIL and TROPEX** together will cover the entire spectrum of maritime security challenges, including transition from peace to conflict.

33. Consider the following pairs:

Exercise/Operations	**Participating Countries/Organisation**
1. Desert Knight-21	- **India and France**
2. Kavach	- **Tri service Military 'Exercise**
3. AMPHEX – 21	- **Tri-service joint amphibious exercise of India**
4. Operation Sard Hawa	- **Border Security Force of India**

Which of the above pair(s) is/are Correctly matched?

a) 1, 2 and 3 **b) 1, 3 and 4**

c) 2, 3 and 4 **d) 1, 2, 3, 4**

Answer – D

Explanation

Desert Knight-21

- It is a **five-day air drill between** Indian Air Force (IAF) and French Air and Space Force. The Desert Knight-21 Exercise is unique as it will include the fielding of Rafale Fighter jets by both sides.
- Under the Indo-French Defence Cooperation, air forces of both the countries have so far held six editions of air exercise called "**Garuda**". The Ex-Desert Knight 21 was held in addition to the Garuda series exercise.
- Presently, the French detachment for Ex Desert Knight-21 is deployed in Asia as part of their **'Skyros Deployment'** and will ferry in forces to Air Force Station Jodhpur.
- As measures to further the existing cooperation, the two forces have been gainfully utilising available opportunities to conduct **'hop-exercises'.**
- The French Air and Space Force deployment while ferrying to **Australia for Ex Pitchblack in 2018 was hosted by IAF at Air Force** Stations Agra and Gwalior for exercise with fighters and MRTT aircraft.

Kavach

- It is the **Tri service Military,** conducted under the aegis of the Andaman and Nicobar Command (ANC). ANC is the first integrated theatre command in India with headquarters at Port Blair.

- **Participating Organisations** - Indian Army, Indian Navy, Indian Air Force and Indian Coast Guard.
- The exercise is significant as it will check the preparedness of all the agencies in dealing with an asymmetric threat.

AMPHEX – 21

- It is a large-scale **tri-service joint amphibious exercise,** conducted in Andaman & Nicobar group of islands.
- The exercise involved participation of Naval ships, amphibious troops of the Army and different types of aircraft from the Air force.
- **Ex KAVACH** for the defense of Andaman & Nicobar Islands **formed a part of AMPHEX – 21**.

Operation Sard Hawa

- It was launched by the Border Security Force in the western border of Rajasthan.
- **Aim** - to check the instances of infiltration due to dense fog in the region.

34. Who among the following became the first Indian woman fighter pilot to participate in a Republic Day flypast at Rajpath?

a) Punita Arora
b) Bhawana Kanth
c) Mitali Madhumita
d) Padmavathy Bandopadhyay

Answer – B

Explanation

- **Flight lieutenant** Bhawana Kanth has become the **first woman fighter pilot** to take part in the **Republic Day parade.**
- She was part of the **Indian Air Force's (IAF's) tableau** that will showcase mock-ups of the light combat aircraft, light combat helicopter and the Sukhoi-30 fighter plane.
- She is currently posted at an airbase in Rajasthan where she flies the MiG-21 Bison fighter plane.
- Kanth is also one of the **first women fighter pilots** in the IAF. She, along with **Avani Chaturvedi and Mohana Singh,** was inducted into the IAF as the first women fighter pilots in 2016.
- Ten women have been commissioned as fighter pilots after an experimental scheme for their induction into the **IAF's combat stream** was introduced in 2015, a watershed in the air force's history.

35. Consider the following statements about the Trans Fatty Acids:

1. **Trans-fatty acids are a form of unsaturated fats which are associated with increased health risks and deaths.**
2. **The Food Safety and Standards Authority of India has recently capped the amount of trans fatty acids in oils and fats to 5% for 2021.**

Which of the statements given above is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Answer: A

Explanation

- The **Food Safety and Standards Authority of India (FSSAI)** has capped the amount of trans fatty acids (TFA) in oils and fats to **3% for 2021 and 2% by 2022** from the current permissible limit of 5%.
- This has been done through an amendment to the **Food Safety and Standards (Prohibition and Restriction on Sales) Regulations.** It was in 2011 that India first passed a regulation that set a TFA limit of 10% in oils and fats, which was further reduced to 5% in 2015.
- The revised regulation applies to **edible refined oils, vanaspati (partially hydrogenated oils), margarine, bakery shortenings,** and other mediums of cooking such as vegetable fat spreads and mixed fat spreads.
- Trans fats, or trans-fatty acids, are a **form of unsaturated fat.** They come in both natural and artificial forms.
- **Natural, or ruminant, trans fats** occur in the **meat and dairy from ruminant animals,** such as cattle, sheep, and goats. They form naturally when bacteria in these animals' stomachs digest grass.
- However, **artificial trans fats,** otherwise known as industrial trans fats or partially hydrogenated fats, are hazardous to health. These fats **occur when vegetable oils are chemically altered to stay solid at room temperature,** which gives them a much longer shelf life.
- Trans fats are associated with **increased risk of heart attacks and death from coronary heart disease.** As per the World Health Organisation (WHO), approximately 5.4 lakh deaths take place each year globally because of intake of industrially produced trans fatty acids. The WHO has also called for **global elimination of trans fats by 2023.**

36. Consider the following statements about COVID vaccines:

1. **Covishield is an indigenously developed vaccine based on a weakened version of a common cold virus.**
2. **Covaxin is an inactivated vaccine developed by the University of Oxford.**

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: D

Explanation

- The **Drugs Controller General of India's (DCGI)** has approved **Covishield** and **Covaxin vaccines for restricted use against Covid-19** in the country, paving the way for mass vaccination.
- **Covishield** is a version of the vaccine developed by the **University of Oxford** in collaboration with Swedish-British drugmaker **AstraZeneca,** that has already got emergency use approval in the UK.
  - Covishield is based on a **weakened version of a common cold virus (adenovirus)** that causes infections in chimpanzees and contains the genetic material of SARS-CoV-2 virus spike protein.
  - After vaccination, **the surface spike protein is produced, priming the immune system to attack the SARS-CoV-2 virus** if it later infects the body.
- **Covaxin, India's only indigenous Covid-19 vaccine,** has been developed by Hyderabad-headquartered **Bharat Biotech** in collaboration with the Indian Council of Medical Research's **National Institute of Virology,** Pune.

- Covaxin is **an inactivated vaccine.** An inactivated vaccine is one which is **developed by inactivating (killing) the live microorganisms** that cause the disease.
- This **destroys the pathogen's ability to replicate,** but keeps it intact so that the immune system can still recognise it and produce an immune response.

37. Which of the following countries have large reserves of Lithium?

1. **Argentina**
2. **India**
3. **Bolivia**
4. **Chile**

Choose the correct answer using the code given below:

a) 1 and 3 only
b) 1, 2 and 3 only
c) 1, 3 and 4 only
d) 1, 2, 3 and 4

Answer: C

Explanation:

- **India,** through a newly-floated state-owned company, **inked a pact with an Argentine firm** mid-last year **to jointly prospect lithium** in the South American country that has the ***third largest reserves*** of the silver-white alkali metal.
- The new company, **Khanij Bidesh India Ltd** was incorporated in August, 2019 by three state-owned companies, NALCO, Hindustan Copper and Mineral Exploration Ltd. It has a **specific mandate to acquire strategic mineral assets such as lithium and cobalt abroad.** It is also learnt to be exploring options in **Chile and Bolivia,** two other top lithium-producing countries.
- Lithium is **a crucial building block of the lithium-ion rechargeable batteries** that power electric vehicles (EVs), laptops and mobile phones due to their high energy density and high charge and discharge rate capabilities, as compared with other types of batteries such as Ni-MH or Lead Acid.
- While the Li-ion batteries are seen as sufficiently efficient for applications such as phones and laptops, in case of EVs, these **cells still lack the range that would make them a viable alternative to internal combustion engines.**
- **Currently, India is heavily dependent on import of these cells** and the move to ink sourcing pacts for lithium is seen as another salvo in the front against China, a key source of both the raw material and cells.

38. With reference to the Indian Expedition to Antarctica, consider the following statements:

1. **The National Centre for Polar and Ocean Research (NCPOR) under the Ministry of Science & Technology manages the entire Indian Antarctic program.**
2. **Presently, India has two operational research stations in Antarctica, named Maitri and Bharati.**

Which of the statements given above is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Answer: B

Explanation:

- India has launched the **40th scientific expedition to Antarctica** embarking on a chartered ice-class vessel **MV Vasiliy Golovnin.** This marks four decades of the country's scientific endeavour to the southern white continent.
- The focus of the 40th Indian Antarctic expedition is to support the ongoing scientific projects on **climate change, geology, ocean observations, electric and magnetic flux** measurements, environmental monitoring; resupplying of food, fuel, provisions and spare; and accomplishing the return of the winter crew.
- The **Indian Antarctic expeditions began in 1981** with the first trip led by **Dr SZ Qasim.** After a humble beginning, the Indian Antarctic programme has now been credited to have built three permanent research base stations in Antarctica—named *Dakshin Gangotri, Maitri, and Bharati*. As of today, India has two operational research stations in Antarctica named **Maitri and Bharati.**
- The **National Centre for Polar and Ocean Research (NCPOR), Union Ministry of Earth Sciences** manages the entire Indian Antarctic program.
- Polar regions are crucially important in answering key questions about global climate change, its contribution towards global sea-level rise, the background aerosol properties, variability in sea ice cover and phenomena like Antarctic haze and ozone concentrations. Attempts to address some of these issues are helping in mitigating several important problems concerning human life.

39. Consider the following statements about the Light Combat Aircraft (LCA)-Mk1 Tejas:

1. **Tejas is an indigenous fighter aircraft developed in collaboration with Hindustan Aeronautics Limited.**
2. **It has beyond visual range missile capabilities.**
3. **It is a supersonic fighter which can carry a payload of 5000 kg.**

Which of the statements given above is/are correct?

a) 1 and 2 only **b) 1 and 3 only**

c) 2 and 3 only **d) 1, 2 and 3**

Answer: A

Explanation

- The Cabinet Committee on Security (CCS) has approved procurement of 73 LCA Tejas Mk-1A fighter aircraft and 10 LCA Tejas Mk-1 Trainer aircraft.
- The Naval variant of the indigenous Light Combat Aircraft (LCA)-Mk1 Tejas also successfully completed the first arrested landing on board aircraft carrier INS Vikramaditya.
- The **HAL Tejas** is an ***Indian single-engine, fourth-generation, multirole light fighter*** designed by the Aeronautical Development Agency (ADA) in collaboration with Aircraft Research and Design Centre (ARDC) of Hindustan Aeronautics Limited (HAL) for the **Indian Air Force** and **Indian Navy.**
- The **LCA Tejas Mk 1A is an advanced version of LCA Mk1 (FOC),** which is in service with the Indian Air Force currently.
- It is the **first "Buy (Indian-Indigenously Designed, Developed and Manufactured)" category** procurement of combat aircrafts with an indigenous content of 50% which will progressively reach 60% by the end of the programme.

- It is a ***supersonic fighter*** at all altitudes for air combat, which can carry a ***payload of 3,500 kg*** and is best suited for offensive air support.
- The new aircraft comes with four major capabilities over the current variant of LCA, which includes mid-air refuelling, improvement in operational roles, enhancing the combat ability and maintainability improvements through incorporation of **Active Electronically Scanned Array (AESA) Radar, Electronic Warfare (EW) suite and Beyond Visual Range (BVR) missile capabilities.**

40. With reference to the lumpy skin disease, consider the following statements:

1. **It is a viral illness that causes prolonged morbidity in bovines.**
2. **The disease is reported for the first time in India.**

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: C

Explanation

- **Lumpy skin disease (LSD)** has been reported from the Wayanad district, Kerala. The disease is reported for the **first time in India.**
- LSD is a **viral illness** that causes prolonged **morbidity in cattle and buffaloes.**
- It appears as nodules of two-to-five-centimetre diameter all over the body, particularly around the head, neck, limbs, udder and genitals. The lumps gradually open up like large and deep wounds.
- According to the **Food and Agriculture Organization (FAO),** under 10% of the infected animal succumbs to the disease.
- The LSD virus easily **spreads by** blood-sucking insects like **mosquitoes, flies and ticks and through saliva and contaminated water and food.**
- Historically, LSD has remained confined to Africa, where it was **first discovered in 1929,** and parts of West Asia. But in recent years, the disease has spread to territories beyond the endemic areas.
- According to a risk assessment report by FAO, the disease spread to seven countries till the end of 2020 — **reaching China and India in 2019.**
- In India, which has the world's highest 303 million heads of cattle, the disease has spread to 15 states within just 16 months.
- **Challenge for India:**
    - LSD cause huge economic losses to the farmers because of d**ecreased milk production, abortions and infertility** and damaged hides due to cutaneous nodules and fibrous tissue growth. This will have a devastating impact on the country, where most dairy farmers are either landless or marginal landholders and milk is among the cheapest protein sources.
    - In India, veterinary hospitals have been directed to provide all the treatments for free. However, the challenge is that **no specific vaccine against LSD is available in India.**
    - Insects like ticks, biting flies, mosquitoes are anyway more prevalent in **tropical climatic conditions of India.** As unseasonal rains and floods become frequent, they will provide a conducive atmosphere for insect growth and multiplication.

- Due to the infectious nature of LSD and its implications on the economy, the **World Organisation for Animal Health (OIE)** declares it as a **notifiable disease.** This means a country must inform OIE about any outbreak of the disease so that it can be contained.

41. Which of the following has recently released COVID-19 Performance Index?

a) NITI Aayog **b) World Health Organisation**

c) Ministry of Health & Family Welfare **d) Lowy Institute**

Answer: D

Explanation

- The **Lowy Institute,** an Australian think-tank, has released the **COVID-19 Performance Index.**
- The index **ranked countries in their response to the COVID-19 pandemic** and sought to assess the impact of geography, political systems and economic development in assessing outcomes.
- It was based on six different indicators including confirmed cases and deaths per million people and the scale of testing.
- **New Zealand** and **Vietnam** led the list**,** followed by Taiwan, Thailand and Cyprus in the top five.
- **United States** was placed at 94 and **Brazil** at the bottom of the index.
- Sri Lanka was the best faring nation in South Asia, ranking 10, while the Maldives was at 25, Pakistan at 69, Nepal at 70, and Bangladesh at 84. **India ranked 86** out of 98 countries, lowest among neighbours.
- **China was not included** due to a lack of publicly available data on testing.
- **Levels of economic development and differences in political systems didn't have as much of an impact** on coronavirus response as expected.
- On an average, countries with authoritarian establishments had no prolonged advantage in containing the virus.
- It was found that **democracies had marginally more success** than other governments in their handling of the pandemic.

42. Consider the following statements about the neglected tropical diseases:

1. **The disease is common in low-income populations in developing regions.**
2. **It is caused only by the parasitic worms.**

Which of the statements given above is/are correct?

a) 1 only **b) 2 only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: A

Explanation

- The second annual **World Neglected Tropical Diseases (NTD) Day** was marked on **January 30,** 2021. The day highlights the global community's commitment to ending NTDs that cause immeasurable suffering among the world's most marginalized communities.

- India had joined the world to light up Qutub Minar as a sign of unity to combat NTDs.
- NTDs are a diverse group of tropical infections which are **common in low-income populations in developing regions** of Africa, Asia, and the Americas.
- They are caused by a variety of pathogens such as **viruses, bacteria, protozoa and parasitic worms (helminths).**

43. Asian Waterbird Census, recently in news, was conducted by?

a) Wetlands International

b) BirdLife International

c) American Bird Conservancy

d) Royal Society for the Conservation of Nature

Answer: A

Explanation

The two-day Asian Waterbird Census-2020 commenced in Andhra Pradesh, covering at least two dozen sites, including Coringa Wildlife Sanctuary, Kolleru Lake and Krishna Sanctuary.

About Asian Waterbird Census (AWC)

- The Asian Waterbird Census (AWC) is an annual waterbird census **by Wetlands International.** It is an integral part of the global waterbird monitoring programme, the International Waterbird Census (IWC) of Wetlands International.
- **AWC was initiated in 1987 in the Indian sub-continent** and has grown rapidly to cover major region of Asia, from Afghanistan eastwards to Japan, Southeast Asia and Australasia. The census thus **covers the entire East Asian – Australasian Flyway** and a large part of the Central Asian Flyway.
- The census aims to collect information on an annual basis of the **waterbird populations in the wetlands of the region** during the non-breeding period of most species, as a basis for evaluation of sites and monitoring of populations and condition of wetlands.
- AWC is also recognized as important annual activity to record wetlands & water birds status for conservation by the Ministry of Environment, Forests and Climate Change (MoEFCC), as important part of the ministry's National Action Plan for conservation of Migratory Birds and their habitats along the Central Asian Flyway.

About Wetland International

- It is an independent, not-for-profit, global organisation, supported by government and NGO membership from around the world.
- Based mostly in the developing world, it has 20 regional, national or project offices in all continents and a head office in Netherlands.

44. Umed Paoni Karhandla Wildlife Sanctuary, recently in news, is located in?

a) Rajasthan **b) Sikkim**

c) Odisha **d) Maharashtra**

Answer: D

Explanation

Recently a tigress and her two cubs were found dead in the **Umed Paoni Karandla Wildlife Sanctuary,** Maharashtra.

About Umed Paoni Karandla Wildlife Sanctuary

- The state government of Maharashtra has renamed Umred-Karhandla Wildlife Sanctuary (UKWS) in Bhandara and Nagpur districts as Umred-Paoni-Karhandla Wildlife Sanctuary in 2017.
- Umred-Karhandla (189 sq km) was notified a sanctuary on June, 2012. It is spread over three ranges Kuhi-Gothangaon (70 sq km) and Umred-Karhandla (70 sq km) and Paoni in Bhandara (49 sq km). All the ranges are **contiguous with Wainganga river** dividing Paoni.
- The basic idea behind including Paoni was that **it has many ancient temples and is also known as 'Kashi of Vidarbha'.** It also has a Buddha Stupa. To ensure that the temple town gets a mileage from tourism point of view, its name has been included.

45. Dzukou Valley, recently in news, is located at the border of which of the following states?

a) Manipur-Nagaland **b) Odisha- Jharkhand**

c) Kerala- Karnataka **d) Punjab- Himachal Pradesh**

Answer: A

Explanation:

The wildfire at Dzukou Valley has been doused after it raged for two weeks.

About Dzukou Valley

- The Dzukou Valley, situated at an average altitude of 2,452 metres above the sea level, is a popular tourist spot and also famous for its seasonal flowers and biodiversity.
- It is located on the **Nagaland-Manipur border.**
- It is most famous for its flowers, most notably the **Dzukou lily** *which is found only in this Valley.*
- Dzukou valley is also a sanctuary for the **endangered Blyth's tragopan – Nagaland's state bird.**

46. Nagi-Nakti bird sanctuary, recently in news, is located in which among the following states?

a) Madhya Pradesh **b) Arunachal Pradesh**

c) Bihar **d) None of the above**

Answer: C

Explanation:

- **Bihar's first state-level bird festival 'Kalrav'** will be held at the world famous **Nagi-Nakti bird sanctuaries** in the Jamui district of Bihar. The event is intended to create awareness about conservation of birds and their habitat, the wetlands.
- The Nagi- Nakti Bird Sanctuaries have been the home of a wide variety of indigenous species of birds and of migratory birds that turn up during the winters from places like Eurasia, Central Asia, the Arctic Circle, Russia and Northern China. Over 136 species of birds have been spotted at these sanctuaries.

- Around 1,600 **bar-headed geese**, which is about **3% of the global population** of this variety, have been seen here and because of this rare phenomenon, the **Birdlife International**, a global body, has held the Nagi Dam Bird Sanctuary to be globally important for conservation of birds' population and has **declared it as an important bird area.**
- Apart from dense deciduous forests, moram land and variety of birds & animals, **there's unique rock formation** in Jamui area. In our country, this rock formation is available only in Hampi in Karnataka.

47. Ratle Hydro Power Project, recently in news, is located on which among the following rivers?

a) Chenab **b) Godavari**

c) Mahanadi **d) Betwa**

Answer: A

Explanation

- The Union Cabinet, has given its approval for the investment of Rs.5281.94 crore for 850 MW Ratle Hydro Electric (HE) Project located on **river Chenab,** in Kishtwar district of **Union Territory of Jammu and Kashmir.**
- Ratle Hydro Electric Project shall be commissioned within a span of 60 months. The Power generated from the Project will help in providing balancing of Grid and will **improve the power supply position.**
- The construction activities of the Project will result in **direct and indirect employment to around 4000 persons** and will contribute in overall socio-economic development of the Union Territory of Jammu and Kashmir.

48. Consider the following statements about Sundarbans Forest Reserve

1. **It is the largest contiguous mangrove forest in the world.**
2. **It is the only mangrove forest in the world inhabited by tigers**.

Which of the statements given above is/are correct?

a) 1 Only **b) 2 Only**

c) Both 1 and 2 **d) Neither 1 nor 2**

Answer: **C**

Explanation:

- Zoological Survey of India (ZSI) released a publication, "**Birds of the Sundarban Biosphere Reserve**", which states that **Indian Sunderbans is home to 428 species of birds.**
- The publication not only documents the avifauna of the Sunderbans, but also serves as comprehensive photographic field guide, with detailed distribution and locality data for all the species from the region.

About Sundarbans

- It is a vast contiguous mangrove forest ecosystem in the coastal region of Bay of Bengal **spread over India and Bangladesh** on the delta of the Ganges, Brahmaputra and Meghna rivers. It spans from the Hooghly River in India's state of West Bengal to the Baleswar River in Bangladesh.
- It is the **largest contiguous mangrove forest in the world.** It constitutes over **60% of India's total mangrove forest area.**

- The Sundarbans is of universal importance for globally endangered species including the **Royal Bengal Tiger, Ganges and Irawadi dolphins**, estuarine crocodiles etc.
- Indian Sundarbans was **recognised as UNESCO World Heritage Site in 1987,** 'Wetland of International Importance' under the Ramsar Convention in January 2019 and also a Biosphere Reserve in 1989.
- The Sunderbans Delta is the **only mangrove forest in the world inhabited by tigers**.

49. Bandipur Tiger Reserve, recently in news, is located in which among the following states?

a) Karnataka **b) Kerala**

c) Assam **d) Andhra Pradesh**

Answer: A

Explanation:

A Wild elephant caught in fishing nets near to the Bandipur Tiger Reserve was rescued by Forest Department personnel.

About Bandipur Tiger Reserve

- In 1974, Bandipur Tiger reserve was established as one of the first 9 Tiger Reserves under Project Tiger. In 1985, by including adjacent areas, it was enlarged and named as Bandipur National Park.
- **Location**: Tiger Reserve is situated in two contiguous districts (Mysore and Chamarajanagar) of **Karnataka**. It is located at the tri-junction area of the States of Karnataka, Tamil Nadu and Kerala.
- Bandipur Tiger Reserve is surrounded by –
    - Nagarahole Tiger Reserve (Karnataka) in the North West (Kabini Reservoir separates the two).
    - Mudumalai Tiger Reserve (Tamil Nadu) in the South, and
    - Wayanad Wildlife Sanctuary (Kerala) in the South West.
- Together these 4 areas are part of the Nilgiri Biosphere Reserve.
- **Rivers**: The park is situated between Kabini river in the north and the Moyar river in the south. The Nugu river runs through the park.

Vertical and Horizontal Reservations

The Supreme Court in **Saurav Yadav versus State of Uttar Pradesh** has clarified the position of law on the interplay of vertical and horizontal reservations. The two-judge Bench dealt with the issues arising from **the way different classes of reservation were to be applied in the selection process** to fill posts of constables in the state.

What Are Vertical And Horizontal Reservations?

- **Vertical reservation:** Reservation for **Scheduled Castes, Scheduled Tribes, and Other Backward Classe**s is referred to as vertical reservation. It applies separately for each of the groups specified under the law.
- **Horizontal reservation**: It refers to the **equal opportunity provided to other categories** of beneficiaries such as women, veterans, the transgender community, and individuals with disabilities, cutting through the vertical categories.
- Horizontal reservations cut across the vertical reservations – what is called interlocking reservations. The percentage of reservation allotted to Horizontal reservation categories should be adjusted against percentage of SC/ST/ OBC etc in vertical reservation.

How Are The Two Categories Of Quotas Applied Together?

- The horizontal quota is applied **separately to each vertical category**, and not across the board. For example, if women have 50% horizontal quota, then half of the selected candidates will have to necessarily be women in each vertical quota category — i.e., half of all selected SC candidates will have to be women, half of the unreserved or general category will have to be women, and so on.
- Even after providing for these horizontal reservations, the percentage of reservations in SC /ST and OBC should remain the same. It should not exceed the limit prescribed for these categories.

Supreme Court Ruling

- The government's policy was to **restrict and contain reserved category candidates to their categories,** even when they had secured higher grades. The court said this was tantamount to ensuring that the general category was 'reserved' for upper castes.
- The court ruled against the Uttar Pradesh government, holding that if a person belonging to an intersection of vertical-horizontal reserved category had secured scores high enough to qualify without the vertical reservation, **the person would be counted as qualifying without the vertical reservation, and cannot be excluded from the horizontal quota in the general category.**
- **If a person in the SC category secures a higher score than the cut-off for the general category,** the person would be counted as having qualified under the general category instead of the SC quota.

Plea To Bar Disqualified Lawmakers From Contesting Bye-Polls To Same House

The Supreme Court has issued notice to the Centre and Election Commission to examine whether lawmakers who resign to topple an elected government and later join hands with the rival political faction for the lure of ministerial berths should attract disqualification under the Tenth Schedule of the Constitution.

Petitioner's Arguments

- The object of the Tenth Schedule was to **curb the evil of political defections motivated by lure of office** or other similar consideration which endanger the foundations of our democracy.
- **A six-year ban should be imposed** on such political turncoats in view of the recent trend emerging from the states of Madhya Pradesh as recently as in March 2020 and Karnataka in 2019. In Madhya Pradesh, 22 rebel members of the state Assembly belonging to the Congress have resigned and, later they contested the bye-elections and got re-elected from the Bhartiya Janata Party (BJP).
- The petition also demanded that any person who gives up membership of the party should be barred from holding any office of a Minister or any other remunerative political post until the term of the House expires.
- **MLAs, MPs contesting the election at the public exchequer's cost** cannot resign for personal benefits with ulterior motive. They are defeating the law laid down by the Parliament in the Tenth Schedule, later upheld by the Supreme Court in the Kihoti Hollohan case of 1992.

Additional Information

Grounds For Disqualification Under 10th Schedule

- He voluntarily gives up his membership of such political party.
- He votes or abstains from voting in such House contrary to any direction issued by his political party and such act has not been condoned by the party within 15 days.
- An Independent candidate joins a political party after the election.
- A nominated member joins a party six months after he becomes a member of the legislature.

Exceptions To The Disqualification On The Ground Of Defection:

- A merger takes place when two-thirds of the members of the party have agreed to such merger.
- If a member, after being elected as the presiding officer of the House, voluntarily gives up the membership of his party or rejoins it after he ceases to hold that office

The India Justice Report 2020

- The India Justice Report 2020 has ranked **Maharashtra at the top in terms of Justice delivery in India.**
- The report is an **initiative of Tata Trusts** in collaboration with Centre for Social Justice, Common Cause, Commonwealth Human Rights Initiative, DAKSH, TISS-Prayas, Vidhi Centre for Legal Policy, and How India Lives.
- The Report has tracked the progress states have made in capacitating their justice delivery structures to effectively deliver services to all, and has taken account of the latest statistics and situations as they existed prior to March 2020.
- It has brought together statistics on the four pillars of Justice delivery: **Police, Judiciary, Prisons and Legal Aid.**

Highlights Of The Report

- **Women in police force:** At 25.3 per cent, **Bihar leads the list of 25 states for employing most women in its police force.** However, although it is the only state to have more than 20 per cent women in the police force, women account for only 6.1 per cent in the officer category.

- **Ratio of police personnel to common citizens:** It has actually ballooned by 75 — to 858 in 2018-19 from 783 in 2017.
- **Lack of representation of women as judges in high courts**: Overall, only 29 per cent judges in HCs across the country are women, but no state except Sikkim has over 20 per cent women judges.
- **Pendency of cases:** Nationally, the average number of cases pending in high courts rose to 44.25 lakh in 2018-19 from about 40.12 lakh in 2016-17, while in lower courts, the corresponding figures were 2.97 crore and 2.83 crore.
- **Vacancy:** In 2016-17, average high court judge vacancies were at 42 per cent, subordinate courts at 23 per cent. Nationally, as of 2018-19, vacancies have come down to 38 per cent in the high courts and 22 per cent in the subordinate courts.
- **Diversity**: Karnataka is the only state to meet its quotas for SC, ST and OBC in both officer cadre and constabulary, Chhattisgarh being the only other state that meets the diversity requirements for constabulary.
- **Delivery of justice:** Uttar Pradesh finished at the bottom of the rankings among the large and mid-sized states in terms of overall delivery of justice.
- **State of prisons:** Two-thirds of the total prisoners in India are imprisoned without conviction. It also found **overcrowding in prisons at 19 per cent**. Unnecessary arrests, conservative approaches to granting bail, uncertain access to legal aid, delays at trial, as well as the inefficacy of monitoring mechanisms such as Under Trial Review Committees continue to contribute to overcrowding.
- **Prisons in the States:** Rajasthan is on the top position in the Large states due to better budget utilisation, reduction in the overcrowding in prisons, and more officers, cadre and women staff.
- **Legal Aid:** While almost 80 per cent of India's over 1.3 billion population is eligible for free legal aid, **only 1.5 crore people have received free legal aid** in the last 25 years.

Adultery Law And The Armed Forces

The Supreme Court admitted a petition filed by the Ministry of Defence (MoD) seeking to exempt armed forces personnel from the ambit of a Constitution Bench judgment of 2018 that decriminalised adultery.

Reasons Given By The Government For Seeking Exemption

- There will always be a concern in the minds of the Army personnel who are operating far away from their families under challenging conditions about the **family indulging in untoward activity.**
- Personnel of the Army, Navy and the Air Force were a "**distinct class**". They were governed by special legislations, **the Army Act, the Navy Act and the Air Force Act.** Adultery amounted to an **unbecoming conduct and a violation of discipline** under these three Acts.
- Discipline necessary for the performance of duty, crucial for national safety, would break down. The provisions of the Acts should be allowed to continue to govern the personnel as a "distinct class", irrespective of the 2018 judgment.
- These special laws **imposed restrictions on the fundamental rights of the personnel**, who function in peculiar situation requiring utmost discipline. The three laws were protected by **Article 33** of the Constitution, which allowed the government to modify the fundamental rights of the armed forces personnel.
- **Unlike Section 497, the provisions of the three Acts did not differentiate between a man and a woman** if they were guilty of an offence. "De hors 497, the Army would equally proceed against a female subject to the Act, if she enters into an adulterous/illicit relationship.

- Armed forces exist in an environment wholly different and distinct from civilians. Honour is a sine qua non of the service. Courage and devotion to duty even at the risk to one's life is part of the unwritten contract governing the members of the armed forces.

To read more about Decriminalization of Adultery, refer Recitals June 2020.

Urban Local Bodies (ULB) Reforms

- **Goa has become the 6th State** in the country to successfully undertake Urban Local Bodies (ULB) reforms stipulated by the Department of Expenditure, Ministry of Finance.
- Goa has joined five other States namely, Andhra Pradesh, Madhya Pradesh, Manipur, Rajasthan and Telangana, who have completed ULB reforms. On completion of this set of reforms, these five States have been granted a **total additional borrowing permission of Rs. 10,435 crore.**
- Reforms in ULBs and the urban utilities reforms are aimed at **financial strenghtening of ULBs in the States** and to enable them to provide better public health and sanitation services to citizens. Economically rejuvenated ULBs will also be able to create good civic infrastructure.

The set of reforms stipulated by the Department of Expenditure to achieve these objectives are:

(i) The State will notify:
   - **Floor rates of property tax** in ULBs which are in consonance with the prevailing circle rates (i.e. guideline rates for property transactions) and;
   - **Floor rates of user charges** in respect of the provision of water-supply, drainage and sewerage which reflect current costs/past inflation.

(ii) The State will put in place a system of periodic increase in floor rates of property tax/ user charges in line with price increases.

The four citizen centric areas for reforms identified by the Department of Expenditure were

a) Implementation of One Nation One Ration Card System,

b) Ease of doing business reform,

c) Urban Local body/ utility reforms and

d) Power Sector reforms.

PRAGATI Meeting

- Prime Minister of India chaired the 35th edition of **Pro-Active Governance And Timely Implementation (PRAGATI) platform.**
- The Prime Minister directed all the officials to **ensure expeditious resolution of issues hindering infrastructure projects** and also encouraged the Department of Pharmaceuticals and states and UTs to provide wide publicity of Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana and use technology to enhance its effectiveness.

About PRAGATI Platform

- It is a multi-purpose and multi-modal platform that is **aimed at addressing common man's grievances,** and simultaneously monitoring and reviewing important programmes and projects of the Government of India as well as projects flagged by State Governments.
- The PRAGATI platform uniquely bundles three latest technologies: Digital data management, video-conferencing and geo-spatial technology.

Key features

- It is a **three-tier system** (PMO, Union Government Secretaries, and Chief Secretaries of the States)
- Prime Minister will hold a monthly programme where he will **interact with the Government of India Secretaries, and Chief Secretaries** through Video-conferencing enabled by data and geo-informatics visuals.
- Issues to be flagged before the PM are picked up from the available database regarding Public Grievances, on-going Programmes and pending Projects. The issues flagged are uploaded seven days prior to the PRAGATI day.
- Union Government Secretaries and Chief Secretaries have to put their comments and updates about the flagged issues within three days.

Toycathon

- The Centre recently launched Toycathon 2021 or "Toy Hackathon" to design and develop toys and games based on Indian culture and ethos, local folklore and heroes, and Indian value systems.
- The hackathon is an initiative of the Ministry of Education, Ministry of Women and Child Development Ministry of Textile, Ministry of Commerce and Industries, Ministry of Micro, Small and Medium Enterprises, Ministry of Information and Broadcasting and All India Council for Technical Education.
- Although the toy market in India is worth $1 billion, 80% toys are imported. Thus, the main objective is to help India to develop into a global hub for toys and games and to create an ecosystem for the domestic toy industry and the local manufacturers.
- There will be three levels of participation, namely – the Junior Level, the Senior Level and the Startup Level.
- The event will also allow participation of students and teachers from schools, colleges, and universities apart from startups and toy experts.
- By doing so, it intends to get schoolchildren to innovate, design, and conceptualise toys and capture the innovative prowess of 33 crore students.

Henley Passport Index

- The Henley Passport Index 2021, which measures the strength of passports of different nations and is widely acknowledged to be the most reliable of such rankings has been released.
- It is prepared by Henley and Partners, a ***London-based global citizenship and residence advisory firm.***
- The ranking is based on data from the International Air Transport Association (IATA), a trade association of some 290 airlines, including all major carriers.
- The score is the sum of the number of countries accessible by that passport holder without requiring pre-departure government approval for visa-types including a visitor's permit, visa on arrival or an electronic travel authority (ETA).

Highlights

- ***Japan***, once again topped the list with a visa-free score of 191. The nation has been holding the position for three consecutive years, either solely or jointly, with Singapore.

- This year, Singapore sits at the second position with 190 countries. South Korea ties with Germany in third place (with a score of 189).
- Countries like the United States, the United Kingdom, New Zealand and Switzerland are tied at the seventh position, with a visa free score of 185. India ranks 85th with a visa-free score of 58.
- ***Syria, Iraq and Afghanistan*** continue to be the countries with the worst passport to hold with a passport score of 29, 28 and 26 respectively.

Analysis

- Passport rankings point towards the strength of diplomatic relations between countries.
- Over the index's 16-year history, the top spots were traditionally held by EU countries, the UK, or the US. However, there is a trend now for Asia Pacific countries to be the most powerful.
- With the US and the UK still facing significant challenges related to the virus, and the passport strength of both countries continuing to steadily erode, the balance of power is shifting.
- Just a year ago all indications were that the rates of global mobility would continue to rise, that travel freedom would increase, and holders of powerful passports would enjoy more access than ever before. The global lockdown has negated these projections.

GAVI Board

- Dr. Harsh Vardhan, Union Minister of Health and Family Welfare has been nominated by the Global Alliance for Vaccines and Immunisation (GAVI) as a member on the GAVI Board.
- He will be representing the South East Area Regional Office (SEARO)/ Western Pacific Regional Office (WPRO) constituency on the GAVI Board. He will be representing India from January 1, 2021 till December 31, 2023.
- GAVI is an international public private organisation that was created in the year 2000 to improve access to new and underused vaccines for numerous vaccine-preventable diseases for children who live in the world's poorest countries.
- It has helped vaccinate more than 822 million children in the world's poorest countries, preventing more than 14 million future deaths.
- The GAVI Board is responsible for strategic direction and policymaking, oversees the operations of the Vaccine Alliance and monitors programme implementation.
- With membership drawn from a range of partner organisations, as well as experts from the private sector, the Board provides a forum for balanced strategic decision making, innovation and partner collaboration.

National Girl Child Day

- The **National Girl Child Day** is celebrated in India every year on January 24. The Ministry of Women and Child Development initiated this celebration in 2008.
- The objective of the day is to:
  - Highlight the inequalities faced by girls in the country.
  - Promote awareness about the rights of a girl child.
  - Generate awareness on importance of girl education, health and nutrition.

- This year the day is being celebrated across the country with the objective of raising awareness on the issue of declining Child Sex Ratio (CSR). In India, the **child sex ratio** is defined as the number of females per thousand males in the age group 0–6 years.
- The celebrations will also mark the six-year anniversary of the Beti Bachao, Beti Padhao (BBBP) scheme. The state of Punjab has announced January 2021 to be the month of Girl Child.

Initiatives Under Various Ministries

Various ministries of the government of India have undertaken various initiatives and programmes for progress and empowerment of the girls.

A. Initiatives under Ministry of Youth Affairs & Sports

- An exclusive component of the Khelo India Scheme focuses on barriers faced by girls & women to take part in sporting activities. It works on creating mechanisms to overcome these barriers and increase their participation.
- There is 161% increase in women participation at the Khelo India Games from 2018 to 2020. 86 women athletes were a part of the Target Olympic Podium Scheme (TOPS) program in September 2018, which has now increased to 190 (220% increase).

B. Initiatives under Ministry of Skill Development

- Ministry of Skill Development is making efforts for building a supportive ecosystem for skilling women in India.
- Out of 33 National Skill Training Institutes (NSTIs), 19 NSTIs are providing skill training exclusively for women.

C. Initiatives under Department of Science and Technology (DST)

- The Department of Science and Technology (DST) has launched **Knowledge Involvement in Research Advancement through Nurturing (KIRAN) scheme** to provide various career opportunities to women scientists and technologists.
- It is primarily aimed to bring gender equality in Science & Technology sector by including more women talent in the research & development domain through various programmes.
- **Program for Gender Advancement in S&T Institutions** which started in 2020, aims to develop a Charter for Gender Equality in STEM to bring transformational changes at institutional level.

D. Initiatives under Ministry of Education

- National Education Policy (NEP)-2020 has introduced **Gender Inclusion Fund** for targeting the development of girl child. The government will constitute the fund to provide quality and equitable education for all girls.
- The fund will focus on ensuring 100% enrolment of girls in schooling and decrease gender gaps at all levels.
- NEP 2020 will also focus on the safety and security of school-going girls both inside and outside the campus.
- Department of School Education and Literacy is implementing **Samagra Shiksha** - an Integrated Scheme for School Education (ISSE) under which various interventions have been targeted for girls' education such as--
    - Opening of schools in the neighbourhood as defined by the State.
    - Provision of free text-books to girls up to Class VIII.

- Uniforms to all girls, SC, ST children and Below Poverty Line (BPL) children up to class VIII.
- Provision of separate gender wise toilets in all schools.
- Provision for self-defence training for girls from classes VI to XII.
- In order to provide quality education to girls from disadvantaged groups, Kasturba Gandhi Balika Vidyalayas (KGBVs) have been sanctioned in Educationally Backward Blocks (EBBs) under Samagra Shiksha.

Satyameva Jayate Programme

- The Kerala Government has announced a digital media literacy programme called 'Satyameva Jayate' (Truth alone triumphs).
- The programme would be taught at schools and colleges, which would be encouraged to develop curriculum on digital media literacy.
- Large number of people are now depending upon social media for news updates. Due to this, the chances for the spread of lies and wrong information through social media, which do not have any editorial supervision, has widened.
- The Satyameva Jayate programme would cover five points:
  - What is wrong information;
  - Why they are spreading fast;
  - What precautions have to be adopted while using the content of social media;
  - How those who spread fake news make profit; and
  - What steps can be initiated by citizens.

Smart Classes For Rural Schools

- RailTel, the telecom PSU of Indian Railways, has made a proposal to Ministry of Education to equip around 600 schools run by the Central Government in rural areas with the ability to hold smart classes.
- Currently, the pandemic has forced the teachers and students to migrate to virtual platforms and adopt IT-enabled interactive means for teaching.
- The proposal to power remote government schools with high-speed broadband and create an Internet of Things environment for learning is an extension of those gains.
- The plan is to create end-to-end e-learning solutions for the schools, riding on the solid Optical Fibre Cable network, which is the backbone of Indian Railways telecom operations.
- The proposal will impact around 3.5 lakh students who are enrolled in these schools, which are run by the Central government predominantly for meritorious students in rural India.
- RailTel, has already provided such connectivity to 723 institutions of higher learning under the Centre's National Knowledge Network programme, with broadband speed of up to 10 gigabytes per second.

RailTel

- RailTel is a Miniratna (public sector) enterprise focusing on providing broadband and VPN services.
- It was formed in 2000 with the objective of creating nationwide broadband, telecom and multimedia network, to modernise train control operation and safety system of Indian Railways.

- RailTel's network passes through around 5,000 stations across the country, covering all major commercial centres.

Special Marriage Act

- The Allahabad High Court has ruled that couples seeking to solemnise their marriage under the Special Marriage Act, 1954 can choose not to publish the mandatory 30-day notice of their intention to marry.
- The Special Marriage Act, 1954 provides for civil marriage (or "registered marriage") for people of India and all Indian nationals in foreign countries, irrespective of the religion or faith followed by either party. Marriages solemnized under Special Marriage Act are not governed by personal laws.
- The Act requires parties to give a 30-day public notice of their intention to marry. The public notice is displayed at the office of the marriage officer, inviting potential objections to the marriage.

Court's Order

- The court held that if the couple does not intend publish such a notice, the marriage officer has to solemnise their marriage without publication of 30 days' notice.
- Making such publication mandatory would invade in the fundamental rights of liberty and privacy. It would also affect the couple's freedom to choose marriage without interference from state and non-state actors.
- In case such individuals applying to solemnize their marriage under the Act themselves desire that they would like to have more information about their counterparts, they can opt for publication of notice.
- Such publication of notice and further procedure would not be violative of their fundamental rights as they adopt the same of their free will.
- The court also noted that despite the secular law for marriage, a majority of marriages in the country happen as per religious customs. It said that when marriages under personal law do not require a notice or invitation for objections, such a requirement is obsolete in secular law and cannot be forced on a couple.
- The Court cited the landmark progressive rulings on the right to privacy by the Supreme Court, including the 2017 Aadhaar case which recognised the right to privacy as a fundamental right.
- It also cited the 2018 ruling which held that the right to choose a partner is a fundamental right and the 2018 ruling in which the court decriminalised homosexuality.

Impact

- The provision of displaying notices has made couples (especially interfaith couples) a target of familial and societal harassment from vigilante groups.
- As the Special Marriage Act is a central legislation, couples across the country seeking to marry under the law would benefit from the liberal reading of the provisions by the Court and will have the freedom to choose their partners without interference or pressure from others.

Freight Portal

- The Ministry of Railways has launched an exclusive portal called Freight Business Development Portal to promote and develop the railways' freight business.

- The railways has also invited aggregators, truckers, warehouse owners and labour providers to offer their services to its more than 9,000 freight customers at over 4,000 freight terminals.

Features of the portal

- It will act as a one-stop, single-window solution for all the needs of existing as well as new freight customers. It has been designed to replace physical processes with online ones to minimize the need of human to human interaction.
- The portal will introduce the railways' freight business, list various benefits, guide the customers while searching for the most suitable terminal with the details of various terminal facilities and logistics services available.
- It will assist them in choosing the right wagon and present the expected charges and estimated time for their planned freight transportation.
- Customers can also live-track their consignments and use single-click applications for various services — discount schemes, diversion, re-booking, demurrage waivers, stacking permissions and many more.

Benefits

- It will ensure that all operations stay customer centric, reduce the costs for logistics providers and also simplify the process of goods transportation.
- It will help to improve ease of doing business by enhancing transparency and providing professional support.

Agri-Hackathon 2020

- The Ministry of Agriculture & Farmers' Welfare, recently inaugurated the Virtual Agri-hackathon 2020 in association with Indian Agricultural Research Institute (IARI).
- The 2-month long event is the first of its kind & the largest virtual event in the history of Indian agriculture.
- It will bring together the most important stakeholders from industry & government alongside India's young bright minds, creative startups and smart innovators, to generate solutions in the farm sector.
- The hackathon will accept innovations & ideas on farm mechanization, precision agriculture, supply chain & food technology, waste to wealth, green energy, etc.
- 24 best innovations from different focus areas will be awarded a cash prize, incubation support, pre-seed & seed-stage funding of 5 Lakhs & 25 Lakhs respectively, along with the opportunity of field trial and access to technology validation.

Investment Trends Monitor

The United Nations Conference on Trade and Development **(UNCTAD)** has released the 'investment trends monitor' for the year 2020.

Global Highlights

- Global foreign direct investment (FDI) collapsed in 2020 by 42 per cent to an estimated USD 859 billion from USD 1.5 trillion in 2019.
- Such a low level was last seen in the 1990s and is more than 30 per cent below the investment levels that followed the 2008-2009 global financial crisis.

- The decline in FDI inflows was concentrated in developed countries, where fund flows fell by 69 per cent to an estimated USD 229 billion.
- The UK and Italy saw an over 100% decline in FDI inflows, followed by Russia (96% drop), Germany (61%), Brazil (50%), the US (49%), Australia (46%) and France (39%).
- The United States recorded a 49 per cent drop in FDI, falling to an estimated USD 134 billion. The decline took place in wholesale trade, financial services and manufacturing.
- East Asia was the largest host region, accounting for one-third of global FDI in 2020.
- China was the world's largest FDI recipient, with flows to the Asian giant rising by 4 per cent to USD 163 billion.

Highlights From Developing Economies

- The decline in FDI in developing economies was relatively low (12%) and the share of developing economies in global FDI reached 72% – the highest share on record.
- The fall in FDI flows across developing regions was uneven, with 37% fall in Latin America and the Caribbean, 18% fall in Africa and a 4% fall in developing Asia.
- Although overall FDI flows in developing economies are relatively strong, greenfield announcements fell by 46 per cent and international project finance fell by 7 per cent.
- These investment types are crucial for productive capacity and infrastructure development and thus for sustainable recovery prospects.
- Greenfield investment is a kind of FDI, in which the parent company creates a subsidiary in the host country and builds its operations.

Highlights from India

- Foreign Direct Investment into India increased by 13 per cent in 2020. The report noted that acquisitions in India's digital economy was the largest contributor to this rise.
- India attracted record number of deals in information consulting and digital sectors, including e-commerce platforms, data processing services and digital payments.
- Cross-border merger and acquisition (M&A) sales grew 83 per cent to USD 27 billion.

Future Outlook

- Despite projections for the global economy to recover in 2021, the UNCTAD expects FDI flows to remain weak due to uncertainty over the evolution of the COVID-19 pandemic.
- Investors are likely to remain cautious in investing capital to new overseas projects.
- Weak macroeconomic situations in major emerging markets, and uncertainty about the global policy environment for investment will all continue to affect FDI in 2021.

Bad Banks

- With commercial banks set to witness an increase in NPAs, or bad loans, due to the Covid-19 pandemic, Reserve Bank of India (RBI) recently agreed to look at the proposal for the creation of a bad bank.
- Technically, a bad bank is an asset reconstruction company (ARC) or an asset management company that takes over the bad loans of commercial banks, manages them and finally recovers the money over a period of time.

- The bad bank is not involved in lending and taking deposits, but helps commercial banks clean up their balance sheets and resolve bad loans.
- The takeover of bad loans is normally below the book value of the loan and the bad bank tries to recover as much as possible subsequently.

Background

- In India the idea of a bad bank began a few years ago, when RBI had initiated an asset quality review (AQR) of banks and found that several banks had suppressed or hidden bad loans to show a healthy balance sheet.
- Despite a series of measures by the RBI for better recognition and provisioning against NPAs, as well as massive capitalisation of public sector banks by the government, the problem of NPAs continues in the banking sector, especially among the weaker banks.

Proportion of NPAs

- The RBI noted in its recent Financial Stability Report that the gross NPAs of the banking sector are expected to increase up to 13.5% of advances by September 2021, from 7.5% in September 2020, under the baseline scenario.
- The report warned that if the macroeconomic environment worsens into a severe stress scenario, the ratio may escalate to 14.8%.
- Among bank groups, the NPA ratio of PSU banks, which was 9.7% in September 2020, may increase to 16.2% by September 2021 under the baseline scenario.
- The K V Kamath Committee, also noted that corporate sector debt worth Rs 15.52 lakh crore has come under stress after Covid-19 hit India, while another Rs 22.20 lakh crore was already under stress before the pandemic.
- This effectively means Rs 37.72 crore (72% of the banking sector debt to industry) remains under stress. This is almost 37% of the total non-food bank credit.

Examples In Other Countries

- US-based Mellon Bank created the first bad bank in 1988. Bad banks found resonance during the global financial crisis of 2007-09.
- Many other countries had set up institutional mechanisms such as the Troubled Asset Relief Programme (TARP) in the US to deal with a problem of stress in the financial system.
- However, resolution agencies or ARCs set up as banks, which originate or guarantee lending, have ended up turning into reckless lenders in some countries.

Scheme For Ethanol Distillation

- The Union Cabinet has approved a modified scheme to increase ethanol distillation capacity in the country for producing 1st Generation (1G) ethanol from feedstocks such as cereals (rice, wheat, barley, corn & sorghum), sugarcane, sugar beet etc.
- In India, Ethanol Blended Petrol (EBP) programme was launched in 2003. The programme was launched to promote the use of alternative and environment friendly fuels and to reduce import dependency for energy requirements.
- The government has set targets of 10% ethanol blending of petrol by 2022, 15% blending by 2026 & 20% blending by 2030.

Status Of Sugar Production In India

- There has been surplus production of sugar in the country since 2010-11. In normal sugar season (October- September) about 320 Lakh Metric Tonnes (LMT) of sugar is produced and the domestic consumption is around 260 LMT.
- This surplus sugar of 60 LMT in normal sugar season puts pressure on domestic ex-mill prices of sugar. The excess stocks remain unsold and blocks funds of sugar mills worth around ₹19,000 crore.
- To deal with surplus stocks of sugar, sugar mills have been exporting sugar, for which the government has been giving financial assistance.
- Since, India is a developing country, it can export sugar through government's financial assistance only up to year 2023 as per WTO arrangements.
- Hence, the government has planned to divert excess sugarcane and sugar for ethanol production to deal with surplus stocks.

Insufficient Distillation Capacity

- However, existing ethanol distillation capacity in the country is not sufficient to divert surplus stocks of sugar & to produce ethanol to supply to Oil Marketing Companies (OMCs) for blending with petrol.
- Till year 2014, ethanol distillation capacity of molasses-based distilleries was less than 200 crore litres. However, in past 6 years the capacity of molasses-based distilleries have more than doubled and are currently at 426 crore litres.
- In ethanol supply year 2013-14, supply of ethanol to OMCs was less than 40 crore litres with blending levels of only 1.53 %. However, production of fuel grade ethanol and its supply to OMCs has increased by more than 4 times in the past 6 years.
- In order to achieve the blending targets, the government is making efforts to further double the ethanol distillation capacities in the country by 2024.

Modified Scheme To Increase Distillation Capacity

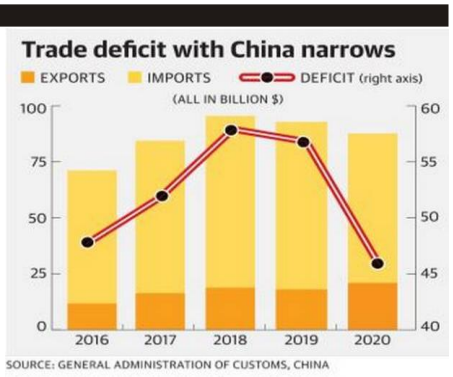
- As per the recently announced modified scheme to increase distillation capacity in the country, interest subvention of ₹4,573 crore will be given for new distilleries producing ethanol.
- Interest subvention would be available to only those distilleries which will supply at least 75% of ethanol produced from the added distillation capacity to OMCs for blending with petrol.
- Government would bear interest subvention for five years including one year moratorium against the loan taken by distilleries, at 6 per cent per annum or 50 per cent of the rate of interest charged by banks, whichever is lower.

Benefits Of The Scheme

- The scheme would increase production of ethanol from various feed stocks and facilitate in achieving blending targets of ethanol with petrol.
- It would help to promote ethanol as a fuel which is indigenous and help to improve the environment, due to lower emissions.
- It will also result in savings in the oil import bill and will also ensure timely payment of dues to farmers.

Trade Deficit With China

- India's trade with China last year fell to the lowest since 2017, with the trade deficit declining to a five-year low of $45.8 billion, the lowest since 2015.



- Two-way trade in 2020 reached $87.6 billion, down by 5.6%, according to new figures from China's General Administration of Customs (GAC).
- India's imports from China accounted for $66.7 billion, declining by 10.8% year-on-year and the lowest figure since 2016. India's exports to China, however, rose to the highest figure on record, for the first time crossing the $20 billion-mark and growing 16% last year to $20.86 billion.
- While there was no immediate break-up of the data in 2020, India's biggest import in 2019 was electrical machinery and equipment, worth $20.17 billion.
- Other major imports in 2019 were organic chemicals and fertilisers, while India's top exports were iron ore, organic chemicals, cotton and unfinished diamonds.
- Whether 2020 is an exception or marks a turn away from the recent pattern of India's trade with China remains to be seen.
- While India's imports from China declined, so did India's imports overall with a slump in domestic demand last year.
- Till now, there is no evidence to suggest India has replaced its import dependence on China by either sourcing those goods elsewhere or manufacturing them at home.
- The trade pattern of the coming 12 months, as India's economy begins to rebound, will reveal whether the past year was an exception or a turning point.

Pradhan Mantri Kaushal Vikas Yojana 3.0

- The Ministry of Skill Development and Entrepreneurship (MSDE) recently launched Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 3.0, in nearly 600 districts making 300+ skill courses available to the youth.
- PMKVY is the flagship scheme for skill training of youth to be implemented by the Ministry of Skill Development and Entrepreneurship through the National Skill Development Corporation (NSDC).
- The objective of the scheme is to enable a large number of Indian youth to take up industry relevant skill training that will help them in securing a better livelihood.

PMKVY 3.0

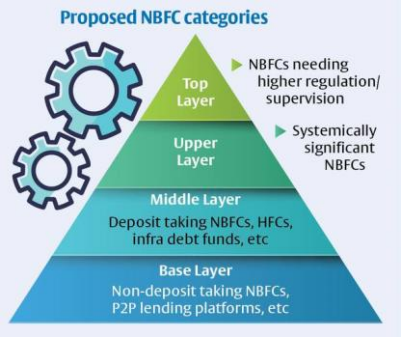
- PMKVY 3.0 will be implemented in a more decentralized structure with greater responsibilities and support from States/UTs and Districts.
- By taking the bottom-up approach to training, PMKVY 3.0 will identify job roles that have demand at the local level and skill the youth, linking them to these opportunities.
- It will focus on demand-driven skill development, digital technology and Industry 4.0 skills. The new scheme will be more trainee- and learner-centric.
- While the National Educational Policy puts focus on vocational training for a holistic growth and increased employability, PMKVY 3.0 role will be a propagator of vocational education at an early level for youth to capitalize on industry-linked opportunities.
- Moreover, it will encourage healthy competition between states by making available increased allocation to those states that perform better.

Regulatory Structure For NBFCs

- The Reserve Bank of India (RBI) recently proposed to introduce a scale-based regulatory framework for non-banking financial companies (NBFC) to segregate larger entities and expose them to a stricter set of "bank-like" rules.
- The regulatory and supervisory framework of NBFCs shall be based on a four-layered structure– Base Layer, Middle Layer, Upper Layer and a possible Top Layer.
- The NBFC sector has seen tremendous growth in recent years. In last five years alone, size of balance sheet of NBFCs (including HFCs) has more than doubled from Rs 20.72 lakh crore (2015) to Rs 49.22 lakh crore (2020).
- The proposal is aimed at protecting financial stability while ensuring that smaller NBFCs continue to enjoy low regulations and grow with ease.

Base Layer

- There will be a base layer (NBFC-BL), which will have NBFCs with an asset size of up to Rs 1,000 crore.
- It will comprise non-deposit taking NBFCs, peer to peer lending platforms, account aggregators, Non-Operative Financial Holding Company etc.



Middle layer

- The middle layer (NBFC-ML) will be populated by non-deposit taking but systemically important NBFCs, deposit taking NBFCs, housing finance companies, and others.
- The regulatory regime for this layer shall be stricter compared to the base layer.

Upper Layer

- A total of not more than 25 to 30 NBFCs will occupy this layer (NBFC-UL). The top 10 NBFCs, in terms of their asset size, will be included in the upper layer, irrespective of any other factor.
- It will be populated by NBFCs that have increased in size and have become the largest set of borrowers from the financial system with deep interconnectedness.
- Due to this they have large potential for a systemic spillover of risks and have the ability to impact financial stability.
- The regulatory framework for NBFCs falling in this layer will be bank-like, with suitable modifications.

Top layer

- As far as the top layer (NBFC-TL) is concerned, it is supposed to remain empty, but the RBI can populate it with upper-layer NBFCs if they are of the view that there has been unsustainable increase in the systemic risk spillovers from specific NBFCs in the upper layer.
- A host of parameters such as size, leverage, interconnectedness, substitutability, complexity, nature of activity of the NBFC, etc, will be considered to identify NBFCs that can be shifted to the top layer.
- These NBFCs will be subjected to the regulations proposed specifically for them.

Startup India Seed Fund

- The Prime Minister recently launched a **Startup India seed fund** worth Rs 1,000 crore at the Prarambh Startup India International Summit.

- The Prarambh Startup India International Summit marked the fifth anniversary of the Startup India initiative launched on January 16, 2016.
- The Start-up India seed fund will enable startups to raise initial funding, which will help them to start and grow new startups.
- The new seed fund for startups comes after the Ministry of Electronics and Information Technology had last year initiated a similar fund to identify startups and give them financial help.
- Apart from these seed funds, over the last year several competitions have been conducted to award startups working in several areas, such as video-conferencing, artificial intelligence among others.

Startup India Scheme

Launched in January 2016, by the Ministry of Commerce and Industry (Department for Promotion of Industry and Internal Trade), Startup India is a flagship initiative of the government that aims to:

- Build a strong ecosystem that supports the growth of startup businesses.
- Drive sustainable economic growth.
- Generate large scale employment opportunities.

Eligibility Criteria

- Incorporated as a private limited company or registered as a partnership firm or a limited liability partnership.
- Should be working towards innovation/ improvement of existing products, services and processes and should have the potential to generate employment/create wealth
- Should be headquartered in India.
- Should have been incorporated not more than 10 years ago.
- Annual turnover less than Rs 100 crores in any of the previous years.

Growth In The Startup Ecosystem

- India is the world's third largest startup ecosystem and there are over 41,000 startups in the country, of which more than 5,700 startups are in the IT sector.
- As many as 3,600 startups operate in the health sector, while nearly 1,700 startups are present in the agriculture sector.
- In 2014 there were only four startups in the unicorn club, but today there are more than 30 startups in the unicorn club. In fact, 11 startups entered the unicorn club in 2020 itself.
- A **unicorn** is a term used to describe a privately held startup company with a value of over $1 billion.
- Around 45 per cent startups are in tier 2 and tier 3 cities, that work as the brand ambassadors of the local products. These startups are changing the demographic characteristics of businesses along with creating employment opportunities.

Kala Utsav 2020

- The Kala Utsav 2020 was recently organised by Ministry of Education.
- Kala Utsav is an initiative of the Department of School Education & Literacy, Ministry of Education. Under Rashtriya Madhyamik Shiksha Abhiyan (RMSA).
- It aims to promote arts in education by nurturing and showcasing the artistic talent of school students at the secondary stage in the country.

- Though India has a long tradition of art and artistic practices, a uniform process of identifying artistic talents in school education is yet to be developed.
- In the context of education of Arts (Music, Theatre, Dance, Visual Arts and Crafts), the initiative is guided by the recommendations of the National Curriculum Framework 2005 (NCF-2005).

Oldest Cave Art

- Archaeologists have discovered the world's oldest known cave art — a life-sized picture of a wild pig that was painted at least 45,500 years ago in Indonesia.
- The cave painting uncovered in South Sulawesi consists of a figurative depiction of a warty pig, a wild boar that is endemic to this Indonesian island.
- The Sulawesi warty pig painting was found in the limestone cave of Leang Tedongnge in South Sulawesi island.
- Painted using red ochre pigment, the pig appears to be observing a fight or social interaction between two other warty pigs.
- The previously oldest dated rock art 'scene' at least 43,900 years old, was a depiction of hybrid human-animal beings hunting Sulawesi warty pigs and dwarf bovids.
- These pigs were the most commonly portrayed animal in the ice age rock art of the island, suggesting they have long been valued both as food and a focus of creative thinking and artistic expression.

Jallikattu

- The Jallikattu event was recently held in the state of Tamil Nadu amid Pongal celebrations.
- Jallikattu is a bull-taming sport celebrated in the second week of January, during the Tamil harvest festival, Pongal. It is renowned as an ancient sport and is believed to have been practised over 2,000 years ago.
- The sport is popular in Madurai, Tiruchirappalli, Theni, Pudukkottai and Dindigul districts — known as the Jallikattu belt.

Jallikattu's Significance in Tamil culture

- Jallikattu's links with Pongal has transformed it into a symbol of Tamil culture and pride. It is considered a traditional way for the peasant community to preserve their pure-breed native bulls.
- At a time when cattle breeding is often an artificial process, conservationists and peasants argue that Jallikattu is a way to protect these male animals which are otherwise used only for meat if not for ploughing.
- The event is about showcasing the quality of cattle, the breeding skills of cattle rearers, the centrality of cattle in an agrarian economy, and the power and pride they bring to farmers and land-owning castes in rural Tamil Nadu.

Evolution Of Legal Battle Related To Jallikattu

- The practice of Jallikattu has been debated for long, with animal rights groups and the courts concerned over issues of cruelty to animals and dangerous nature of the sport that causes death and injuries to both the bulls and human participants.
- In 2007, the Animal Welfare Board of India (AWBI) and the animal rights group PETA filed petitions against Jallikattu as well as bullock cart races, which led to a ban on Jallikattu.

- However, in 2009, the Tamil Nadu government passed an act that allowed conducting Jallikattu with strict conditions to ensure the protection of both bulls and bull tamers. This was challenged by the animal rights activists in the Supreme Court.
- Later in 2011, the Ministry of Environment and Forests (MoEF) issued a notification, which added bulls to the list of animals whose training and exhibition is prohibited. This meant they could not be used in sports like Jallikattu. Then eventually in 2014, the Supreme Court banned Jallikattu.
- In 2014, the Supreme Court had ruled that the Prevention of Cruelty to Animals Act, 1960, overrides the so-called tradition and culture.
- The Supreme Court referred to evidence shown PETA and AWBI that the Jallikattu animals were physically and mentally tortured.
- The court referred to Upanishadic wisdom and advised Parliament to raise rights of animals to that of constitutional right to protect their dignity and honour.

Current Status

- In January 2017, massive protests took place across Tamil Nadu against the ban. The same year, the Tamil Nadu government released an ordinance to allow Jallikattu in the state; this was later ratified by the President.
- PETA challenged the state move, arguing it was unconstitutional. In 2018, the Supreme Court referred the Jallikattu case to a Constitution Bench, where it is pending now.
- In this pending case, the main question to be resolved is whether the Jallikattu tradition can be protected as a cultural right of the people of Tamil Nadu which is a fundamental right.
- As per Article 29 (1) any section of the citizens residing in the territory of India with a distinct language, script or culture shall have the right to conserve it.
- Like Tamil Nadu, Karnataka too passed a law to save a similar sport, called Kambala.
- Except in Tamil Nadu and Karnataka, where bull-taming and racing continue to be organised, these sports remain banned in all other states including Andhra Pradesh, Punjab and Maharashtra due to the 2014 ban order from the Supreme Court.

Gulf Leaders Sign Solidarity and Stability Deal

The Gulf leaders have signed an agreement on **regional "solidarity and stability**" at the Al-Ula summit. This deal is aimed at resolving a three-year embargo against Qatar.

Key Highlights

- In the Al-Ula Declaration, the GCC pledged to restore collaboration among the member countries, strengthen military integration to face emerging challenges, cooperate on health issues and further integrate their economies.
- The GCC also agreed to implement joint defence and security systems and a unified foreign policy for all the members.

Background:

- Tensions between the two neighbors spilt into the open in mid-2017, when Saudi Arabia cut diplomatic, trade, and travel ties with Qatar. Later, the UAE, Bahrain and Egypt also joined the blockade.

- These countries **accused Doha of backing radical Islamist movements** (they were particularly concerned with the activities of the Muslim Brotherhood with Qatari support) and cozying up to Saudi Arabia's arch-rival Iran.
- The bloc also set out **13 demands for Qatar**, including closing the Al Jazeera news network and downgrading links with Iran. Another request was that Qatar close a **Turkish military base on its territory**.
- Doha has flatly denied the requests, triggering the standoff. Qatar's leaders had said the boycott aimed to undermine the country's national sovereignty.
- It is not clear if Qatar accepted any of these demands listed by Riyadh and its backers in order to achieve the deal.

Strategic Importance of Qatar

- Qatar is a small but strategically crucial country located on a peninsula bordering the Persian Gulf.
- It is the home to the largest US military base in the region. The rich nation has some 2.3 million inhabitants, the overwhelming majority of whom are expats.
- It shares its only land border with the much larger Saudi Arabia.



Why Bringing Qatar back into its fold was important for GCC?

- There has been heightened **US-Iran tensions** in the Gulf. Iranian nuclear scientist Mohsen Farkhrizadeh was assassinated in November 2020.
- There have been sabotage attacks on nuclear, industrial and petrochemical sites in Iran in the recent past. Hence, the leaders were afraid that the Iran might take advantage of the feud.
- Iranian regime's nuclear and ballistic missile program poses a threat to the gulf region. Now that "**Abraham Accord**" has normalised the ties between Gulf countries and Israel, the leaders cannot afford to have internal fight.
- Qatar is the world's biggest supplier of LNG and Egypt and UAE are key recipients. Any instability in the region might affect the oil price which in turn will affect the world economy.

Russia Withdraws from Open Skies Treaty

Russia announced that it was **pulling out of the Open Skies treaty OST)**. The treaty is an accord between over 30 countries that allows participants to fly unarmed reconnaissance flights over any part of their fellow member states.

Why Did Russia Leave After The US?

- A contentious issue regarding Russia's compliance with the OST was its alleged **reluctance to allow flights over Kaliningrad**, its exclave in Eastern Europe that sits between NATO allies Lithuania and Poland.
- Russia defended its position by saying that the restrictions were permissible under treaty rules, and gave the example of the US imposing similar limits on flights over Alaska.
- After the US left the OST, Russia sought assurances from NATO allies who continued to remain on the treaty that they would not transfer data collected by their flights over Russia to Washington.

- However, as per Russian statement, these requests were not backed by the NATO members, prompting it to leave the treaty.
- The United States left the Open Skies arms control and verification treaty in November 2020, accusing Russia of violating it.

Scottish Independence Referendum

- Scotland's leader said that she intends to hold a **legal referendum on independence from the UK**, if she wins Scottish elections scheduled for May.
- After the BREXIT, there has been a rising support for Scottish independence.
- Scotland voted to **remain in the UK** by a margin of 55 per cent-45 per cent in a 2014 referendum.
- However, a majority of Scots also backed staying in the European Union in the subsequent 2016 Brexit vote. This has led to the fresh demand for a new independence vote.

China Holds Third South Asia Multilateral Meet

China has held its **third multilateral dialogue** with countries from South Asia. The aim of this dialogue was to take forward closer cooperation on fighting COVID-19 and coordinating their economic agendas.

Key Highlights:

- The third dialogue, held virtually, brought together every country in the region **barring India, Bhutan and the Maldives**.
- The meeting was aimed at "**anti-epidemic cooperation and poverty reduction cooperation**". It reflects a **new approach in Beijing's outreach to the region**.
- In the previous two rounds, the countries also discussed how to work more closely together under China's Belt and Road Initiative (BRI) to **boost their post-COVID-19 economic recovery**.
- China is also planning for CPEC extension. At **quadrilateral dialogue** with Afghanistan, Nepal and Pakistan, China proposed extending the China-Pakistan Economic Corridor (CPEC) to Afghanistan.
- It also proposed to take forward an **economic corridor plan with Nepal**, called the **Trans-Himalayan Multi-dimensional Connectivity Network**.

US President Donald Trump Impeached

- The House of Representatives made Donald Trump the **first US president to be impeached twice**.
- Trump was formally charged with inciting an insurrection. He had delivered a speech to thousands of supporters shortly before the pro-Trump mob rampaged through the Capitol.
- Earlier, in December 2019, Trump was impeached on two charges - that the president had abused his power and that he had obstructed Congress.

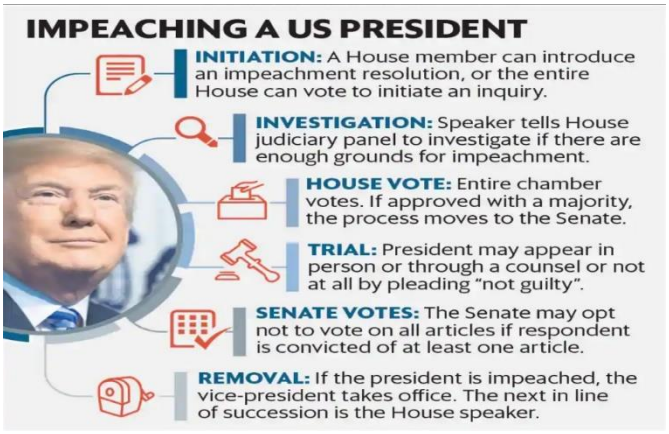
Can A Former President Be Impeached?

- Since Trump has relinquished the Presidency on January 20 and the trial is yet to begin in the Upper House, many analysts have raised this question.
- However, constitutional experts believe that a "**late impeachment" is constitutional**. According to them, impeachment is used not just to remove officials from office, but also disqualify them from future office.

- That means there is still a reason to try Trump after he leaves the White House.

Process of Impeachment:

- The process of impeachment has to be started by the House of Representatives (Lower House) and **only needs a simple majority (out of total 435 votes) to pass**.
- If the House approves articles of impeachment, or "impeaches" a president, he or she would then **be subject to trial in the US Senate**.
- The trial will be held in the Senate (Upper House) as it has "the sole power to try all impeachments". Here, a **two-thirds vote (out of total 100 votes) is necessary for removal**.
- The **Chief Justice of the US Supreme Court** has the duty of presiding over impeachment trials in the Senate.
- Under the US Constitution, the **president can be removed** from office for **"treason, bribery, or other high crimes and misdemeanors.**" However, these terms have not been defined.
- **Criminal charges cannot be brought** against a sitting president, however, the Constitution **does allow for separate criminal charges once a president is removed**.



Is There Another Way to Remove a President?

- Under the Constitution's 25th Amendment, a president can be replaced by their vice president if the chief executive becomes unable to do the job, such as due to a disabling medical or mental condition.
- That process begins with the vice president and a majority of the members of the Cabinet notifying Congress that the president is not capable of performing the job.

History of Impeachment in US:

- So far, no US President has been removed from its post as a result of impeachment.
- In the past, impeachment process was initiated against three US President - Andrew Johnson, Richard Nixon and Bill Clinton.
- The House of Representatives did impeach two Presidents — Andrew Johnson (1968) and Bill Clinton (1998) — but the Senate did not convict them. As a result, they could not be removed.
- President Richard Nixon (1974) resigned before he could be removed.

US Eases Restrictions on Contact with Taiwan

- The US has decided to remove decades-old, self-imposed restrictions on how its diplomats and other officials interact with Taiwan.
- The announcement was the latest in a series of moves by the Trump administration to reshape the **US relationship with Taiwan**. It was announced just a little over a week before President-elect Joe Biden was sworn in.

Implication

- It seems the intent is to nudge unofficial US-Taiwan relations toward something more akin to official ties. It may also inflame tensions with Beijing.

- US has, time and again, indicated that its support for the "One China" policy was contingent on getting better trade deals, announced arms sales.

Taiwan Ambassador Attends Biden Inauguration

- Taiwan's de facto ambassador to the US was extended an invitation to President Joe Biden's inauguration. This was a first since 1979.
- This is a clear signal that the New US president wants to continue changes set in motion by Trump.
- The US **had ended formal relations with Taiwan in 1979** after switching recognition to China.

New START Treaty

- Russia has **approved the extension of New START Treaty** - the last remaining nuclear Russia-U.S. arms control treaty.
- The New **Strategic Arms Reduction Treaty** (New START) has been extended for five years.
- Negotiations to extend the treaty were stalled under Trump administration which insisted on tougher inspections for Russia. It also emphasised on the need to include China under the ambit of the treaty.

About New START Treaty

- It is a treaty between USA and Russia on Measures for the **Further Reduction and Limitation of Strategic Offensive Arms**. It was signed was signed in 2010 by the then US President Barack Obama and his Russian counterpart, Dmitry Medvedev.
- The Treaty has a verification regime. It includes on-site inspections and exhibitions, data exchanges and notifications related to strategic offensive arms and facilities covered by the Treaty.

UAE's New Citizenship Policy

- The United Arab Emirates has announced its new citizenship policy through which it plans to offer citizenship to a select group of foreigners.
- It has become the **first Gulf Arab nation** to formalize a process aimed at giving expatriates a bigger stake in the economy.

Key Highlights

- The policy shift is aimed at attracting talent to the UAE in a way that will boost growth. Investors, specialised talents and professionals including scientists, doctors, engineers, artists, authors and their families would be eligible for naturalisation under the new amendment to the citizenship law.
- The UAE cabinet, local emiri courts and executive councils will nominate those eligible for the citizenship under clear criteria set for each category.
- The law allows **receivers of the UAE passport to keep their existing citizenship**.

Existing VISA System of UAE

- Foreigners in the UAE usually have renewable visas valid for only a few years tied to employment.
- Recently, the government has made its visa policy more flexible, offering longer residencies for certain types of investors, students and professionals.
- In 2020, UAE extended its **golden visa system** – which grants 10-year residency in the Gulf state – to certain professionals, specialised degree holders and others.

Why UAE has Brough Changes in Its Policy?

- Foreign residents make up more than **80% of the U.A.E.'s population** and have for decades been a mainstay of its economy.
- Oil-rich Gulf states have been forced to consider longer residency and limited citizenship for foreigners as they seek to attract investment and diversify from oil.
- Earlier, in 2020, the UAE abolished the need for companies to have Emirati shareholders, in a major shake-up of foreign ownership laws aimed at attracting investment into an economy reeling from the coronavirus and a decline in oil prices.

Article 19 of UN Charter

Iran and six other nations lost their right to vote in the United Nations General Assembly (UNGA) for **not paying their dues**. They lost their voting right under **Article 19 of UN Charte**r.

Key Highlights

- The **six other countries** that have lost their voting rights are Libya, Niger, Congo Brazzaville, the Central African Republic, Zimbabwe, and South Sudan.
- On the other hand, **countries**- Somalia, Comoros and Sao Tome and Principie- will be allowed to have their voting rights despite missing their payments.
- This is due to the fact that these countries have sufficiently demonstrated that they are capable of paying.
- Iran owes USD 16.2 million to the UN and it has blamed **US sanctions for blocking the Islamic Republic** from paying its required contribution to the UN.

What Does Article 19 of UN Charter Say?

- A member shall have no voting rights if it has arrears in the payment of its financial contributions to the UN. It provides a grace period of two years.
- In other words, the Charter calls for the suspension of the voting rights of the countries if a **member state fails to pay its fees for more than two years**.

UN Budget & Contributions by Different Countries

- The United Nations receives its annual funding from the governments of its member states. **Countries are assessed an amount to pay biannually** to certain budgets while other contributions to the UN system are considered optional.
- The assessment, or **amount of money each UN member state is requested** to contribute to the regular budget, is created by the **Fifth Committee of the General Assembly every third year**.
- Contribution assessments are based on each member's ability to pay: factors such as national income, population and level of debt are considered when calculating a nation's assessment.
- The **US is the highest contributor** of the UN. The United States contributed 22% of the UN budget. US, together with China (12%), Japan and Germany finance 49% of the entire UN budget.

Contribution by India

- India, being a responsible country, has always paid its dues on time. As of 1 February 2021, **26 Member States have paid their regular budget assessments in full and India was one among** them by paying $24,123,943 to the UN.
- In January 2020, the UN had thanked India for paying its regular budget assessments, only the fourth nation to make full contributions within specified timeframe.

- In 2019, India was among the the handful of only 34 UN member states that had paid their regular budget dues in full and on time.

H-1B Visas and New Wage-based Rules

The US administration has **amended the H-1B visa norms** by changing the rules to give **priority to higher wages and skills** for selection of deserving candidates. The old lottery system of work visa selection will not be followed now.

Key Highlights:

- The new wage-based work visa regime will **now give priority in selection** of visas to applications of those employers where the "proffered wage equals or exceeds" the prevailing level in that area of employment. The proffered wage is the **wage that the employer intends to pay the beneficiary**.
- This will be done for both the 65,000 regular visas and the 20,000 advanced degree exemption visas.
- This regime will also **take into account the skill set** that the respective worker brings to the country and cross check it whether such skill set is available at the same cost among the US workers.
- Since it is not possible to individually judge the skill set of all the applicants to the H-1B work visa regime, **salaries are the best indicators** of the same as employers would pay high wages only to the most deserving candidates.

How it will affect Indian companies and students?

- The Indian companies, especially the staffing and outsourcing companies, will get affected by the new rules as their bottom line will be hit. **The companies will have to raise the wages for most H1-B visa workers** in order to keep a resource in their company.
- The biggest **setback will be faced by foreign students**, fresh graduates and those who only have couple of years' experiences. As per one data, around 2 lakh Indian students are enrolled in universities across the US.
- In wage-based selection, employees, mostly senior executives that have higher salaries, have better chances of getting their petitions selected. This will leave out freshers whose salaries will not make them eligible for petitions.

[For detailed discussion about H1-B Visa and changes made by Trump administration in the past, please refer the topic "**H-1B Visa Suspended**" (Mains Section) from June 2020 edition of CA magazine]

India at the UN High Table

- India has entered the United Nations Security Council (UNSC) as a non-permanent member from January 2021. It will stay on the council for two years.
- India began its **eighth term as a non-permanent member** of the UNSC with the stated objective of raising its voice against terrorism, speaking for the developing world and bringing human-centric inclusive solutions to matters of global peace and security.
- During this tenure, India has been asked to **chair three important committees of the UNSC**. These are: **Taliban sanctions committee; Counter-terrorism committee (for 2022**); **Libya sanctions committee**

1. Taliban sanctions committee

- It is also called the 1988 Sanctions Committee. It oversees the sanctions measures imposed by the Security Council.

- Individuals and entities are designated on the 1988 Sanctions List as individuals, groups, undertakings and entities associated with the Taliban in constituting a threat to the peace, stability and security of Afghanistan. The listed entities and individuals are subject to an assets freeze, travel ban and arms embargo.
- Chairing this Committee at this juncture will help keep the focus on the presence of terrorists and their sponsors, threatening the peace process in Afghanistan.
- India has a strong interest and commitment to peace, security, development and progress of Afghanistan.

2. Counter-terrorism committee (for 2022)

- The chairing of this Committee has a special resonance for India, which has not only been at the forefront of fighting terrorism, especially cross-border terrorism but has also been one of its biggest victims.

3. Libya sanctions committee

- It is a very important subsidiary body of the council, which implements the sanctions regime, including a two-way arms embargo on Libya, an asset freeze, a travel ban, measures on illicit export of petroleum.

[Also refer the topic "**India Elected to UNSC's Non-Permanent Member Seat**" from June 2020 edition (Mains Section) of CA magazine]

India Pledges $150,000 for UN Peacebuilding

- India has announced a pledge of $150,000 to activities of the Peacebuilding Fund this year.
- As a part of its **2020-24 strategy**, the Peacebuilding Fund has put forth a comprehensive scenario covering a horizon of five years. The Fund requires 1**.5 billion dollars for 2020-24**.
- Peacebuilding Fund is the **UN's financial instrument** of first resort to sustain peace in countries or situations at risk or affected by violent conflict.
- India has been playing a very important role in UN peace building effort. So far, India has taken part in 49 Peacekeeping missions and has deployed around 180,000 Indians troops in different missions.
- It continues to assist countries bilaterally in post-conflict situations by providing substantial grants and soft loans apart from focusing on social and economic infrastructure.

India - UK Cooperation Against Cross-Border Terrorism

- The **14th meeting of the India-United Kingdom** Joint Working Group on Counter-Terrorism was held virtually.
- Both sides strongly condemned terrorism in all its forms and manifestations and emphasized the demand of strengthening international cooperation to combat the global terrorism including cross border terrorism in South Asia.

India-France to Expand Ecological Partnership

- India and France have launched an initiative for strengthening the **cooperation in sustainable development** and for working towards the global environment protection.

- Under this initiative, the two countries will be engaged in discussions on the critical areas of collaboration related to environment and other areas.
- Different programmes under this initiative will focus **on five main themes**: Climate Change; Environmental Protection; Biodiversity Conservation; Sustainable urban development; Development of renewable energies and energy efficiency
- Both sides decided to celebrate **Indo-French Year of the Environment**.

Document on the U.S. Strategic Framework for the Indo-Pacific

- The Trump administration, in early January 2021, **declassified a sensitive document** on the U.S. strategic framework for the Indo-Pacific' from 2018.
- The document **outlines objectives and strategies** with regard to China, North Korea, India and other countries in the Indo-Pacific region.

Key Highlights of the Document:

National Security Challenge of US

- **Maintaining "U.S. strategic primacy" in the region** and promoting a "**liberal economic order**" while **stopping China from establishing "illiberal spheres of influence"** is the U.S.'s first national security challenge.
- The **other two challenges** are ensuring that **North Korea does not threaten the U.S**. and **advancing U.S. economic leadership globally** while pushing "fair and reciprocal" trade.

Strategy with Regard to India

- One of the 'desired end states' of the U.S.'s strategy is for the **U.S. to be India's preferred partner on security issues.**
- The two countries should cooperate to **preserve maritime security** and **counter Chinese influence** in South Asia, Southeast Asia and other regions of mutual concern.
- USA aims to help India become a net security provider in the region via enhanced defence cooperation and interoperability.
- These objectives it plans to achieve via
  - enhanced defence cooperation and interoperability;
  - working with India "toward domestic economic reform**"**
  - greater leadership roles for India in the East Asia Summit and ASEAN Defence Ministers' Meeting Plus
- U.S. aims to **support India's "Act East" policy** and "its aspiration to be a leading global power, highlighting its **compatibility with the U.S., Japanese and Australian vision**" of the Indo-Pacific.
- **A strong India**, in cooperation with like-minded countries, **would act as a counterbalance to China,** is one of the underlying assumptions of the strategy.
- The U.S. expects that **India and Japan will increase defence investment** due to security competition driven by shifting regional power balances.

India-Nepal Joint Commission Meeting

The **sixth meeting of the India-Nepal Joint Commission** was co-chaired by the External Affairs Minister and the Minister of Foreign Affairs of Nepal in New Delhi.

Key Highlights:

- **Commencing way back in 1987**, the Joint Commission is predominantly a bilateral mechanism at the level of the Foreign Ministers with a mandate of reviewing the entire spectrum of Nepal-India bilateral relations.
- The two sides discussed the **expansion of the Motihari-Amlekhganj petroleum products pipeline to Chitwan** and the establishment of a **new pipeline on the eastern side connecting Siliguri to Jhapa in Nepa**l.
- Both sides welcomed the completion of the work on **first passenger railway line between India and Nepal from Jaynagar to Kurtha via Janakpu**r.
- Other cross-border rail connectivity projects, including a possible **Raxaul-Kathmandu broad gauge railway line**, were also discussed.
- Both sides welcomed the commencement of **construction of third Integrated Check Post (ICP) at Nepalgunj** (two other ICPs are at Birgunj and Biratnagar). India conveyed that construction of **new ICP at Bhairahwa** would be initiated shortly.
- Discussions were held on expediting joint hydropower projects, including the proposed **Pancheshwar Multipurpose Project**.
- India conveyed that it would undertake **two more cultural heritage projects** in Nepal, namely, the **Pashupatinath Riverfront Development** and the **Bhandarkhal Garden Restoration in Patan Durbar**, with **grant assistance**.

India-Japan Act East Forum

- India and Japan held the **fifth joint meeting of the India-Japan Act East Forum** (AEF)in New Delhi.
- The AEF reviewed progress of ongoing **projects in the North Eastern Region of India** in various areas including connectivity, hydropower, sustainable development, harnessing of water resources, and skill development.
- AEF provides a **platform for India-Japan collaboration in the North Eastern Region** under India's "Act East Policy" and Japan's vision for a "Free and Open Indo-Pacific". It was established in 2017.

India's Rice Exports to Vietnam

Vietnam, the **world's third biggest exporter of rice**, has started **buying the grain from rival India for the first time in decad**e.

Reason:

- Local prices in the country jumped to the highest in nine years due to dwindling supplies and continued Philippine buying.
- The global pandemic has also prompted Vietnam and other countries to stockpile rice. This has further affected the availability of grain in Vietnam.

In December 2020, the world's **biggest rice importer China** started **buying Indian rice for** the first time in at least three decades due to tightening supplies from Thailand, Myanmar and Vietnam and an offer of sharply discounted prices.

In 2020 India exported a record 14 million tonnes of rice.

- Vietnam's total paddy output in 2020 fell 1.85% to 42.69 million tonnes, equivalent to around 21.35 million tonnes of rice. The country's rice exports in 2020 were forecast to have fallen by 3.5% to 6.15 million tonnes.
- The Indian prices of rice are highly attractive. The huge price difference is forcing Vietnam Government to import rice from India.

MoU between India and UAE for Scientific and Technical Cooperation

- The Union Cabinet has given its approval to the MoU on Scientific and Technical Cooperation between National Centre of Meteorology (NCM), UAE and Ministry of Earth Sciences (MoES) India.
- The MoU provides for sharing of knowledge, data and operational products for meteorological, seismological and oceanic services, such as Radar, Satellite, Tide gauges, seismic and Meteorological stations.
- The pact will pave the way for **deployment of meteorological observation networks** on mutual agreement over ocean waters, cooperation in the development of special capacities of tsunami models researches for their faster and more reliable forecasts propagating through the Oman Sea and the Arabian Sea which affect the coastal areas of India and the United Arab Emirates (UAE).
- It will also enable cooperation to support the Tsunami Early Warning Centre in the form of forecast modelling software.
- It further specifies **sharing the real-time seismic data** of some of the seismic stations situated in south and west of India and north of the UAE for monitoring the seismic activities which may generate tsunami in the Arabian Sea and the Sea of Oman.
- Cooperation in early warnings of sand and dust storms through the exchange of knowledge is also envisaged under the MoU.

India - France Strategic Dialogue

- India and France held their annual Strategic Dialogue in New Delhi. The two sides held discussions on a variety of issues including counter-terrorism, cybersecurity, defence cooperation, maritime security, regional and global issues and cooperation in the Indo-Pacific region.
- Both sides reaffirmed the high priority they accord to the India-France strategic partnership and highlighted the convergence of views between the two countries.
- The India-France strategic dialogue is held annually with the two countries alternating as hosts.

France in Indo-Pacific Region

- France has an emphatic presence in the Indian Ocean region. Its overseas territories of Reunion Island and Mayotte island makes it a stakeholder in the region, which is fast developing into a theatre of geostrategic power-play.
- The overseas territories of France give it an area of 28 lakh sq km in the Indian Ocean as EEZ under the UNCLOS treaty of 1982.
- France has emerged as a key partner of India in the Indian Ocean in recent years. Recently, **India signed a logistics sharing agreement with France**. This enables India and France to use each other's military facilities.
- India’s agreement with France could be a deterrent to the growing ambitions of China as the **French Navy has permanent bases in Djibouti and Abu Dhabi**.

Eight Principles for Repairing India-China Ties

- India's external affairs minister S. Jaishankar proposed "eight guiding principles" for development of India-China ties.
- The foreign minister's remarks were delivered as a keynote address at the All-India Conference of China Studies.

Eight Principles

1. Agreements already reached must be adhered to in their entirety, both in letter and spirit.
2. Where the handling of the border areas is concerned, the LAC must be strictly observed and respected; any attempt to unilaterally change the status quo is completely unacceptable.
3. Peace and tranquility in the border areas is the basis for development of relations in other domains. If they are disturbed, so inevitably will the rest of the relationship. This is quite apart from the issue of progress in the boundary negotiations.
4. While both nations are committed to a multi-polar world, there should be a recognition that a multi-polar Asia is one of its essential constituents.
5. obviously, each state will have its own interests, concerns and priorities; but sensitivity to them cannot be one-sided. At the end of the day, relationships between major states are reciprocal in nature.
6. As rising powers, each will have their own set of aspirations and their pursuit too cannot be ignored.
7. There will always be divergences and differences but their management is essential to our ties.
8. Civilisational states like India and China must always take the long view.

UK Invites India to Attend G7

- UK PM Boris Johnson has invited **Indian PM to attend the G7 summit** to be held in June 2021.
- It is expected that the participating leaders would use this platform to build back better from Covid-19 in order to make the future fairer, greener and more prosperous.

Key Facts:

- UK is the **current president of G7** and the proposed summit will be the **first in-person G-7 summit in almost two years**. Last year's G7 meeting, due to be hosted by U.S., was cancelled due to the pandemic.
- Besides India, **Australia and South Korea** have also been invited as guest countries. These nations, combined with those in the G7, represent **2.2 billion people and over half of the world's economy**.

What UK's Invite Means for India?

- India's presence at the G7 is being seen as the legacy of **decades of strong strategic ties between London and New Delhi**. UK was the first P5 member to support a permanent UN Security Council seat for India and the **first G7 member to invite India to a G7 Summit in 2005**.
- As the **current president of BRICS forum** and **G20 president in 2023**, India will play a key role driving in multilateral cooperation helping to build back better around the world.
- An invite to the G7 summit is also an acknowledgement that despite the current state of the Indian economy, the **world expects India to bounce back**.
- Since the 1991 economic reforms, the international community eyeing India's potential and its huge market had been paying a lot of attention to the country.

- Attending the G7 summit in the UK will allow PM Modi to push India's concerns and articulate New Delhi's ideas for a post-covid world before the leaders of the world's most advanced nations.

About G7:

- G7 originally came into **being in 1975** when the heads of the **world's six leading industrial nations**- the US, UK, France, Germany (West), Japan and Italy decided to hold a meeting in the wake of the oil shock of 1973 and the following financial crisis.
- The **six countries were joined by Canada** in 1976.
- In 1998, Russia was formally inducted in the group, which transformed G7 into G8.
- However, when **Russia annexed Crimea** in 2014, it was suspended from the grouping. As a result, the group became **G7 again in 2014.**
- **Current members are -** US, UK, Canada, France, Germany, Italy and Japan (Most developed and the advanced economies of the world)

US to Revive Support for WHO

- The newly elected President of USA had announced that it will **resume funding** for the World Health Organization and **join its consortium** (COVAX programme) aimed at sharing coronavirus vaccines fairly around the globe.
- Earlier in April 2020, the US administration under Trump had stopped funding to the WHO and started a formal procedure of its withdrawal from the organization.
- One of the Trump administration's biggest criticisms was that the **WHO reacted too slowly to the outbreak in Wuhan**, China, and was too accepting of and too effusive about the Chinese government's response to it.

How WHO is Funded?

- WHO gets its funding from two main sources: **Member States** paying their assessed contributions (countries' membership dues), and **voluntary contributions** from Member States and other partners.
- **Assessed contributions** (AC) are a percentage of a country's GDP (the percentage is agreed by the United Nations General Assembly).
- Member States approve them every two years at the World Health Assembly. They cover less than 20% of the total budget.

[Also refer the topic "**US out of World Health Organization"** from July 2020 edition of CA magazine]

United Nations World Tourism Organization

- The United Nations World Tourism Organization (UNWTO) has highlighted the year 2020 as the worst year on record for tourism.
- It stated that the **global tourism suffered massively** because of the international travel bans in order to contain the COVID-19 outbreak.
- As per the report, the international arrivals have dropped by 74 percent. The restrictions in the international travel have resulted in the loss of USD 1.3 trillion in export revenues.
- The report highlighted that the COVID-19 crisis has an impact on 100-120 million direct tourism jobs.

About UNWTO

- It is the United Nations specialized agency, involved in the promotion of responsible, sustainable and universally accessible tourism.
- It is headquartered in Madrid, Spain.

Treaty on the Prohibition of Nuclear Weapons

- The **Treaty on the Prohibition of Nuclear Weapons** (TPNW), or **Nuke ban treaty**, came into force on 22 January 2021.
- It is a **legally binding instrument** aimed at total elimination of nuclear weapons, under the aegis of the United Nations.

The **International Campaign to Abolish Nuclear Weapons** (ICAN) spearheaded the efforts for the signing of a nuke ban treaty and was **awarded the Nobel Prize for peace in 2017**.

Basic Obligations Under The Treaty

- All of the ratifying countries **should never** under any circumstances develop, test, produce, manufacture, otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices.
- The treaty bans **any transfer or use of nuclear weapons** or nuclear explosive devices.
- Signatories are barred from transferring or receiving nuclear weapons and other nuclear explosive devices control over such weapons or any assistance with activities prohibited under the Treaty.
- States are also prohibited from using or threatening to use nuclear weapons and other nuclear explosive devices.
- States Parties cannot allow the stationing, installation, or deployment of nuclear weapons and other nuclear explosive devices in their territory.
- In addition to the Treaty's prohibitions, States Parties are obligated to provide victim assistance and help with environmental remediation efforts.

Current Status of Treaty:

- **Honduras became the 50th country** to ratify the treaty, which automatically led it to enter into force in 90 days on January 22, 2021.
- The treaty currently has 86 signatories, with 52 member states having submitted instruments of ratification.
- In South Asia, **Bangladesh and Maldives have ratified the agreement**.

India's Position On The Treaty

- India has said that **it does not support the treaty** and shall **not be bound** by any of the obligations that may arise from it.
- India had refused to be a party to the talks, which concluded in New York in July 2017, when the treaty was being negotiated at the UN.
- Earlier in March that year, New Delhi had abstained on this resolution and provided a detailed 'Explanation of Vote'.

Why India Abstained?

- India had said that it was not convinced that the proposed conference could address the longstanding expectation of the international community for a comprehensive instrument on nuclear disarmament.

- India also maintained that the **Geneva-based Conference on Disarmament (CD)** is the single multilateral disarmament negotiation forum.
- It had further said that it supports the commencement of negotiations in the Conference on Disarmament on a Comprehensive Nuclear Weapons Convention, which in addition to prohibition and elimination, **also includes verification**.
- Underlining that **international verification was essential** to the global elimination of nuclear weapons; India had said it feels that the current process did not include the verification aspect.
- India is **committed to a nuclear-weapon-free world** and supports an internationally verifiable withdrawal of global nuclear weapons.

India's Nuclear Ambitions

- Currently, India possesses approximately **150 nuclear weapons**. It spent approximately $2.3 billion in building and maintaining its nuclear weapons.
- It has not signed nuclear disarmament treaties such as the NPT and Comprehensive Nuclear Ban Treaty (CTBT), primarily because it feels they are discriminatory.
- In 2006, **India signed a civil nuclear deal with the US**, which was the first implicit recognition of India as a nuclear power.
- India acceded to the **Missile Technology Control Regime (MTCR) in 2016.** In 2017, India joined the **Wassenaar Arrangement**, to build up a strong case for its entry into the NSG and in 2018, it was admitted to the **Australia Group**.

Drone Swarm

- The Indian Army carried out **a live demonstration of Drone Swarming capability** in attack and support task during the **Army Day Parade** held at Delhi Cantt on January 15.
- Army showcased a **swarm of 75 indigenously designed and developed drones.** These drones executed an array of AI enabled simulated offensive missions and close support mission.

What are Swarm Drones?

- The **drones being unleashed in a bunch** is a tactic called swarm drone technology. These drones are light weighted and low cost. The high-tech artificial intelligence enables these to be crucial in future warfare.

> India has been **collaborating with the U.S.** to develop swarming drones since 2018 under the Defence Technology Trade Initiative

- It is **part of deception warfare** with radars or air defence systems often unable to pick up the multiple drones but see it as one big object.
- Drone formations such as these employed to take down multiple targets simultaneously are often referred to as "**Kamikaze missions**".

Significance

- The drone swarm is capable of **attacking targets** from a range of 50 kilometers. In addition to **reconnaissance and attack**, Indian drone swarms will also be **able to carry out resupply missions**, with a 75-drone swarm delivering over 1,200 pounds of supplies to troops in the battle zone.
- This demonstration is a recognition of the Indian Army's steady embrace of emerging and disruptive technologies to transform itself from a manpower intensive to a technology enabled force to meet future security challenges.

- It also highlights **Indian Army's important role in Atmanirbhar Bharat** involving the private sector, MSMEs with an aim to promote Swadeshi technologies. The Offensive Drone Operations is one such project which has been incubated with an Indian Start Up.

Economic Impact of Internet Shutdowns

- UK-based privacy and security research firm Top10VPN has published the Global Cost of Internet Shutdowns in 2020 report.
- It calculates the total economic impact of every major internet blackout and social media shutdown around the world in 2020.

Key Highlights

- **Economic cost** of shutdowns globally in 2020 - $4.01 BN (down by 50% from 2019)
- 93 major shutdowns took place in 21 countries in 2020
- **India most economically-impacted nation, at a cost of $2.8BN**
- The economic impact seen in India was more than double the combined cost for the next 20 countries in the list.
- The report made a separate mention of the extended curbs on Internet use in Kashmir, terming it as the **longest Internet shutdown in a democracy**.

Extra Mile

Far-reaching Impacts of Internet Shut Down

- **Technical Impact** - Being part of an interconnected network means having responsibility towards the network as a whole. These shutdowns hold the potential to generate systemic risks.
- **Economic Impact** - Internet shutdowns affect economies in multiple ways, upsetting productivity and generating monetary losses in time-sensitive transactions.
- **Human Rights Impact** - It can be argued that Internet access cannot be distinguished from the exercise of freedom of expression and opinion and the right to peaceful assembly (family meeting on zoom/google meet etc.).

Suggestions:

- **Rule out all non-shutdown options**
- **Build resilient infrastructure** - More distributed Internet exchange points, along with increased diversity of Internet connectivity at international borders, will make it more difficult for governments to effectively implement a single "kill switch".
- **Measure the cost first through cost-benefit analysis**

India's Eight Point Agenda to Combat Terrorism

- India's External Affairs Minister, while speaking at the UNSC open debate, had proposed eight-point action plan to combat terrorism.
- He was speaking on the topic "*Threats to International Peace and Security caused by Terrorist acts*".
- The debate was held under the **chairmanship of Tunisia** (current President of the fifteen member UNSC body).

8 Point Action Plan

- **Individual Responsibility of Member States** - The international community must summon the political will to combat terrorism and there must be no ifs and buts in this fight. All the member states must fulfill their obligation in international counter-terrorism conventions and instruments.
- **No Double Standard** - There must be no double standards in this battle, terrorists are terrorists and there is no bad or good distinction.
- **Initiate Reforms** - There must be a reform in the working methods of the committees that are dealing with sanctions and counter-terrorism. Accountability, transparency, and effectiveness are the need of the day.
- **Discourage the Exclusivist Thinking** - The international community must firmly discourage the exclusivist thinking that results in dividing the world and harms the social fabric. The council must be aware against new terminologies and the false priorities that easily dilute our focus.
- **Objectivity in enlisting and delisting** - Delisting and enlisting of entities and individuals under UN sanctions must be done objectively and the proposals in this regard must be examined before circulation.
- **Recognise links between transnational organized crime and terrorism**
- **Combat terrorist financing** - The FATF should continue to identify weaknesses in anti-money laundering and counter-terror financing frameworks.
- **Adequate funding to UN Counterterrorism bodies**

Bodoland Territorial Region (BTR) Agreement

- The first anniversary of the historic Bodoland Territorial Region (BTR) agreement was celebrated.
- In January 2020, a **tripartite agreement** was signed by Centre, Assam and the top leadership of the four factions of the National Democratic Front of Bodoland (NDFB), All-Bodo Students' Union **(**ABSU).

Key Highlights of the Bodo Accord 2020

- This agreement will provide **political rights to the Bodo Tribes** living in Assam. It will also provide economic benefits to them while **reaffirming the territorial integrity** of Assam.
- Bodoland Territorial Council (BTC) will now be named as **Bodoland Territorial Region (BTR)**, and will have **more administrative power**.
- As per the accord, 1,550 militants belonging to the **NDFB would lay down their arms**.
- An **economic programme of Rs 1,500 crore** will be implemented in the next three years with equal contribution of Rs 750 crore each from the central and state governments.
- The existing structure of the Bodoland Territorial Council (BTC) will be strengthened with more powers and its seats will be **expanded from 40 to 60.**
- A **commission will be set** up for inclusion of Bodo-dominated villages in the BTC and exclusion of those where Bodos are not in majority.
- The Assam government will soon **notify Bodo language as in Devanagari script as an associate official language of the state**.

Background:

- This was the third Bodo accord to be signed in 27 years.

- The **first accord** was signed with the **All-Bodo Students Union in 1993**, leading to the creation of a Bodoland Autonomous Council with limited political powers.
- **In 2003**, the **second accord** was signed with the militant group **Bodo Liberation Tigers**, leading to formation of a Bodoland Territorial Council (BTC) with **four districts of Assam -- Kokrajhar, Chirang, Baska and Udalguri** -- called Bodoland Territorial Area District (BTAD).

About BTC:

- The BTC was formed under the 6th Schedule of the Constitution.
- The BTC currently has control over 30 subjects such as education, forests, horticulture but **no jurisdiction over the police, revenue and general administration** departments, which are controlled by the Assam government.

Bodo Movement in Assam:

- The **demand for the creation of a homeland for the Assam plains tribal communities** in the shape of Udyachal was a major plank of the Bodo political movement in the 1960s.
- The All-Bodo Students Union (ABSU) was formed in 1967 to represent the Bodo cause. They agitated and got Bodo recognised as an official language of Assam.
- **Assam Movement against illegal immigrants** was another movement spearheaded by the All-Assam Students Union (AASU) and All Assam Gana Sangram Parishad (AAGSP) during the period 1979-85.
- The **Assam Accord** was signed between AASU, AAGSP, Central and State Governments on 15th August 1985, which determined 1st January 1966 as the cut-off date for the purpose of detection and deletion of foreigners.
- Unhappy with the Assam Accord, **ABSU stepped up the movement in 1987 for a separate state of Bodoland** on the North Bank of the Brahmaputra.

Hygiene Hypothesis

- A new study by Indian scientists has suggested **'hygiene hypothesis'** to be one of the **reasons for the high rates of coronavirus-related deaths in the rich and developed countries.**
- The study correlated coronavirus deaths in several countries with indicators such as **GDP, population density, human development index rating, demography, sanitation and hygiene,** and prevalence of autoimmune diseases.
- 'Hygiene hypothesis' says that because people in countries with low sanitation standards get exposed to communicable diseases at an early age and develop stronger immunity, helping them to ward off diseases later in life. This phenomenon is called **'immune training'.**
- Conversely, **people in richer countries have better access to healthcare** and vaccines, and things like clean drinking water, due to which they remain safer from such infectious diseases. But that, paradoxically, also means **their immune system remains unexposed to such dangers.**
- This hypothesis is also sometimes **used to explain the prevalence of auto-immune diseases,** in which the immune system sometimes 'overreacts' and starts attacking the body's own cells, leading to disorders like type-1 diabetes mellitus or multiple sclerosis.
- Among countries with the **highest rates of death per million of population are Belgium, Italy and Spain, where more than 1,200 deaths per million** have been recorded till now. The US and the UK have more than 1,000 deaths per million of population.

- On the contrary, **India, like most other Asian and African countries,** has seen just about **110 deaths per million,** less than half the world average of about 233.

5th National Science and Technology Policy

- The Department of Science and Technology (DST) has released the draft **5th National Science, Technology, and Innovation Policy (STIP).**
- The objective of the policy is **to identify and address strengths and weaknesses of the Indian STI ecosystem** to catalyse socio-economic development of the country and also make the Indian STI ecosystem globally competitive.
- The STIP will be guided by its **Broad Vision** of:
  - Achieve technological self-reliance and **position India among the top three scientific superpowers** in the decade to come.
  - Attract, nurture, strengthen and retain critical human capital through a **'people centric' science, technology and innovation (STI) ecosystem.**
  - **Double the number of Full-Time Equivalent (FTE) researchers, Gross Domestic Expenditure on R&D (GERD)** and private sector contribution to the GERD every 5 years.
  - **Build individual and institutional excellence in STI** with the aspiration to achieve the highest level of global recognitions and awards in the coming decade.
- The new policy, STIP, revolves around the core principles of being **decentralized, evidence-informed, bottom-up, experts-driven, and inclusive.**
- It aims to bring in the **concept of 'dynamic policy' with a robust policy governance** mechanism incorporating features such as implementation strategy, periodic review, policy evaluation, feedback, and adaptation, and most importantly, a timely exit strategy for various policy instruments.
- STIP 2020 policy formulation framework involves **4 detailed tracks of activities:**
  - **Track-I involves extended public and expert consultation** with larger public participation.
  - **Track-II involves focused experts-driven thematic group** consultations to feed evidence-informed recommendations into the policy drafting process.
  - T**rack-III connects ministries, departments,** and states to this policy process through a designated nodal officer.
  - **Track-IV** brings institutional coherence by integrating inputs from all the tracks. This track is the **binding force that draws upon the apex-level multi-stakeholder** engagement at the national as well as global levels.
- The policy also envisages the formation of an **STI Development Bank f**or direct investments on various long and medium-term projects in select strategic areas, commercial ventures, start-ups, technology diffusion and licensing.
- The **lesbian, gay, bisexual, transgender, queer (LGBTQ+) community will be included in gender equity conversations** with special provisions to safeguard its members' rights and promote their representation and retention in STI.
- The STIP will lead to the establishment of a **National STI Observatory** that will act as a central repository for all kinds of data related to and generated from the STI ecosystem.

Earlier Science Policy

- The **Science Policy Resolution 1958 (SPR 1958)** aimed to "foster, promote and sustain" the "cultivation of science and scientific research in all its aspects".
- The **Technology Policy Statement 1983 (TPS 1983)** emphasized the need to attain technological competence and self-reliance, with the objective to "integrate programmes of socio-economic sectors with the national R&D system and the creation of a national innovation system".
- The **Science and Technology Policy 2003 (STP 2003)** brought the benefits of Science and Technology to the forefront and focused on the investment required for research and development along with the national innovation system.
- The **Science, Technology, and Innovation Policy 2013 (STIP 2013)** focused on the large demographic dividend and set the paradigm **"Science technology and innovation for the people."**

National Metrology Conclave 2021

- **National Metrology Conclave 2021** was inaugurated by the Prime Minister and laid the Foundation Stone of **National Environmental Standards Laboratory.**
- The Conclave was organised by **Council of Scientific and Industrial Research-National Physical Laboratory (CSIR-NPL),** New Delhi, on its 75th year of inception.
- The theme of the conclave is **'Metrology for the Inclusive Growth of the Nation'.**
- On the occasion, **National Atomic Time Scale** and **Bharatiya Nirdeshak Dravya Pranali** were also dedicated to the nation.
- **Bhartiya Nirdeshak Dravya** would help the industry to **make quality products** in sectors like **Heavy metals, Pesticides, Pharma and Textiles by drafting a 'Certified Reference Material System'.**
- With these new standards, there is a **campaign to bring global identity to local products in districts across the country,** which will be of particular benefit to our MSMEs sector.
- The **National Atomic Time Scale** generates Indian Standard Time with an accuracy of 2.8 nanosecond.
    - This will be a big help for organizations like ISRO who are working with cutting edge technology.
    - Modern technology related Banking, railways, defense, health, telecom, weather forecast, disaster management and many similar sectors will be benefited greatly from this achievement.
- This achievement will lead to **self-reliance in the field and will lead to creation of more effective and cheaper tools for pollution control.** This will also enhance India's share in the global market for technologies related to air quality and emission technology.
- The **National Environmental Standards Laboratory** will aid self-reliance in the **certification of ambient air and industrial emission monitoring equipment.**

Nanobodies

- An international research team led by the **University of Bonn** has identified and further developed **novel antibody fragments against SARS-CoV-2,** the virus that causes Covid-19.
- These **"nanobodies" are much smaller than classic antibodies** and they, therefore, **penetrate the tissue better** and **can be produced more easily in larger quantities.**

- The researchers combined the nanobodies into potentially particularly effective molecules. These **attack different parts of the virus simultaneously.** The approach could **prevent the pathogen from evading the active agent through mutations.**
- **Antibodies** are an **important weapon in the immune system's defense against infections.** They bind to the surface structures of bacteria or viruses and prevent their replication.
    - One strategy in the fight against disease is therefore to produce effective antibodies in large quantities and inject them into patients.
    - However, **producing antibodies is difficult and time-consuming;** they are, therefore, probably not suitable for widespread use.
- **Nanobodies** are **antibody fragments** that are so simple that they can be produced by bacteria or yeast, **which is less expensive.**

ASMI Machine Pistol

- The Pune-based facility of the **Defence Research and Development Organisation (DRDO)** and the **Indian Army's Mhow-based Infantry School** have jointly developed **India's first indigenous 9mm machine pistol named 'Asmi'.** The weapon is aptly named "Asmi" meaning "Pride", "Self-Respect" & "Hard Work".
- The pistol is likely to have a production cost lower than Rs 50,000 each and has export potential as well.
- **Machine pistols** are primarily **self-loading versions of pistols** which are either fully automatic or can also fire bursts of bullets.
- **3D Printing process** has been used in designing and prototyping of various parts including trigger components made by metal 3D printing.
- The weapon has **huge potential in armed forces** as a personal weapon for various missions, including in **counter-insurgency and counter-terrorism operations.**

Indian Army Day

- The **73rd Army Day** was celebrated on January 15.
- Army Day is celebrated on January 15 every year as it is on this historic day that **General KM Cariappa became the first Indian to take charge of the Indian Army in 1949.** He took over from General Sir Francis Robert Roy Bucher who was the last English commander of the nation's army.
- **Other Important Events**
    - **Kargil Vijay Diwas (July 26):** On this day in 1999, the Indian Army recaptured all its outposts taken over by Pakistani intruders.
    - **Air Force Day (Oct 8):** The Indian Air Force (IAF) was **established on October 8, 1932** as an auxiliary air force of the Royal Air Force (RAF). After partition of India into India and Pakistan, the Indian side retained the name of the **Royal Indian Air Force (RIAF). The prefix "Royal" was removed in 1950 and the force was renamed as the present IAF.**
    - **Navy Day (Dec 4):** The day **commemorates the Indian Navy's daring assault on its Pakistani counterpart during the 1971 war** between the two nations. **Called Operation Trident,** the assault saw the Navy sink several Pakistani vessels.

- **Armed Forces Flag Day (Dec 7):** Celebrated on this date annually since 1949, the day is dedicated to **collection of funds from the people of India for the welfare of the personnel** of the Indian Armed Forces.
- **Vijay Diwas (Dec 16):** On this day in 1971, the India-Pakistan war came to an end in less than two weeks, with over 93,000 soldiers of the Pakistan Army surrendering to India. The independent state of Bangladesh was born.
- **Coast Guard Day (Feb 1):** The **Indian Coast Guard (ICG**) was established on February 1, 1977 on an "interim" basis. The force formally came into being on August 18, 1978. It is **tasked with protecting India's maritime interests and enforcing maritime law.**

National Innovation Portal

- The Union Minister for Science & Technology has launched the **National Innovation Portal (NIP),** developed by **National Innovation Foundation (NIF).**
- The portal is currently home to about 1.15 lakh innovations **scouted from common people** of the country, covering Engineering, Agriculture, Veterinary and Human Health.
- The innovations cover energy, mechanical, automobile, electrical, electronics, household, chemical, civil, textiles, Farm / cultivation practice, storage practice, plant variety, plant protection, poultry, livestock management, nutraceuticals etc.
- The **National Innovation Foundation (NIF),** set up in March 2000, is an **autonomous body of the Department of Science and Technology (DST),** Government of India.
- It is India's national initiative to **strengthen the grassroots technological innovations** and outstanding traditional knowledge. Its mission is to **help India become a creative and knowledge-based society** by expanding policy and institutional space for grassroots technological innovators.

SwasthVayu

- Scientists from the **Council for Scientific and Industrial Research (CSIR) - National Aerospace Laboratories (NAL)** have indigenously designed and developed the **non-invasive bi-level positive airway pressure ventilator –SwasthVayu.**
- It aims **to address the shortages of ventilators** in the Covid-19 pandemic and has additional features to treat Covid-19 patients and make the country self-reliant.
- SwasthVayu is a **microcontroller based precise closed-loop adaptive control system** with a built-in biocompatible "3D printed manifold and coupler" with **HEPA filter** (Highly Efficient Particulate Air Filter). These unique features help to **alleviate the fear of the virus spread.**
- It also has features like CPAP, Bi-Timed, Spontaneous / AUTO modes with provision to **connect Oxygen concentrator or Enrichment unit externally.**
- The major advantage of this machine is that **it is simple to use** without any specialised nursing, **cost-effective, compact** and configured with majority of indigenous components.
- This is **ideal for treating COVID -19 patients in Wards, Makeshift Hospitals, dispensaries and homes** in the current Indian COVID 19 scenario.

CSIR-NIScPR

- The **Union Science and Technology Minister** has laid the foundation stone of **CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR).**
- It was **formed after the merging of CSIR-NISCAIR and CSIR-NISTADS,** a step aimed at further strengthening science communication.
- The purpose of the merger is to **combine the strength of the two institutes** in a synergistic way with a vision **to become a globally respected think tank and resource centre** for understanding Science, Technology and Innovation (STI) policy research and communication.
- CSIR-NIScPR will serve the society with its core areas of **science communication** and **policy research** which has proved to be so important during the COVID-19 pandemic.
- The **CSIR-National Institute of Science Communication and Information Resources (CSIR-NISCAIR)** manages the largest and oldest National Science Library and also **distributes International Standard Serial Number (ISSN).**
    - It has been the **custodian of the National Knowledge Resource Consortium (NKRC)** which facilitates access to more than 5,000 e-journals of all major publishers, patents, standards, citations, and bibliographic databases.
    - It has also been a **frontier institute in science communication, publishing popular science magazines** (Vigyan Pragati and Science Reporter) and scientific journals.
- **CSIR-National Institute of Science, Technology and Development Studies (CSIR-NISTADS)** has a rich research experience in the area of History of Science, Science and Technology, and Society.
    - It has **executed projects from UNESCO and the Commonwealth Science Council,** State S&T Councils and international agencies to review their respective S&T promotional schemes.
    - It has also **created a techno-socio-economic platform** to enable development and application of socially acceptable, relevant, scalable and cost-competitive products.

Parler

- Apple, Amazon and Google have suspended the **social network called Parler** on account that the platform has not taken enough measures to make sure that content inciting violence remains in check.
- Parler is a social media platform that is considered to be **an alternative to Twitter** and is popular with conservatives. The platform describes itself as being the world's "premier free speech platform".
- The suspension means that users can no longer download the app from the Apple app store or the Google play store. Amazon, on the other hand, has suspended the platform from its web-hosting service called Amazon Web Services.
- A **web hosting service** is a **mechanism through which companies provide space to websites on a physical server** where they can store data and other information necessary for their websites to function.

Internationalized Domain Name

- The **National Internet Exchange of India (NIXI)** announced that it will offer a **free IDN (Internationalized Domain Name)** in any of their **preferred 22 official Indian languages** along with every IN domain booked by the registrant.

- Applicants will also get a free email in the local language. This offer has been created **t**o stimulate the adoption of **भारत (IDN) domain name** and proliferation of local language content.
- NIXI is a **not for profit organization** working since 2003 **for spreading the internet technology to the citizens of India** through the following activities: -
  - Internet Exchanges through which the internet data is exchanged amongst ISPs and between ISPs and CDNs.
  - IN Registry, managing and operation of IN country code domain and भारत IDN domain for India.
  - Indian Registry for Internet Names and Numbers (IRINN) managing and operating Internet protocol.

PM 2.5 and Increased Anaemia Risk

- A study conducted by **IIT-Delhi** has found that **extended periods of exposure to PM 2.5 can lead to anaemia** among children under the age of 5 years.
- The study, based on the findings of **National Family Health Survey-4 (NFHS-4),** has reported that **about 63% of the included children were found to be anaemic.** Children with anaemia were on average slightly younger compared with children without anaemia, **tended to be from lower wealth index levels, and had higher percentages of maternal anaemia.**
- The study is important because so far anaemia has been looked at through the prism of nutrition deficiency, specifically that of iron.
- This is a major cause of concern because even if government programmes like Poshan Abhiyan were strengthened, till air pollution is curtailed or exposure of children to PM 2.5 is brought down, anaemia is likely to continue to persist

Anaemia

- Anaemia is a condition in which the **number of red blood cells or the haemoglobin concentration within body is lower** than normal.
- Haemoglobin is needed to carry oxygen and if one has too few or abnormal red blood cells, or not enough haemoglobin, there will be a **decreased capacity of the blood to carry oxygen to the body's tissues.** This results in symptoms such as fatigue, weakness, dizziness and shortness of breath, among others.
- The most common causes of anaemia include **nutritional deficiencies,** particularly **iron deficiency,** though deficiencies in **folate, Vit B12 and Vit A** are also important causes**;** haemoglobinopathies; and infectious diseases, such as malaria, tuberculosis, HIV and parasitic infections.

National Iron Initiative

- Globally, **India carries the largest burden of anaemia,** especially among women and children. According to the India NFHS-4 2015–2016, **53.1% of women in India with 15–49 years of age and 58.5% of children under five were anaemic.**
- In order to prevent anaemia among women and children, the **National Iron Plus Initiative (NIPI)** was launched in 2013 by the Ministry of Health and Family Welfare. It is a flagship scheme under the **National Health Mission based on the life-cycle approach,** under which iron-folic acid supplementation is provided to the vulnerable age groups.
- There are age specific interventions with **Iron and Folic Acid Supplementation and Deworming** for improving the haemoglobin levels and reducing the prevalence of anaemia for all age groups, that

is children 6-59 months, 5 – 10 years, adolescent girls and boys (11-19 years), pregnant and lactating women and women in reproductive age group (20 – 49 years).

- In 2018, the government of India launched **Anaemia Mukt Bharat (AMB)** as part of the **Intensified National Iron Plus Initiative (NIPI) Program** for accelerating the annual rate of decline of anaemia from one to three percentage points.

Open Radio Access Network

- Telecom Regulatory Authority of India (Trai) Chairman has said that use of **Open RAN (Radio Access Network)** and software defined telecom networks **will open new opportunities for Indian entities t**o enter into the network equipment market.
- The Radio Access Network (RAN) is the **final link between the network and the phone.** It is the visible piece and includes the antennae that are seen on towers, on top of buildings or in stadia, plus the base stations.
- **Open RAN** is not a technology, but rather **an ongoing shift in the mobile network architecture** that allows networks to be built using subcomponents from a variety of vendors.
- The key concept of Open RAN is **'opening' the protocols and interfaces between the various subcomponents (radios, hardware and software)** in the RAN. This is referred to as a **disaggregated RAN.**
- In an Open RAN environment, the RAN is disaggregated into three main building blocks:
    - The **Radio Unit (RU)** is where the **radio frequency signals are transmitted,** received, amplified and digitized. The RU is located near, or integrated into, the antenna.
    - The **Distributed Unit (DU)** and the **Centralised Unit (CU)** are the computation parts of the base station, **sending the digitialized radio signal into the network.** The DU is physically located at or near the RU whereas the CU can be located nearer the Core.
- The benefits of this approach include **increased network agility and flexibility, increased innovation and cost savings.**
- The government's move to encourage local companies to roll out the 4G network of BSNL will provide an immediate opportunity to the Indian manufacturers in the equipment space.

Axiom Mission 1 (AX 1)

- The three men are paying a whopping $55 million each to fly aboard a SpaceX rocket for **an eight-day visit to the International Space Station,** organised by Houston-based spaceflight firm Axiom.
- The **Axiom Mission 1 (AX 1) flight** is being arranged under a **commercial agreement with NASA.**
- While private citizens have travelled to space before, the **AX 1 mission will be the first to use a commercially built spacecraft,** the **SpaceX Dragon 2**, best known for flying its first two crews to the ISS late last year.
- SpaceX is scheduled to launch the all-private crew no earlier than in January next year from Cape Canaveral in Florida.
- The three men will **participate in research and philanthropic projects** alongside the astronauts from all over the world who are already stationed at the ISS.

- This is **not the first-time private civilians** have been launched into space. Since 2001, Russia has been selling rides to the ISS to wealthy businessmen around the world. They travelled onboard the Russian Soyuz aircraft along with professional cosmonauts and NASA astronauts.
- Axiom Space was founded in 2016 with the goal of creating the **world's first commercial space station.**

1st PPP Research Reactor for Production of Nuclear Medicines

- **Bhabha Atomic Research Centre (BARC)** has evolved a design for the **first PPP Research Reactor for production of Nuclear Medicines.**
- The premier research organization of the **Department of Atomic Energy (DAE)** is ready to share the technology of production of a variety of nuclear medicines.
- In the proposed partnership, the private entities will get exclusive rights to process and market the isotopes produced in the research reactor, in lieu of investing in the reactor and processing facilities.
- On 16th May 2020, Union Finance Minister announced the establishment of a **Research Reactor in PPP mode** for the production of medical isotopes as a part of **AtmaNirbhar Bharat** initiatives for DAE.
- This project will be a significant step towards **making India self-relian**t in key radioisotopes used in **medical and industrial applications.**
- As a result, it will increase **availability of effective and affordable treatments** for cancer.
- At the same time, the large scale and the technology being deployed for the **planned research reactor** will enable India to not only become a significant global player in the growing nuclear medicine market but also have one of the most modern research reactors anywhere in the world.

Bhabha Atomic Research Centre (BARC)

- **Dr. Homi Jehangir Bhabha** conceived the Nuclear Program in India. Dr Bhabha established the **Tata Institute of Fundamental Research (TIFR)** for carrying out nuclear science research in 1945.
- To intensify the effort to exploit nuclear energy for the benefit of the nation, Dr Bhabha established the **Atomic Energy Establishment, Trombay (AEET) in January 1954** for a multidisciplinary research program essential for the ambitious nuclear program of India.
- After the sad demise of Bhabha in 1966, AEET was renamed **Bhabha Atomic Research Centre (BARC).**
- **Headquarter: Trombay, Mumbai**

Integrated Weapons System Design Centre

- Vice-President of India inaugurated the Integrated Weapons System Design Centre at DRDO's APJ Abdul Kalam Missile Complex at Hyderabad.
- The facility would **enhance the capability in design and development** of command and control systems for surface-to-air missile (SAM) systems and ballistic missile defence (BMD) systems.
- Centre would give thrust to the overall system design and evaluation methodology for **state-of-the-art missile systems** and would help in improving the performance of missiles. This would play a major role in the realisation of highly **complex futuristic aerospace and defence systems.**

Gallantry Awards Portal

- On the eve of the **Republic Day, the Defence Minister** of India launched a **revamped version of the Gallantry Awards Portal** www.gallantryawards.gov.in. This portal will serve as a **one-stop virtual platform to honour** the immortal contribution of the fearless Gallantry Awardees of India.
- Along with the portal, **a gallantry award quiz competition** and an **e-magazine 'Shauryawaan'** were also launched.
- **'Selfie for Bravehearts'** encourages and invites citizens to click their selfie images in front of war memorials and monuments across the country and show their support for the Gallantry Awardees of the nation.

"AYU SAMVAD" Campaign

- The Ministry of Ayush launched **"AYU SAMVAD" (My Health My Responsibility)** as one of the **largest public awareness campaign** programs on AYURVEDA and COVID 19 PANDEMIC.
- It was organized by **All India Institute of Ayurveda New Delhi**, as envisioned & supported by the Ministry of AYUSH. More than 5 lakhs lectures will be organized across the nation by Ayurveda Physicians for citizens of India.
- The main **objective** of the campaign is to **create awareness** through Lecture series to make common people aware about the theme **"Ayurveda for COVID 19 Pandemic".**

Lunar Sample 76015,143

- As per tradition in the **United States,** every incoming President gets to redecorate the **Oval Office –** the commander-in-chief's principal place. The 46th US President Joe Biden has made a couple of changes too. The addition of a **Moon rock** is among the changes too.
- Lunar Sample 76015,143 is a **Moon rock**– a sample of Earth's natural satellite collected by astronauts **Ronald Evans** and moonwalkers **Harrison Schmitt** and **Eugene Cernan** of the **Apollo 17 mission** in December 1972.
- Apollo 17 was the **last mission t**o send humans to set foot on the lunar surface.
- Previously, in 1999 NASA loaned lunar sample 10057,30 to the then-President **Bill Clinton** for the White House.

Smart Anti-Airfield Weapon (SAAW)

- The **Defence Research and Development Organisation (DRDO)** conducted a successful trial of the **indigenously developed Smart Anti-Airfield Weapon (SAAW)** off the **Odisha coast from the Hawk-I** jet of Hindustan Aeronautics Limited (HAL). This was the ninth successful test of the system conducted over the last five years.
- It is indigenously designed and developed by DRDO's **Research Centre Imarat (RCI) Hyderabad.**
- This is a **125-kilogram class smart weapon, capable of engaging ground enemy airfield assets** such as radars, bunkers, taxi tracks, and runways, up to a range of 100 kilometres. The **high precision guided bomb** is lightweight compared to weapon systems of the same class.
- The SAAW project was **approved by the Government of India in 2013.**

Quantum Computing Applications Lab

- The **Ministry of Electronics and Information Technology (MeitY)** in India will establish a **Quantum Computing Applications Lab** in the country, in collaboration with Amazon Web Services (AWS), to accelerate quantum computing-led research and development and enable new scientific discoveries.
- The move will give select **researchers; scientists access** to Amazon's Braket cloud-based quantum computing service.
- The lab is **World's first quantum computing** applications lab on AWS to support a national government's mission to drive innovation.
- Quantum computing is **an emerging field that harnesses t**he laws of quantum mechanics to build powerful tools to process information.
- It has the potential to **solve computational problems that are beyond the reach of classical computers**, and lead to new breakthroughs that can transform chemical engineering, material science, drug discovery, financial portfolio optimisation, machine learning, and much more.

Optical Ground Wire (OPGW)

- To improve **telecom connectivity** in hilly areas, Power Grid Corporation of India Limited **(POWERGRID)** has recently signed an agreement with Himachal Pradesh State Electricity Board Ltd. **(HPSEBL)** in Shimla (H.P.) for utilization of 500 Kms of OPGW Telecom network.
- Through this OPGW Network, Telecom Service providers will be able to provide **uninterrupted mobile/Internet services** to the people of the state.
- An optical ground wire (also known as an OPGW or, in the **IEEE standard,** an optical fiber **composite overhead ground wire)** is a type of cable that is **used in overhead power lines.** Such cable combines the functions of **grounding and communications.**
- An OPGW cable contains a **tubular structure with one or more optical fibers** in it, surrounded by layers of steel and aluminum wire.
- The optical fiber itself is **an insulator and is immune** to power transmission line and lightning induction, external electrical noise and crosstalk.
- Typically OPGW cables contain **single-mode optical fibers** with **low transmission loss,** allowing **long distance** transmission at **high speeds.**

SWITCH UAV

- The Indian Army has signed a $20-million contract with **ideaForge,** a player in **unmanned aerial vehicle (UAV) technology,** to procure undisclosed quantities of a high-altitude variant of SWITCH UAV, an **indigenous system used in surveillance operations.**
- SWITCH UAV is an indigenous system built to cater to the most demanding **surveillance operations** of the Indian forces.
- This **fixed-wing vertical take-off and landing UAV** can be deployed at high altitudes and under harsh environments for day and night surveillance, ideaForge said in a statement.

India Meteorological Department

- India Meteorological Department (IMD) celebrated its **146th Foundation Day** on 15th January 2021.
- On the occasion, Ministry of Earth Science inaugurated

- **Doppler Weather Radars** at Mukteshwar, Uttarakhand and Kufri, Himachal Pradesh;
- **Multi-Mission Meteorological Data Receiving and Processing System** (MMDRPS) in IMD in collaboration **with ISRO** and
- Official e-launched "**Online Web Portal of IMD Journal MAUSAM**" in collaboration with CSIR-NISCAIR

- A **Report on Cyclone** disturbances during 2020; **Hindi Patrika – 'Mausam Manjusha';** and a special issue of **Mausam on Tropical Cyclone** were also released.

Doppler Weather Radars

- IMD is modernizing its observational network in the **Central and Western Himalayas** by installation of state of art Doppler Weather Radars in a phased manner, at different locations.
- This radar will be **providing severe weather information** to the weather forecasters thus improving the service being provided by the Department catering to the welfare and safety of the public in the states of **Uttarakhand and Himachal Pradesh.**
- It will also provide valuable support to the **disaster managers** and to the pilgrims undertaking the pilgrimage to **Kailash Manasarovar and Char Dham yatra.**

Multi-Mission Meteorological Data Receiving and Processing System

- It will be utilized for **monitoring and forecasting** of severe weather events and many sectoral applications Defence services, Disaster Management, Power Sector, Aviation, Railway, Tourism & Agro-meteorological advisory services etc by generating specific satellite-based products imageries.
- This system is capable of **processing rapid scan data of INSAT-3DR** Imager payload conducted during extreme weather events or cyclones resulting in better monitoring of such extreme weather events in real time.
- India is **4th in its computing power** after the UK, USA and Japan.

Rapid Blood Test for COVID-19

- Scientists have recently published a paper showing that a **relatively simple and rapid blood test can predict**, within a day of a hospital admission, which Covid-19 patients are at highest risk of severe complications or death.
- The blood test measures levels of **mitochondrial DNA,** a unique type of DNA molecule that normally resides inside the energy factories of cells.
- Mitochondrial DNA spilling out of cells and into the bloodstream is a sign that a particular type of violent cell death is taking place in the body.
- They found that **mitochondrial DNA levels were much higher in patients who eventually were admitted to the ICU, intubated or died.** The researchers found this association held independently of a patient's age, sex and underlying health conditions.
- Further, the test predicted outcomes as well as or **better than existing markers of inflammation currently measured in Covid patients.** Most other markers of inflammation measured in patients with Covid-19 are general markers of systemic inflammation, rather than inflammation specific to cell death.
- The researchers said the test could **serve as a way to predict disease severity as well as a tool to better design clinical trials,** identifying patients who might, for example, benefit from specific investigational treatments.

Spintronics

- Scientists at **Institute of Nano Science and Technology (INST),** Mohali, Punjab, have produced an **ultra-high mobility 2d-electron gas (2DEG)** at the interface of two insulating oxide layers. INST is an **autonomous institution of the Department of Science and Technology (DST).**
- A **two-dimensional electron gas (2DEG) i**s an electron gas that is free to move in two dimensions, but tightly confined in the third. This tight confinement leads to quantized energy levels for motion in the third direction, which can then be ignored for most problems. Thus, the **electrons appear to be a 2D sheet embedded in a 3D world.**
- This can speed up transfer of quantum information and signal from one part of a device to another and **increase data storage and memory.**
- The **need for attaining new functionalities in modern electronic devices** has led to the manipulation of property of an electron called spin degree of freedom along with its charge. This has given rise to an altogether new field of **spin-electronics or 'spintronics'.**
- It has been realized that a phenomenon called the **'Rashba effect',** which consists of splitting of spin-bands in an electronic system, might play a key role in spintronic devices.
- Due to the high mobility of the electron gas, **electrons do not collide inside the medium for a long distance** and hence do not lose the memory and information. Hence, such a system can easily remember and **transfer its memory for a long time and distance.**
- In addition, since they collide less during their flow, their resistance is very low, and hence they don't dissipate energy as heat. So, **such devices do not heat up easily and need less input energy to operate.**

DNA Technology (Use and Application) Regulation Bill, 2019

- Members of Parliament have filed dissent notes to the Parliamentary Standing Committee's report on **DNA Technology (Use and Application) Regulation Bill 2019,** claiming that it does not take into account their **concerns over privacy violations.**
- The DNA Technology Regulation Bill was introduced in the Lok Sabha in July 2019. The Bill was then referred to the **Parliamentary Standing Committee on Science and Technology.**
- The primary intended purpose of the bill is for **expanding the application of DNA-based forensic technologies** to support and strengthen the justice delivery system of the country.

Provisions of the Bill:

- The Bill seeks to regulate use and application of DNA technology **for the purposes of only establishing identity of certain categories of persons,** including victims, offenders, suspects, under trials, missing persons and unknown deceased persons and related matters.
- **Use of DNA Data:** Under the Bill, DNA testing is **allowed only in respect of matters listed in the Schedule to the Bill.** These include offences under the **Indian Penal Code, 1860, and for civil matters** such as paternity suits. Further, the Schedule includes DNA testing for matters related to establishment of individual identity.
- **Consent for DNA sample:** No consent would be needed for collecting bodily substances for DNA profiling for offences punishable with **more than seven years of imprisonment or death penalty.**
- **DNA Data Bank:** The Bill provides for the establishment of a **National DNA Data Bank and Regional DNA Data Banks,** for every state, or two or more states.

- DNA laboratories are required to share DNA data prepared by them with the National and Regional DNA Data Banks.
- Every Data Bank will be required to maintain indices for the following categories of data:
    - a crime scene index
    - a suspects' or undertrials' index
    - an offenders' index
    - a missing persons' index
    - an unknown deceased persons' index

- **DNA Regulatory Board:** The Board would be **headed by a secretary level officer** and comprise experts in the fields of biological sciences, forensic and legal matters and representatives from various investigating and police agencies like the DG of NIA, Director of CBI, DGP of a state on rotational basis and National Human Rights Commission.
- **No court would have jurisdiction** to entertain any suit or proceeding in any matter for which the Board is empowered.
- Removal of profile: The Bill provides for removal of DNA profile, through written request, **for a person who is neither an offender nor a suspect** but whose DNA profile is entered in the crime scene index or missing persons' index of DNA Data Bank.
- **Offences and penalty:** The Bill specifies penalties for various offences, including: (i) for disclosure of DNA information, or (ii) using DNA samples without authorization.

Associated Concerns:

- The DNA profiles can **reveal extremely sensitive information** of an individual such as pedigree, skin colour, behaviour, illness, health status and susceptibility to diseases. Access to such intrusive information can be misused to **specifically target individuals and their families with their own genetic data.**
- While there is a good case for a DNA database of convicts, so that repeat offenders may be easily identified, there is **no legal or moral justification for a database with DNA of the other categories** given the high potential for misuse.
- The Bill refers to consent in several provisions, but in each of those, a **magistrate can easily override consent**, thereby in effect, making consent perfunctory. There is also no guidance in the Bill *on the grounds and reasons of* when the magistrate can override consent.
- The Bill also provides that **DNA profiles for civil matters** will also be stored in the data banks, but **without a clear and separate index.**
- In the **absence of robust data protection legislation,** the security of a huge number of DNA profiles that will be placed with the National DNA Data bank and its regional centres is questionable.
- DNA testing is currently being done on an extremely limited scale in India. The **standards of the laboratories are not monitored or regulated.**

National Non-Communicable Disease Monitoring Survey (NNMS)

- The **National Non-Communicable Disease Monitoring Survey (NNMS)** has released its findings on **Non-communicable Diseases (NCDs).** It was conducted during the period of 2017-18.

- The survey was undertaken to **provide baseline information on NCD risk factors** and it highlights the need to improve comprehensive multi-sectoral approaches focussed on both prevention and management of NCDs
- It has revealed that **two in five adults have three or more risk factors for NCD** in India and the status of the health system in responding to the disease burden is also underscored.
- **Non-Communicable Diseases:**
    - A non-communicable disease (NCD) is a disease that is **not transmissible directly from one person to another.**
    - NCDs, also known as **chronic diseases,** tend to be of long duration and are the result of a **combination of genetic, physiological, environmental and behaviours factors.**
    - The main types of NCDs are **cardiovascular diseases** (like heart attacks and stroke), **cancers, chronic respiratory diseases** (such as chronic obstructive pulmonary disease and asthma) **and diabetes.**

SpaceX Launched 143 Satellites

- SpaceX broke a world space record by launching 143 satellites in quick succession, **beating India's record of deploying 104 satellites in February 2017.**
- The launch vehicle for the SpaceX record-breaking flight was the Falcon 9 and the mission was designated as **Transporter-1.**
- The launch marks the first dedicated mission for SpaceX's **SmallSat Rideshare Program.** The program **offers cheap access to space for small satellite companies,** starting at USD 1 million for a 200-kg satellite.

Parker Solar Probe

- The National Aeronautics and Space Administration's (NASA) **Parker Solar Probe** has marked seventh successful swing around the Sun.
- The Parker Solar Probe is **NASA's first mission to the sun** that will explore the sun's atmosphere and its outermost atmosphere, the corona.
- The spacecraft is named after solar physicist **Eugene Parker** who was the first scientist to describe solar wind in 1958.
- The probe will fly through the Sun's atmosphere and will come as close as 3.8 million miles to the star's surface, well within the orbit of Mercury. The Parker probe is expected to make 24 loops of the Sun over seven years.
- In order to reach an orbit around the sun, the Parker Solar Probe will take seven flybys of Venus that will essentially give a gravity assist, shrinking its orbit over the course of nearly seven years.
- The mission, which hopes to uncover the Sun's mysteries, will **accumulate a gamut of data about its structure and magnetic and electric fields,** as well as the energetic particles cruising near and away from Earth's star.
- The information will help researchers and scientists solve two long standing mysteries:
    - **How the solar wind is accelerated**
    - **Why the sun's outer atmosphere, or corona, is so much hotter than the solar surface**

Bharat Biotech's BBV154

- **Bharat Biotech's BBV154** is the first publicised attempt at getting an **intranasal Covid-19 vaccine.**
- BBV154 is **non-invasive, eliminates needle-associated injuries** and infections and is easy to administer, as it also does not require trained healthcare workers.
- Vaccines are most commonly administered as **injectable shots** into the muscles **(intramuscular)** or the tissue just between the skin and the muscles **(subcutaneous).**
- With intranasal vaccines, the **solution is squirted or sprayed into the nostrils** and inhaled instead of injecting it.
- **Benefits**
  - Such vaccines aim to **overcome barriers to delivery and administration** that come with producing and distributing injectable vaccines.
  - They also may be able to **tap an additional set of immune cells** found in the tissues lining the nose, mouth and lungs.
  - Intranasal vaccines **cut down on the need for syringes, needles and other components** like alcohol swabs, as they are not injected.
  - It also is **easier to scale up manufacturing** of such a vaccine.
- **Challenges:**
  - Past attempts to develop intranasal vaccines, including for measles flu, **have not been very successful.**
  - These vaccines have mostly been made using live, weakened viruses, but have **never cleared clinical trials.**
  - Only a live attenuated influenza flu vaccine has been licenced through this route of delivery.
  - Some experts have also said that, because such a vaccine is being administered through the nose, the **amount given in one shot has to be smaller** than the quantity that can be delivered when injected.

Akash-NG Missile

- The **Akash-NG (New Generation) Missile** was successfully launched by the **Defence Research and Development Organisation (DRDO).**
- Akash-NG is a **new generation Surface to Air Missile** meant for use by Indian Air Force with an **aim of intercepting high maneuvering aerial threats.**
- The Akash-NG system has been developed with **better deployability** compared to other similar systems with a canisterized launcher and a much smaller ground system footprint.
- The key advantage of the Akash NG is its **two-pulse, solid rocket motor.** This gives it a longer range of 30 km and the ability to generate a **high terminal velocity, outperforming even the fastest and most agile enemy fighter.**
- Its entirely indigenous seeker head locks onto the enemy aircraft and continuously guides the Akash NG warhead to its impact point with the target.
- Akash NG **detects enemy fighters at ranges out to 80 km.**

BS-VI and CAFE Norms

- Automakers made a representation to the government to defer the implementation of Corporate Average Fuel efficiency (CAFE-2) regulations and BS-VI stage II norms to April 2024.
- As of now, the CAFE-2 norms are set to come into effect in 2022 and BS-VI stage II norms are set to come into force beginning April 2023.

Corporate Average Fuel efficiency (CAFÉ) Norms

- CAFE regulations are in force in many advanced as well as developing nations, including India.
- They aim at **lowering fuel consumption (or improving fuel efficiency) of vehicles** by lowering carbon dioxide (CO_2) emissions, thus serving the twin purposes of reducing dependence on oil for fuel and controlling pollution.
- Corporate Average refers to sales-volume weighted average for every auto manufacturer. The norms are applicable for petrol, diesel, LPG and CNG passenger vehicles.
- CAFE regulations in India came into force from April 1, 2017. Under this, average corporate CO2 emission must be less than 130 gm per km till 2022 and below 113 gm per km thereafter.
- Stricter CAFE targets can also **lead to manufacturers moving to electric or strong hybrid vehicles** over the medium to long-term to comply with the norms.

Bharat Stage (BS) IV stage II Norms:

- The Bharat Stage emission standards are the **legal limits on the amount of air pollutants** like carbon monoxide and particulate matter that a vehicle in India can emit. These standards are targeted at making improvements in three areas -- **emission control, fuel efficiency and engine design.**
- The first emission norms were introduced in India in 1991 for petrol and in 1992 for diesel vehicles. Followed these, the catalytic converter became mandatory for petrol vehicles and unleaded petrol was introduced in the market.
- The central government has mandated that vehicle makers must manufacture, sell and register only BS-VI (BS6) vehicles from April 1, 2020.
- Sulphur dioxide released by fuel burning is a major pollutant that affects health. **BS-VI fuel's sulphur content is much lower than BS-IV fuel.** It is reduced to 10 mg/kg max in BS-VI from 50 mg/kg under BS-IV.
- This reduction makes it possible to equip vehicles with better catalytic converters that capture pollutants. However, **BS-VI fuel is expected to be costlier** that BS-IV fuel. Vehicles that are compliant with BS-VI will also be more expensive.

Why Forest Fires Are Common In Himachal Pradesh

Himachal Pradesh frequently witnesses forest fires during dry weather conditions. Recently, a forest fire which started near Kullu raged for several days before being brought under control.

Although two-thirds of the total geographical area of Himachal Pradesh is legally classified as forest area, much of this area is permanently under snow, glaciers, cold desert or alpine meadows and is above the tree line. This leaves an effective forest cover of **around 28 percent of the total area.**

- Except for periods of precipitation in monsoon and winter, the forests remain vulnerable to wildfires. Forest fires are a recurrent annual phenomenon in the state, and most commonly occur in **Chir Pine forests.**

Causes Of The Forest Fire

- Natural causes such as lightning or rubbing of dry bamboos with each other can sometimes result in fires, but forest officials maintain that almost all forest fires can be attributed to human factors.
- When the grass is dry, even a small spark, such as someone dropping a burning matchstick, torchwood or a bidi/cigarette, can cause a massive fire.
- A spark can also be produced when dry pine needles or leaves fall on an electric pole.
- Also, when people burn their fields to clear them of stubble, dry grass or undergrowth, the fire sometimes spreads to the adjoining forest.
- **Fuels of such massive fires:**
    - The dry leaf litter on the forest ground acts as a ready fuel. Fallen tree leaves, dry grass, deadwood on the forest floor etc. form the surface fuels. Below the loose litter, decaying materials such as humus, wood, shrubs, roots, much and peat can also support the combustion.
    - Above the surface level, dry standing trees, mosses, lichens, dry epiphytic or parasitic plants etc. can spread the fire to the upper foliage and the tree crowns.

Measures To Prevent And Control Forest Fires

- **Clearing camping sites of dried biomass**, early burning of dry litter on the forest floor, growing strips of fire-hardy plant species within the forest etc. can prevent the forest fire to some extent.
- **Forecasting fire-prone days** using meteorological data is essential.
- **Creating fire lines** in the forests is also a method to prevent fires. Fire lines are strips in the forest kept clear of vegetation to prevent the fire from spreading.
- Once a fire starts**, early detection and quick action** by fire-fighting squads is crucial.

Management Effectiveness Evaluation (MEE) of Protected Areas (PA)

Minister for Environment, Forest and Climate Change (MoEFCC), released Management Effectiveness Evaluation (MEE) of 146 national parks and wildlife sanctuaries in the country.

Management Effectiveness Evaluation (MEE)

- It is the assessment of how well protected areas such as national parks, wildlife sanctuaries, conservation reserves, community reserves and tiger reserves are being managed and their effectiveness in conserving target flora and fauna.
- It has emerged as a key tool for PA managers and is increasingly being used by governments and international bodies to **understand the strengths and weaknesses of the protected area management systems.**
- The term ‘management effectiveness’ reflects **three main themes of protected area (PA) management:**
    - Design issues relating to both individual sites and PA systems.
    - The adequacy and appropriateness of management systems and processes.
    - Delivery of the objectives of PAs, including conservation of values.

Significance of MEE

- In both developed and developing countries, it has been seen that **declaration of PAs does not always result in adequate protection.** Evaluation is necessary because PAs face many threats.

- At present, India has a network of **903 Protected Areas** in the country covering about 5% of the total geographic area of the country. In order to assess the efficacy of Protected Areas, evaluation of management effectiveness is required.
- This approach **facilitates a range of responses to threats and deficiencies** in management, from **site-based actions to broad political and policy reviews**
- Funding bodies, policy makers and conservation lobbyists may use the results to highlight problems and to set priorities to promote better management policies and practices.
- MEE can:
    - Enable and support an adaptive approach to management.
    - Assist in **effective resource allocation**.
    - Promote **accountability and transparency.**
    - Help **involve the community** and build constituencies.
    - **Promote the values** of PAs.

Key Findings Of The Assessment

- The results of present assessment are encouraging with overall mean **MEE score of 62.01% which is higher than the global mean of 56%.**
- With this round of evaluation, the MoEFCC successfully completed one full cycle of evaluating all terrestrial National Parks and Wildlife Sanctuaries of the country from 2006 to 2019.
- According to the survey, **Tirthan Wildlife Sanctuary and Great Himalayan National Park in Himachal Pradesh** have performed the best among the surveyed protected areas.
- **The Turtle Wildlife Sanctuary in Uttar Pradesh** was the worst performer in the survey.

Asian Houbara Bustard

The government of Pakistan has issued special permits to the Emir of Qatar and other members of the royal family to **hunt the houbara bustard**, an internationally protected bird species.

About Asian Houbara Bustard

- Bustards are **large, terrestrial birds** that belong to several species, including some of the largest flying birds.
- The Asian houbara bustard is a bird **native to Central Asia that migrates to the Indian subcontinent,** including Pakistan, during winter months. It is one of multiple bustard species and similar to the Great Indian Bustard, which is native to India.



- The houbara bustard, which **lives in arid climates**, comes in **two distinct species** as recognised by the International Union for Conservation of Nature, one residing in North Africa (Chlamydotis undulata) and the other in Asia (Chlamydotis macqueenii).
- **Habitat**: The population of the Asian houbara bustards extends from northeast Asia, across central Asia, the Middle East, and the Arabian Peninsula to reach the Sinai desert.
- **Population**: According to the International Fund for Houbara Conservation (IFHC), roughly 33,000 Asian houbara bustards and over 22,000 of the North African houbara bustards remain today.

- **Threats**: The main reasons for the houbara's decline are poaching, unregulated hunting, along with degradation of its natural habitat. The Arab royals hunt the bird as a sport and also because its meat is believed to be an aphrodisiac.

Green Tax

- The Centre plans to notify a system of imposing "green tax" on older vehicles in a move **to disincentivise the use of polluting vehicles**, and to curb pollution in the country.
- Personal vehicles are proposed to be charged green tax at the time of renewal of registration certification after 15 years; public transport vehicles will be charged lower green tax; higher green tax (50 per cent of road tax) will be levied on vehicles being registered in highly polluted cities.
- Exempted vehicles include strong hybrids, electric vehicles, CNG vehicles, ethanol LPG vehicles, tractors, harvestors, tillers, etc.
- The revenue collected from the green tax will be kept in a separate account and will be used for tackling pollution.

What Is Green Tax?

- A green tax / Environmental tax is imposed on the environment polluting goods or activities, to discourage people from anti-ecological behaviour and make them sensitive towards the environment.
- The money collected from this tax helps governments in carrying our various ecological projects in the country.

Need For Green Tax In India

- **Discourages Pollution-Causing Activities:** By levying a duty, it is like a fine or punishment that either the seller or buyer or both have to bear for indulging into pollution-causing activities.
- **Encourages "Greener" Projects:** Since the duty will make these products more expensive, it encourages other industries, which follow "Green" production practices, to compete and get an edge.
- **Collect Funds for Environmental Initiatives:** Every country is spending billions of dollars on initiatives that can help in curbing the pollution in future. From forestation projects to river cleaning initiatives, all of these cost in millions and billions to the exchequer. The funds collected from this tax can be used to fund these initiatives making them financially viable.
- **They promote energy saving** and the use of renewable sources.

Concerns

- While the government is prompt in collecting such taxes, it seems to have a lackadaisical approach in utilizing them for stated goals.
- India's Clean Environment Cess or coal cess acts as a carbon tax and the funds raised are managed by the National Clean Environment Fund (NCEF). Substantial resources have been diverted from the NCEF towards myriad government schemes though it was originally instituted to fund research and development in the field of clean energy technologies.

Principles For Proper Environmental Taxation

- Environmental taxes should be targeted to the pollutant or polluting behaviour, with few exceptions.
- The scope of an environmental tax should be as broad as the scope of the damage.
- The tax rate should be commensurate with the environmental damage caused.

- Environmental taxes may need to be combined with other environmental policy instruments to address certain issues.
- The tax must be credible and its rate predictable in order to motivate behaviours that help protect the environment.

Emission Norms For Coal-Fired Power Plants

- India's Power Ministry has proposed **pushing back the deadlines for adoption of new emission norms** by coal-fired power plants, saying "an unworkable time schedule" would burden utilities and lead to an increase in power tariffs.
- India initially had set a 2017 deadline for thermal power plants to comply with emissions standards for installing **Flue Gas Desulphurization (FGD) units that cut emissions of toxic sulphur dioxide.** That was later changed to varying deadlines for different regions, ending in 2022.
- The Power Ministry proposed a "**graded action plan,"** whereby areas where plants are located would be graded according to the severity of pollution, with **Region 1 referring to critically polluted areas, and Region 5 being the least polluted**. Strict control of emissions shall be required in such key areas for thermal power stations categorised under Region1. Presently no action is required for power plant that are situated under Region 3, 4 & 5.
- Under the latest proposal, no new dates have been set. However, a final decision will have to be approved by the Supreme Court, which is hearing the issue.

Commission for Air Quality Management (CAQM)

- CAQM in NCR and adjoining areas has begun the process of setting up a **Decision Support System (DSS)** having a web, GIS and multi-model based operational and planning decision support tool.
- This tool will help immensely in **capturing the static and dynamic features of the emissions** from various sources. The sources covered will include industries, transport, power plants, residential, DG sets, road dust, agricultural burning, refuse burning, construction dust, ammonia, volatile organic compounds, landfill etc.
- It will have an integrated framework to handle both primary and secondary pollutants using chemical transport model.
- The system will also be able to handle the **source specific interventions** with the framework to estimate benefits of interventions and will focus on presenting the best results in a comprehensive user friendly and simple format for different users.

Please refer The Recitals October 2020, to read more about Commission for Air Quality Management in National Capital Region (NCR).

Indian Star Tortoises

Forest Department personnel seized as many as 414 live endangered Indian star tortoises from a gang which was smuggling them from East Godavari district in Andhra Pradesh to Odisha by a van.

About Indian Star Tortoise

- **Habitat**: Inhabit a variety of dry vegetation types, including scrublands, grasslands, desert edges and agricultural landscapes of fields.

- **Distribution**: They are found in three areas – North-western India (Gujarat, Rajasthan) and adjoining south-eastern Pakistan; eastern and southern areas of India (from Tamil Nadu, Andhra Pradesh and eastern Karnataka to Odisha); and throughout Sri Lanka.



- **Threat**: Illegal smuggling for use as exotic pets in Asian countries (Thailand, China, and Malaysia) is the major concern.
- **IUCN status:** Vulnerable**.**
- **Legal protection in India:**
    - Listed in the Schedule IV of the Wild Life (Protection) Act, 1972.
    - Prohibited from export under the Foreign Trade Policy; can be confiscated under the Customs Act, 1962.

Miscelleneous

- The Union Minister of Earth Sciences inaugurated the India Meteorological Department's centre **at Leh in Ladakh.** Located at a height of **3500 meters**, it will be the **highest meteorological centre in India.** The Centre will be a world-class facility for high altitude meteorology and will cater to the various kinds of weather and climate needs of the people and the administration of Ladakh, ranging from **short (three days) and medium (twelve days) to extended (one month) period** on a **daily basis** for both the districts (Leh and Kargil).
- **INSACOG:** The **Ministry of Science & Technology** has launched the **Indian SARS-CoV-2 Genomic Consortia (INSACOG),** comprising **10 labs** namely DBT-NIBMG Kalyani, DBT-ILS Bhubaneswar, ICMR-NIV Pune, DBT-NCCS Pune, CSIR-CCMB Hyderabad, DBT-CDFD Hyderabad, DBT-InSTEM/ NCBS Bengaluru, NIMHANS Bengaluru, CSIR-IGIB Delhi, and NCDC Delhi.The overall aim of the INSACOG is **to monitor the genomic variations in the SARS-CoV-2** on a regular basis through a multi-laboratory network. This vital research consortium will also assist in developing potential vaccines in the future.
- **India Science, Nation's Science & Technology OTT (Over-the-top) channel completed** its second year of existence successfully on January 15th, 2021. It is **managed by Vigyan Prasar,** an **autonomous organization** of the Department of Science & Technology, this channel was formally launched on January 15, 2019.

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