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Institute of Civil Services



CURRENT AFFAIRS April Month 2022

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Editorials of the Month

Individual action can help with Climate change mitigation

News: In the recent IPCC report a chapter on “demand, services and social aspects of mitigation” puts people and their well-being at the center of climate change mitigation.

Focus on Demand Side Strategies:

- The report shows that, carbon dioxide and non-carbon GHG emissions globally can be reduced by 40-70% compared to the 2050 emissions projection.
- It can be achieved through measures such as reduced food wastage, following sustainable healthy dietary choices which acknowledge nutritional needs, adaptive heating and cooling choices for thermal comfort, climate friendly dressing culture, integration of renewable energy in buildings, shifting to electric light-duty vehicles, and to walking, cycling, shared and public transit, compact city design.
- The IPCC report also shows that individuals with high socioeconomic status contribute disproportionately to emissions and have the highest potential for emissions reductions, as citizens, investors, consumers, role models, and professionals. Of the 60 actions assessed in this report, on an individual level, the biggest contribution comes from walking and cycling wherever possible and using electricity-powered transport.

Systemic changes can help realize true potential. How?

- For example, land use and urban planning policies to avoid urban sprawl, support for green spaces, reallocation of street spaces for walking and physical exercise, investment in public transport and infrastructure design for active and electric vehicles. Electrification and shifts to public transport also brings benefits in terms of improved health, employment opportunities and equality.
- When user-level access is provided to more efficient energy conversion technologies, the need for primary energy can be reduced by 45% by 2050, compared to 2020.
- Demand side changes cannot deliver net-zero goal on their own but it requires investment in and transformation across every sector, along with policies and incentives that encourage people to make low-carbon choices in all aspects of their lives. There is huge untapped potential in the near term through changes across transport, industry, buildings, and food that will take away the supply-side uncertainties and make it easier for people to lead low-carbon lifestyles and, at the same time, improve well-being.

Conclusion

- The latest IPCC report is clear that the use of coal globally would have to fall by about 90% by 2050, and gas and oil would need to decline by anywhere from 25 to 50 % or more to give us a chance to limit warming to 1.5 degrees Celsius with no or limited overshoot.
- Individual choice alone can make only a modest contribution to reducing GHG emissions and this is insufficient unless it is linked to structural and cultural changes that make it easier for people to lead low-carbon lifestyles.

An economic crisis foretold – Sri Lanka

News: The Sri Lankan economy has been facing a crisis owing to a serious Balance of Payments (BoP) problem. Its foreign exchange reserves are depleting rapidly and it is becoming increasingly difficult for the country to import essential consumption goods.

The genesis of crisis:

- The country's Foreign exchange reserves were already strain after the Easter Sunday terror attacks of 2019 halted tourist arrivals and foreign investments slowed down. The Covid-19 pandemic's impact on key foreign exchange earners – tourism, garment, tea exports, and migrant workers' remittances – dealt a deadly blow to an economy already reeling from the shock of Easter Sunday bombings.
- In 2020, alone the GDP contracted by 3.6%. At macro level, a significant drop in export revenue, a high import bill (over \$20 Billion in 2021) and impending Foreign debt obligations totaling nearly \$7 Billion this year.
- The President's decision from 2020 to restrict imports, including food items and inputs into agriculture, was aimed at conserving Foreign exchange. Driven by that logic, he banned chemical fertilizer imports in May 2021, forcing the country to switch abruptly to Organic Farming in 2021. This move has posed a serious threat to Sri Lanka's food security. Import ban on fertilizers was not backed by corresponding boost in domestic production which could have stabilized food prices.

India's help to Sri Lanka:

- The relief extended by India from the beginning of 2022 totals over USD 1.4 billion - a USD 400 currency swap, a USD 500 loan deferment and a USD 500 Line of Credit for fuel imports.
- More recently, India extended a USD 1 billion short-term concessional loan to Sri Lanka to help the country as it faces an unprecedented economic crisis.
- Indian traders have started loading 40,000 tonnes of rice for prompt shipment to Sri Lanka in the first major food aid since Colombo secured a credit line from New Delhi. 40,000 tonne shipment is part of 3,00,000 tonnes India will supply to Sri Lanka in next few months. Indian traders are also likely to start shipping other essential commodities like sugar and wheat in coming weeks.

Why Sri Lanka matters?

- Helping Sri Lanka holds relevance to keep it out of China's string of pearls game in the Indo-Pacific region.
- It is in our nation's strategic, economic and political interests to contain Chinese presence and influence in the region. In addition to financial help, India can offer policy advice and investments in areas where Colombo needs help to do away with the crisis.
- The present crisis has already seen arrival of 16 persons from Sri Lanka to Tamil Nadu through illegal means. We must ensure that present situation is not used to step up smuggling activities and trafficking.
- The situation also offers a chance to find a solution to the Palk Bay fisheries dispute.

Considering our neighborhood first policy, New Delhi must do everything possible in our capacity to help Sri Lanka realize its potential, to reap the rewards of a stable, friendly neighborhood.

Push the Policy Needle Forward on Migrant Support

The plight of the migrants came to the forefront during nationwide lockdown when we saw migrant workers walking hundreds of kilometers, facing hunger issues, exhaustion to safely reach their homes. This brought several initiatives such as ramping up of One Nation One Ration Card project, introduction of Affordable Renting Housing Complexes scheme and E-Shram Portal. While these initiatives gave us some hope, a lot still needs to be done.

Significance of Migration and Migrants:

- Migration fills gaps in demand for and supply of labour, efficiently allocates skilled labour, unskilled labour, and cheap labour.
- Enhances knowledge, skill sets of migrants as they get exposure to the outside world.
- It improves scope of employment and economic prosperity which helps improve quality of life.
- It has multiplier effects in terms of increased investment in health, education and asset formation. It increases consumption expenditure.

Migrants in India:

- A third of the nation's workforce is mobile. Migrants work in different sectors such manufacturing, construction, hospitality, agriculture.
- Surveys have found that incomes of migrant households continue to be lower pre-pandemic levels.

- The pandemic has undone the post 1991 poverty alleviation of almost 300 million Indians, driven by migration out of farm work.

Issues:

- **Shortcoming in Identification of Migrants:** Migrants are located inside two larger categories that have long troubled policymakers: the unorganized worker and the urban poor. Even the e-Shram portal has been unable to accurately distinguish and target migrants.
 - Policy interventions in major urban destinations continue to combine the urban poor with low-income migrants.
 - Hence, slum development continues as the primary medium for alleviating migrant concerns, while in reality, most migrants live on worksites that are entirely out of the policy gaze.
- **Incorrect Official Datasets for Migration:** The official datasets fail to capture the actual scale and frequency of internal migration in India.
 - Data systems designed to periodically record only one spatial location have posed great challenges to welfare delivery for up to 500 million people who are part of multi-locational migrant households.
 - The pandemic has placed a sharp focus on problems such as educating and vaccinating those children who accompany their migrant parents including ensuring that migrant women avail maternity benefits at multiple locations.
- **Politicization of Migration:** States are highly influenced by the political economy of migration.
 - For example, 'Destination states' experience tension between economic needs (migrant worker is needed) vs political needs (nativists policy of imposing domicile restriction on employment and security)
 - While, the 'sending states' are highly motivated to serve their own people as they vote in their source villages.
 - The response to internal migration follows from State-specific calculations on what political dividends might be reaped (or lost) by investing fiscal and administrative resources towards migrants.

What can be done in the near future?

- Migrants would be well served if the Centre played a proactive role by offering strategic policy guidance and a platform for inter-State coordination.
- Niti Aayog's Draft Policy on Migrant Workers is a positive step forward in articulating policy priorities. Its release must be expedited as the country is marching forwards to economic recovery.
- Recognition of circular migrants as part of India's urban population might propel authorities to consider how proposed policies might impact these communities. In addition, separate efforts need to be considered for migrant women, who are mainly involved in domestic work.

Land Monetization

News: The setting up of the National Land Monetization Corporation (NLMC) is a progressive step in the quest to implement the government's asset Monetization programme.

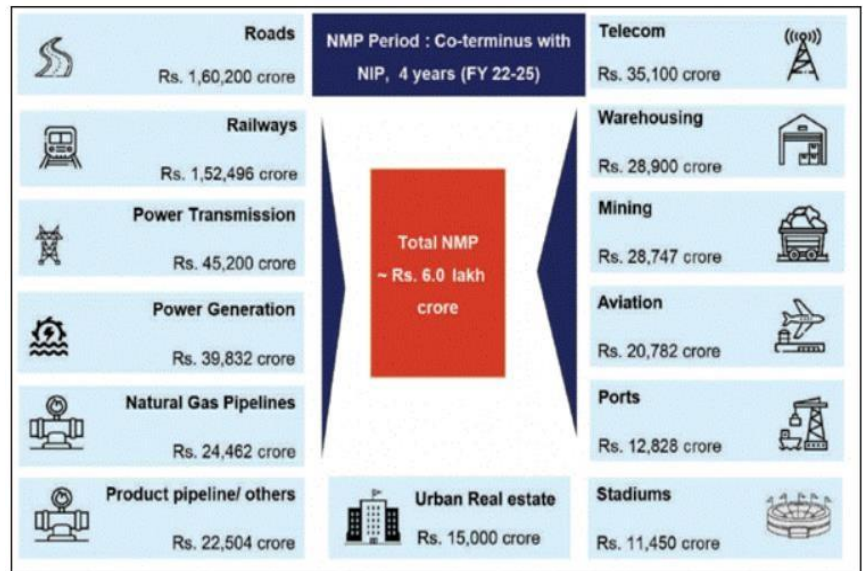
- The Centre has taken the view that there are assets lying idle with various departments and PSUs that can be better put to use through the Monetization scheme.
- In August, 2021, the government of India launched the National Monetization Pipeline (NMP).

Why do we need NMP?

- Building new infrastructure has two constraints for any country including India: Access to patient, predictable and cheap capital and execution capability, where government and private agencies can take up multiple marquee projects simultaneously. India needs more infrastructure but the public sector simply doesn't have required resources to build it. There are two solutions to this. First is to bring private sector with a contractual framework for what it has to do and let it bring its own resources. Other option being recognizing the fact that there are more risks in the construction stage and is perhaps better to let public sector build the asset and later sell it off to private players completely or asking them to manage it.

Functions of NLMC:

- The NLMC would pool together all the assets in the form of land and buildings owned by the government that can be sold and then implement a plan of either selling these or leasing these out to other parties (primarily be private players). For example, the Railways, has a lot of land that will not be used and can be leased out. Same is the case with many of the PSUs.
- There are several units which are non-functional and hence the property owned can be sold.
- There is a big opportunity for the government to earn revenue. If the property is sold, it would be equivalent to disinvestment; if leased out, it would provide a non-tax revenue flow.
- The NLMC is needed because it would otherwise be difficult for each entity or department to carry out the monetization plan.
- It will be set up under the administrative jurisdiction of the finance ministry.
- NLMC will hire professionals from the private sector just as in the case of similar specialized government companies like the National Investment and Infrastructure Fund (NIIF) and Invest India.



How can Land Monetization help Government?

- The government can achieve its target of disinvestments through Land Monetization.
- Government's other priorities can also be achieved through land monetization. For example, the government may be able to link bidders for a land parcel to a specific goal, say, building a school, providing affordable housing or setting up renewable plants.
- For some of the loss-making companies, the NLMC can work out plans of selling out various segments - land, buildings, and plants and machinery - as the government takes a call on dealing with the staff, which can either be provided an exit route or re-deployed in other PSUs.
- Companies where the government would like to completely exit would be the ones that would qualify for such an asset sale.

What else needs to be done?

- Recognizing the wide range of specialized skills and expertise required for asset monetization in real estate market research, legal due diligence, valuation, master planning, investment banking, land management etc. It is important to hire professionals from private sector, similar to other specialized government companies like National Investment and Infrastructure Fund (NIIF) and Invest India.
- Valuation is the biggest challenge when it comes to real estate. Therefore, having professionals who understand the market holistically is essential.
- Maintaining transparency is equally important to adequate realization of the asset value. Recent experience suggests that Public-Private Partnerships (PPP) now involve transparent auctions, a clear understanding of the risks and payoffs, and an open field for any and all interested parties. Thus, the utility of PPP in greenfield projects cannot be neglected.

Therefore, it is imperative that such proceeds be reserved for future capex and this can be a useful source of financing the National Infrastructure Pipeline.

Universal Health Care

What is UHC?

- The concept of UHC revolves around the idea that nobody should be deprived of quality health care for the lack of ability to pay. It has become a critical indicator for human equity, security and dignity.
- It has become a well-accepted objective of public policy around the world. The concept has gained prominence in number of countries such as Brazil, China, Sri Lanka and Thailand.

How can we achieve UHC?

- UHC typically relies on one or both of two basic approaches: public service and social insurance. In the first approach, healthcare is provided as a free public service. In the latter one, it allows for private as well as public provision of healthcare, but costs are borne by the social insurance funds, not the patient.
- Quite different from a private insurance market, it is the one where insurance is compulsory and universal, financed mainly from general taxation, and run by a single non-profit agency in the public interest.
- The basic principle is that everyone should be covered and insurance should be geared to the public interest rather than private profit.

About HOPS Framework:

- It stands for 'Healthcare as an optional public service'.
- Under HOPS, everyone would have a legal right to receive free, quality health care in a public institution if they wish. It would not prevent anyone from seeking health care from the private sector at their own expense.
- But the public sector would guarantee decent health services to everyone as a matter of right, free of cost.
- Some Indian States are already doing so, such as in Kerala and Tamil Nadu, most illnesses can be satisfactorily treated in the public sector at little cost to the patient.
- If quality health care is available for free in the public sector, most patients will have little reason to go to the private sector. Although HOPS would not be as egalitarian as the national health insurance model initially, it would still be a big step toward UHC.

Challenges to achieving UHC:

- The absence of public health centres, dedicated to primary health care and preventive work, create the risks of patients rushing to expensive hospitals every other day thus making the whole system wasteful and expensive. Containing costs is a major challenge with social insurance, because patients and health-care providers have a joint interest in expensive care — getting better healthcare for one and earnings for the other. Another big challenge remains in identifying what services are to be universally provided to begin with and what level of financial protection is considered acceptable. Offering the same set of services to the entire population is not economically feasible and demands huge resource mobilisation.
- Another challenge with social insurance is to regulate private health-care providers. A crucial distinction needs to be made between for-profit and nonprofit providers.

Way Forward:

- In order to achieve UHC, it is vital that governments intervene in their country's health financing system to support the poor and vulnerable. This requires establishing compulsory publicly governed health financing systems with a strong role for the state in raising funds fairly, pooling resources and purchasing services to meet population needs. A Right to Health Bill would be an invaluable affirmation of the State's commitment to quality health care for all; it would empower patients and their families to demand quality services, helping to improve the system further.
- HOPS shall lay down certain health-care standards along with a credible method to revise these standards over time. Some useful elements are already available, such as the Indian Public Health Standards.

Coping with Fiscal effects of Energy Transition

News: Energy Transition are gaining momentum worldwide, and India is no exception. It has created one of the world's largest markets for renewable energy. However, this transition is going to be a complex task keeping in mind

the fiscal impacts of it. Also, ensuring that the opportunities of India's transition are shared fairly throughout society is not an easy task, given the country's population and diversity.

India's Fiscal Dependence of Fossil Fuels:

- As per document published by IMF, governments' (both centre and state) revenue from coal, oil and natural gas, will be affected over the next two decades as India shifts towards renewable energy sources.
- Revenues would fall significantly as a share of GDP and overall government budget.
- As of 2019, more than a fifth of the Centre's revenues were from fossil fuels including both tax (both direct and indirect) and non-tax revenues (including royalties, dividends etc.) paid by public sector undertakings (PSUs). The combined revenue for both the Centre and States was 13% of the total revenue collected, which translates to 3.2% of India's GDP.

Concerns associated with Energy Transition:

- Over time the revenues from fossil fuel will steadily fall as India shifts to renewable energy sources, narrows down the use of fossil fuels, and as electric vehicles (EVs) increase.
- A large part of the energy transition may need to be supported through direct or indirect subsidies by concession of excise duty on EVs, concessional GST on electric cars, concessions given under Green Hydrogen Policy etc. like the Small wind energy and Hybrid systems programme.
- The 21st report of the Standing Committee on Energy (2021-22) on financial constraints in the renewable energy sector highlights that India's long-term RE commitments require ₹1.5-2 trillion annually. Actual investments in the last few years have been around ₹75,000 crore.

What must India do to cope with Fiscal Transition?

- When the government experiences revenue stress, it finds energy to be the easiest source of revenues. Additional taxes on coal or probably a carbon tax can be imposed.
- Just as we need strong climate policies, we also need strong social policies and local institutions to ensure that the clean energy transition is fair and just.
- The Budget 2022 announced that the government proposes to issue sovereign green bonds to mobilise resources for green infrastructure. These bonds are expected to be serviced by rupee revenues, with rupee-denominated end-use. This makes strong case for domestic as well as 'masala bonds' issuances overseas.
- Several Indian corporates have tapped the India International Exchange (India INX) to raise capital from international investors. India's immense requirements for green finance could be turned into an advantage to develop a homegrown but world-facing capital market.
- A gender balanced transition is the need of the hour. India's energy transition is likely to create many jobs, but limited participation of women in the growing green workforce must be addressed.

India's Solar Power Energy Targets

News: A report, jointly prepared by two energy-research firms — JMK Research and Analytics and the Institute for Energy Economics and Financial Analysis — says India will likely miss its 2022 target of installing 100 gigawatts (GW) of solar power capacity. This is primarily because of rooftop solar lagging behind.

Key Findings:

- As of April, only about 50% of the 100GW target, consisting of 60GW of utility-scale and 40GW of rooftop solar capacity, has been met. Nearly 19 GW of solar capacity is expected to be added in 2022 — 8GW from utility-scale and 3.5GW from rooftop solar.
- Even accounting for this capacity would mean about 27% of India's 100GW solar target would remain unmet, according to co-author of the report and Founder, JMK Research. A 25GW shortfall in the 40GW rooftop solar target, is expected compared to 1.8GW in the utility-scale solar target by December 2022.
- Thus, it is in rooftop solar that the challenges of India's solar-adoption policy stick out.

Why couldn't the target be achieved?

- The disruption in supply chains due to the pandemic was a key impediment to rooftop solar adoption.
- In its early years, India's rooftop solar market struggled to grow, held back by lack of consumer awareness, inconsistent policy frameworks of the Centre/ State governments and financing.

- Recently, however, there has been a sharp rise in rooftop solar installations thanks to falling technology costs, increasing grid tariffs, rising consumer awareness and the growing need for cutting energy costs.
- Going ahead, rooftop solar adoption is expected to proportionally increase as land and grid-connectivity for utility solar projects are expected to be hard to come by.

Issues surrounding rooftop-solar installation:

- Pandemic-induced supply chain disruption to policy restrictions
- Regulatory roadblocks
- Limits to net-metering (or paying users who give back surplus electricity to the grid)
- Taxes on imported cells and modules
- Unsigned power supply agreements (PSAs) and banking restrictions
- Financing issues plus delays in or rejection of open access approval grants and
- The unpredictability of future open access charges.

Relevance of Solar power to mitigate Climate change:

- Solar power is a major prong of India's commitment to address global warming according to the terms of the Paris Agreement, as well as achieving net zero, or no net carbon emissions, by 2070.
- PM Modi in Glasgow said, India would be reaching a non-fossil fuel energy capacity of 500 GW by 2030 and meet half its energy requirements via renewable energy by 2030.
- To boost the renewable energy installation drive in the long term, the Centre in 2020 set a target of 450GW of RE-based installed capacity to be achieved by 2030, within which the target for solar was 300GW.
- Given the challenge of integrating variable renewable energy into the grid, most of the RE capacity installed in the latter half of this decade is likely to be based on wind solar hybrid (WSH), RE-plus-storage and round-the-clock RE projects rather than traditional solar/wind projects, according to the report.

Way Forward

- Since 2011, India's solar sector has grown at a compounded annual growth rate (CAGR) of around 59% from 0.5GW in 2011 to 55GW in 2021. India currently ranks 5th in terms of installed solar power capacity.
- However, based on the current trajectory, the report finds, India's solar target of 300GW by 2030 will be off the mark by about 86GW, or nearly a third. This means a lot of work needs to be done before we reach our set targets.

India-UK Ties

News: UK PM Boris Johnson has arrived in India on a two-day visit. This brings opportunities to explore ties in trade, investment, high technology, defence, and regional cooperation. The bitter legacies of colonialism had made it impossible for the two sides to pursue a sensible relationship in the past. But over the last couple of years, India and the UK have begun a promising and pragmatic engagement devoid of sentiment and resentment.

How have the ties evolved over the recent past?

- The India-UK relationship has been on an upward trajectory, more recently due to the conclusion of a Comprehensive Strategic Partnership in 2021. The agreement has established a 2030 roadmap for India-UK relations. Talks on defence-related trade and deepening cyber security were discussed. A new joint cyber security programme is set to be announced to protect online infrastructure in India and the UK.
- UK has agreed to join India's Indo-Pacific Oceans initiative thereby strengthening cooperation in maritime domain. In January 2022, India and the UK managed to conclude the first round of talks for an India-UK Free Trade Agreement. India and the UK also plan to hold the first Strategic Tech Dialogue, a ministerial-level summit on emerging technologies.

Significance of India-UK relations:

- India is a key strategic partner for the UK in the Indo-Pacific both in terms of market share and defence, as was underscored by the signing of the Defence and International Security Partnership between India and the UK in 2015. As far as Indian interests are concerned, The UK is a regional power in the Indo-Pacific as it possesses naval facilities in Oman, Singapore, Bahrain, Kenya, and British Indian Ocean Territory.
- The UK has also confirmed £70 million of British International Investment funding to support the usage of renewable energy in India, which will help in building renewable energy infrastructure and developing solar

power in the region. India has sought easy market access for Indian fisheries, pharma, and agricultural products besides duty concession for labor-intensive exports.

Hindrances and Paradoxes:

- India's lingering post-colonial resentments and the UK's unacceptable claim for a special role in the Subcontinent generated unending friction. The consequences of Partition and the Cold War made it harder for the two countries to construct a sustainable partnership. Although, recent times have provided new basis for mutually beneficial engagement.
- Pakistan also has been one of the major obstacles in the bilateral relations of India with Britain. Britain's advocacy of Pakistan has always been a matter of concern for India. Unlike the US and France, which are committed to an "India first" strategy in South Asia, the UK remains torn between its new enthusiasm for India and the inertia of its historic tilt towards Pakistan.
- The domestic dynamics of Britain have also impacted the ties. While the Labour party was initially considered to be empathetic to India while the Conservative party was not. Now, the Labour party has become rather hostile on India's internal matters, including on Kashmir.

Way Forward:

- Britain remains the fifth-largest economy, a permanent member of the UN Security Council, a global financial hub, a centre of technological innovation, and a leading cyber power. It has a significant international military presence and wide-ranging political influence.
- India must try harder to leverage these British strengths for our benefits.
- The forthcoming visit of the British Prime Minister to India signifies the importance of India's role in the dynamically changing global order as the latter prepares itself to host multiple foreign leaders in the upcoming months and the G20 presidency in 2023.

Having said that, India meanwhile has become supremely self-assured in dealing with the UK; with the Indian economy set to become larger than Britain's in the next couple of years, it is and shall be no longer defensive about engaging Britain.

Time to Revamp Schools as they Reopen after Pandemic Break

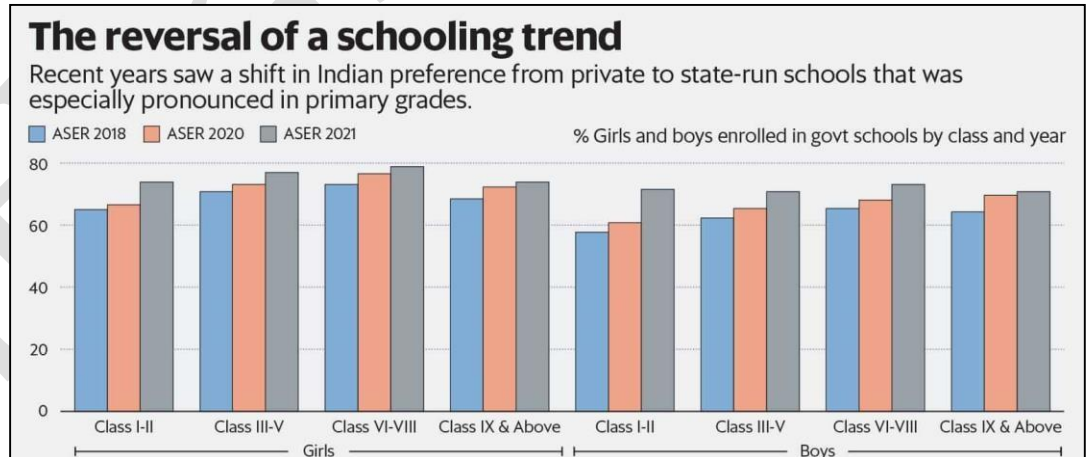
News: After remaining shut for about two years due to Covid-19 pandemic, schools have gradually started re-opening and welcoming children back. However, with almost a 2-year absence from school premises most of the students have spent time at home with either semi-structured or no educational activity.

This calls for urgent

actions from schools for resuming structured educational activities along with assuring conducive classroom spaces which are sensitive to the prolonged anxiety, stress and isolation that students face. The question of school preparedness becomes even more pertinent as we see increasing enrollment in government schools throughout India.

Trends in Enrollment Scenario:

- The Annual Status of Education Report (ASER) Report 2021 for rural India notes that there has been a shift in enrolment from private to government schools between 2018 and 2021 across all grades and among both boys and girls. The increase is most striking among children enrolled in the lowest grades.



- Overall, a total of 17 states saw an increase in enrolment in government schools. Uttar Pradesh and Kerala topped the chart. The shift highlights a significant change as it reverses a decade-long trend where private school enrolment kept growing at the expense of government schools.
- Nagaland and Manipur although saw a decrease in enrolment levels in government schools over the period under review. However, it does not mean students have shifted to private schools, but it reflects large number of students who are currently not enrolled in these states.
- On average in 2021, the proportion of children aged 6-14 currently not enrolled in school has increased by 2.1 percentage points compared to the 2018 level, with states like Andhra Pradesh (7%), Manipur (15.5%), Nagaland (19.6%) and Telangana (11.8%) showing a high increment in their currently-not-enrolled levels compared to 2018.

Challenges observed:

- The ASER presented its findings on 'Learning Levels' for West Bengal, Chhattisgarh and Karnataka which showed that there is a learning crisis in these states and the situation might be the same in other states and UTs. For example, In West Bengal, there is a decline in the proportion of children enrolled in Class 1 in government schools who can read letters of the alphabet and read single-digit numbers.
- As per data for 2019-20 from the Unified District Information System for Education (UDISE), only 12% of all government schools had internet facilities and only 30% had computers.
- Pandemic disruptions drew attention to the challenges of teachers, who were offering educational and non-educational support to school students across India. Even before the outbreak, the educational landscape of India was mired in a range of challenges - recruitment and management of teachers, inadequacy of teacher training and a teacher shortage.
- Learning loss amongst children was observed massively as schools were the ones to remain shut for the longest period, online education was not affordable to most. When schools started to reopen, children were unable to catch up with their syllabus.

What can the government do and what is already being done?

- Starting this academic year, schools should identify the children who are lagging behind and run basic revision and bridge programmes for them to consolidate their skills of reading, writing, numeracy and comprehension. The NIPUN BHARAT initiative, is a reassuring step in that direction.
- The rising enrolment levels in the government schools offer a chance for the central as well as state governments to ensure the retention of students. It offers a clear indication of people's expectations of the state's role in providing education as a matter of right and not just another 'service'.
- The need of the hour is to improve the perceptions of various stakeholders (especially parents and children) vis-à-vis state run-schooling systems in India. Priority must be given to lesser privileged students who did not have access to e-learning during the pandemic.

Skilling Efforts Need to Be Scaled Up

News: The technology overhaul has resulted in the creation of new types of jobs that require special skill sets; the higher end jobs which require more 'human' skills such as networking, creativity, problem-solving.

India being one of the youngest nations in the world with the average Indian being 29 years (the average Chinese is 37 years and Japanese, 48 years) has the potential to convert this pool of young population into human capital provided steadfast attention is given to skilling and education.

However, for a country that adds 12 million people to its workforce every year, less than 4% have ever received any formal training. India's workforce readiness is one of the lowest in the world and a large chunk of existing training infrastructure is irrelevant to industry needs.

Facts about Indian Demography:

- Of the nearly 135 crore Indians in 2021, around 34% (46.42 crore) were below 19 years, and nearly 56% (75.16 crore) between the age of 20 and 59.
- By 2041, this demographic will change, but with 59% (88.97 crore) of its population between 20 and 59, India could be the world's largest pool of human resources.
- Over the next two decades, the labour force in the industrialised world is expected to decline by 4%, while in India it will increase by nearly 20%.

- These figures make a case for India to focus on skilling of its workforce. It is imperative that employability of workforce is in sync with changing technological ecosystem.

Government Initiatives:

- The flagship Pradhan Mantri Kaushal Vikas Yojana (PMKVY) scheme was launched in 2015 to provide short-term training, skilling through ITIs and under the apprenticeship scheme. Since 2015, the government has trained over 10 million youth under the scheme.
- Over time, a fairly vast institutional system for training and skills has evolved. This includes 15,154 Industrial Training Institutes (ITIs) (including 11,892 private institutes); 36 Sector Skills Councils, 33 National Skills Training Institutes, and 2,188 training partners registered with NSDC.
- The SANKALP programme which focuses on district-level skilling ecosystem and the STRIVE project which aims to improve the performance of ITIs are other significant skilling interventions.
- Since the implementation of the mandatory CSR spending under the Companies Act, 2013, corporations in India have invested over ₹100,000 crores in diverse social projects. Of these, about INR 6877 crore was spent in skilling and livelihood enhancement projects.
- TEJAS initiative (Training for Emirates jobs and skills), a Skill India project to train overseas Indians was launched at 2020 Dubai Expo. The training given is to help ease Indian workforce get equipped for skill and market requirements in the UAE.

Challenges:

- Upskilling and re-skilling needs of the larger population that have largely been unmet. According to PLFS data 2019-20, 86.1% of those between 15 and 59 years had not received any vocational training. The remaining 13.9% had received training through diverse formal and informal channels.
- According to a survey conducted by the NSSO, in India, there is a lack of training facilities in as many as 20 high-growth industries such as logistics, healthcare, construction, hospitality and automobiles.
- The Covid-19 pandemic is responsible for the disruption of both short and long-term training courses, thereby hurting millions of students.
- A 2020 NSO survey revealed that one out of every eight students enrolled in a school or college drops out before completing education; 63% of these are at the school level. In the absence of basic level education, it would be difficult to upskill the younger population for higher-end jobs.

What needs to be done for upskilling of Indian workforce?

- The public school system must ensure that every child completes high school education, and is given appropriate skilling, training and vocational education in line with market needs. Deploying new technology to put in place virtual classrooms together with Massive Open Online Courses (MOOCs) would further help yield a higher educated workforce.
- The PM Kaushal Vikas Yojana could prioritize upskilling initiatives in the PPP mode. Many Foreign countries such as UK, Australia, Germany have proactive participation from industry players in their skilling efforts.
- Upskilling the already employed workforce could lead to greater productivity in the economy, higher incomes for workers and higher profitability for firms. Investing in skill development is a win-win solution for corporate India as well as the nation - according to a NASSCOM Report in 2021, investing in skill training programmes resulted in more than 600% return on outlays.

For Carbon-Neutral Growth, India must focus on Agroforestry

News: Climate change is highly likely to have negative consequences for agriculture all over the world. Extreme weather events which are consequences of climate change are likely to reduce overall productivity of agriculture. Flash floods, droughts, untimely rains, hailstorms, heat waves and cold waves bringing temperature unsuitable for crops will demand adaptation of agriculture practices to new climatic conditions. In this context Agro-forestry is important for India as well as other developing countries.

What is Agroforestry?

- Agro forestry is a land use system that integrates trees, crops and animals in a way that is scientifically sound. It integrates trees and shrubs on farmlands and rural landscapes to enhance productivity, profitability, diversity and ecosystem sustainability.

Importance of AgroForestry:

- It meets almost half of the country's fuelwood needs, about two-thirds of the small timber demand, 70-80% of the plywood requirement, 60% of the raw material for the paper pulp industry, and 9-11% of the green fodder needs. Tree products also contribute robustly to rural livelihoods.
- Agroforestry or tree-based farming is an established nature-based activity that can aid carbon-neutral growth. It helps increase tree cover outside forests. They rather take pressure off natural forests in sequestering carbon.
- Nitrogen fixing trees grown in the agroforestry systems are capable of fixing about 50 -100 Kg Nitrogen/ha per year - one of the most promising components of the agroforestry system. The leaf litter after decomposition forms humus, releases nutrients and improves various soil properties, it also reduces the fertiliser needs. Appropriate agroforestry systems improve soil physical properties, maintain soil organic matter and promote nutrient recycling.
- Agroforestry can also help India meet its international obligations on achieving net-zero goal by 2070 and achieving 26 million hectares of Land Degradation Neutrality by 2030.

Steps taken by India:

- In 2014, India became the first country to adopt an agroforestry policy - National Agroforestry Policy (NAP) - to promote employment, productivity, and environmental conservation.
- To transform agroforestry into a national effort, focus was given on the tagline 'Har medh par ped' (trees on every field boundary). It was launched under the NAP.
- The Finance Minister in 2022-23 Budget emphasized on promoting agroforestry.

Issues involved:

- Although agroforestry is not unknown in India, many farmers are not keen to take it up because of a lack of information on tree rotation and also the legal aspects involved in the trade of matured trees.
- Agroforestry has not become the movement it should have. For a long time the subject fell between the cracks of "agriculture" and "forestry" with no ownership by either sector. The value and position of agroforestry in the national system remains ambiguous and undervalued.
- Inadequate investment in the sector is also a cause for neglect. Unlike the credit and insurance products available for the crop sector, the provisions for growing trees-on-farms are minimal.
- Most of the farmers are small and marginal having small fields (less than 2Ha). Opting agro-forestry becomes unviable economically in limited space.

Way Forward:

- The sector needs to be institutionally bolstered and profiled from the perspective of its utility spectrum that knits farm-forestry, environmental protection, and sustainable development.
- Farmer collectives — cooperatives, self-help groups, Farmer Producer Organisations (FPOs) — must be promoted for building capacities to foster the expansion of tree-based farming and value chain development.
- Financial support should be provided to all small landholders, rather than only Scheduled Caste and Scheduled Tribe farmers.

Central Bank Digital Currency in India – The Pros and The Cons

News: CBDCs are a digital form of a paper currency and unlike cryptocurrencies that operate in a regulatory vacuum, these are legal tender issued and backed by a central bank. Many countries have decided to have their own CBDC to provide more reliable digital currencies to work as legal tender, prompting displacement of private digital currencies.

Merits of CBDC:

- CBDC can gradually bring a cultural shift towards virtual currency by reducing currency handling costs.
- CBDC is envisaged to bring in the best of both worlds - the convenience and security of digital forms like cryptocurrencies, and the regulated, reserved-backed money circulation of the traditional banking system.
- CBDC can provide an easy means to speed up a reliable sovereign backed domestic payment and settlement system partly replacing paper currency.

- It could also be used for cross-border payments; it could eliminate the need for an expensive network of correspondent banks to settle cross-border payments.
- The increased use of CBDC could be explored for many other financial activities to push the informal economy into the formal zone to ensure better tax and regulatory compliance.
- It will help further enhance financial inclusion.

Demerits of CBDC:

- The first issue to tackle is the heightened risk to the privacy of users-given that the central bank could potentially end up handling an enormous amount of data regarding user transactions.
- If sufficiently large and broad-based, the shift to CBDC can impinge upon the bank's ability to plough back funds into credit intermediation. If e-cash becomes popular and the Reserve Bank of India (RBI) places no limit on the amount that can be stored in mobile wallets, weaker banks may struggle to retain low-cost deposits. Technology keeps evolving constantly which may result in higher cost of upgradation.
- Cyber-security risks.
- Additional cost of protecting firewalls.
- Operational burden and costs for the central bank in managing CBDC.

How can CBDC be made more secure?

- In order to obviate some weaknesses of CBDCs, the usage should be payment-focused to improve the payment and settlement system. Then it can steer away from serving as a store of value to avoid the risks of disintermediation and its major monetary policy implications.
- Robust data security systems need to be setup to prevent data breaches.
- The sizing for the infrastructure required for the CBDC will remain tricky if payment transactions are carried out using the same system. The RBI will have to map the technology landscape thoroughly and proceed cautiously with picking the correct technology for introducing CBDCs.

Some facts to know:

- Bahamas has been the first economy to launch its nationwide CBDC — Sand Dollar.
- Nigeria is another country to have rolled out eNaira in 2020.
- China became the world's first major economy to pilot a digital currency e-CNY in April 2020.
- In its Budget 2022-23, the Government of India announced that its central bank will issue a digital currency as early as 2022-23.

SHOCK-PROOFING POWER

News: In October last year, India witnessed significant power shortages stemming from the low inventory of coal at the power plants. After seven months, we are back to square one as reports of coal shortage induced power outages across states continue to pour in.

Volatility in power sector – Why?

- As economic activity resumed after the Covid-induced lockdowns, the demand-supply mismatch for commodities such as coal widened globally, leading to a surge in prices.
- Geopolitical factors have also induced volatility in the power sector. The Russia-Ukraine conflict have sent coal prices touching historical highs.
- The cost of imported coal in India is expected to be 35 per cent higher in the fiscal year 2022-23 compared to the past year. Even as coal stocks available with state thermal power plants fell, India also witnessed a sudden rise in energy demand in March — the hottest in its recorded history.

Steps taken to alleviate the crisis:

- It includes giving directions to ensure maximum production of coal at captive mines.
- Rationing of coal to non-power sectors.
- Price cap of Rupees 12 per unit on electricity traded on exchanges.
- But, lot needs to be done enhance sector's resilience to such disruptions from exogenous factors.

What are other possible solutions?

- Create an ecosystem where power plants work efficiently

- India has about 200 GW of coal-based generation capacity which accounts for nearly 70 per cent of the total electricity generated in the country.
- However, according to a CEEW assessment, a disproportionate share of generation comes from older inefficient plants, while the newer and efficient ones remain idle for want of favourable coal supply contracts or power purchase agreements.
- Revisiting fuel allocation and supporting the priority dispatch of efficient plants could help India reduce coal demand by up to 6 per cent of our annual requirement, and set aside more coal for the proverbial rainy day.
- Provide DISCOMS incentives to dynamically assess and manage demand
 - Enable discoms to undertake smart assessment and management of demand.
 - We have advanced tools for medium- and short-term demand forecasting.
 - However, few discoms have embraced these to inform their procurement decisions.
 - Introducing time-of-day pricing and promoting efficient consumption behaviour would help shave peak demand and avoid panic buying in the market.
- Empower electricity regulators to help bring down losses
 - Despite two decades of sectoral reforms, the aggregate losses of discoms stand at 21 per cent (2019-20). This is due to both operational inefficiency and poor recovery of dues from consumers, including those affiliated with state governments and municipal bodies.
 - These losses are also the reason for discoms not being able to pay the generators on time, resulting in payment delays to Coal India, which, in turn, is reluctant to supply coal on request.
- Infuse Payment Discipline
 - Besides the ongoing initiatives like introducing smart meters and network strengthening, empowering regulators would be critical to infuse payment discipline across the supply chain of the electricity sector and to keep cost recovery as a key metric.

Given the country's development aspirations, India's power demand is set to rise substantially and become more variable. Increasing climatic and geopolitical uncertainties underscore the need to become more efficient in the way we generate, distribute and consume energy.

We must act now for the long-term resilience of India's power sector.

General Studies – 1

Indian Heritage and Culture

1. Indian culture will cover the salient aspects of Art Forms, Literature and Architecture from ancient to modern times.

History

2. Modern Indian history from about the middle of the eighteenth century until the present significant events, Personalities, Issues.
3. The Freedom Struggle — Its various stages and Important contributors / contributions from different parts of the country.
4. Post-independence consolidation and reorganization within the country.
5. History of the world will include events from 18th century such as Industrial revolution, World wars, Redrawing of national boundaries, Colonization, decolonization, Political philosophies like communism, capitalism, socialism etc.— their forms and effect on the society

Society

6. Salient features of Indian Society, Diversity of India.
7. Role of women and women's organization, Population and associated issues, Poverty and developmental issues, Urbanization, their problems and their remedies.
8. Effects of globalization on Indian society.
9. Social empowerment, Communalism, regionalism & secularism.

Geography

10. Salient features of world's physical geography.
11. Distribution of key natural resources across the world (including South Asia and the Indian sub-continent) Factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).
12. Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., Geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes

History & Culture

Madhavpur Ghed Fair

News: The President of India, Shri Ram Nath Kovind inaugurated five-day long Madhavpur Ghed Fair at Madhavpur Ghed, Porbandar in Gujarat on April 10, 2022. Since 2018, the Government of Gujarat in association with the Ministry of Culture is organizing this fair every year to celebrate the sacred union of Lord Krishna and Rukmini.

About: The Madhavpur Mela of Gujarat shares its connect to the Mishmi Tribe of Arunachal Pradesh. The Mishmi Tribe traces its ancestry to the legendary King Bhishmak and through him to his daughter Rukmini and Lord Krishna. The festival celebrates the immortal journey which Rukmini undertook from Arunachal Pradesh to Gujarat with Lord Krishna.

When is the festival celebrated?

- Madhavpur Ghed, a small but culturally significant village, is the place where, according to folklore, Lord Krishna married Rukmini, the daughter of King Bhishmak. Madhavpur lies on the seashore, close to Porbandar.
- A 15th century Madhavrai temple marks the site. This event is commemorated by a cultural fair held every year, commencing on Ram Navami.
- A colourful chariot carrying the idol of Lord Krishna circumnavigates the village and the festivities usually continue for five days.

Birsa Munda

News: Union Education Minister Dharmendra Pradhan recently released a book on the life of tribal freedom fighter Birsa Munda. The book titled 'Birsa Munda – Janjatiya Nayak' is written by Prof Alok Chakrawal, Vice-Chancellor of Guru Ghasidas Vishwavidyalaya, Bilaspur.

About:

- Bisra Munda was a folk hero and a tribal freedom fighter hailing from the Munda tribe. He is also known as 'Dharti Abba' or the Earth Father.
- Bisra wanted to reform the tribal society and so, he urged them to let go of beliefs in witchcraft and instead, stressed on the importance of prayer, staying away from alcohol, having faith in God and observing a code of conduct. Based on these, he started the faith of 'Birsait'.
- Bisra started a movement called 'Ulgulan', or 'The Great Tumult'.
- His struggle against the exploitation and discrimination against tribals led to a big hit against the British government in the form of the Chotanagpur Tenancy Act being passed in 1908. The act restricted the passing on of land from the tribal people to non-tribals.

B R Ambedkar

News: The nation celebrated the 131st birth anniversary of B R Ambedkar on 14th April 2022.

About:

- Dr. Ambedkar was a social reformer, jurist, economist, author, polyglot (knowing or using several languages) orator, a scholar, and thinker of comparative religions.
- He is known as the Father of the Indian Constitution and was India's first Law Minister.
- He was the Chairman of the Drafting Committee for the new Constitution.
- He was a well-known statesman who fought for the rights of the Dalits and other socially backward classes.
- He was awarded India's highest civilian honour the Bharat Ratna in 1990.

Contribution:

- He participated in all Three Round Table conferences

- He signed the Poona pact with Mahatma Gandhi, which abandoned the idea of separate electorates for the depressed classes.
- His ideas before the Hilton Young Commission served as the foundation of The Reserve Bank of India.

Important works:

- **Journals** – Mooknayak, Bahishkrit Bharat, Samatha, Janata
- **Books** – Annihilation of Caste, Buddha or Karl Marx, The Rise and Fall of Hindu Women, Buddha and his Dhamma, The Untouchable: Who are They and Why they have become untouchables.
- **Organisations** – Bahishkrit Hitkarni Sabha, Independent Labor Party, Scheduled Castes Federation.

Guru Tegh Bahadur

News: PM Narendra Modi will address the nation from the Red fort on the 400th Parkash Purab of Sikh Guru Tegh Bahadur on 21st April. He will also release a commemorative coin and postage stamp on the occasion.

About:

- Guru Tegh Bahadur was the ninth of ten Gurus of the Sikh religion. He was born at Amritsar in 1621 and was the youngest son of Guru Hargobind.
- His term as Guru ran from 1665 to 1675. One hundred and fifteen of his hymns are in Guru Granth Sahib.
- Revered by many as 'Hind Di Chadar' or Protector of Hindu religion, Guru Tegh Bahadur was instrumental in resisting the forced conversion to Islam under Mughals.
- He stood up for the rights of Kashmiri Pandits who approached him against religious persecution by Aurangzeb.
- He was publicly executed in 1675 on the orders of Mughal emperor Aurangzeb in Delhi for refusing to convert to Islam.
- Gurudwara Sis Ganj Sahib, one of the oldest and most iconic Sikh shrines in Delhi, was established in 1783 to mark the martyrdom of Guru Tegh Bahadur. It marks the site where the Sikh Guru was beheaded.

Impact of his martyrdom:

- The execution hardened the resolve of Sikhs against religious oppression and persecution.
- His martyrdom helped all Sikh Panths consolidate to make the protection of human rights central to its Sikh identity.
- Inspired by him, his nine-year-old son, Guru Gobind Singh Ji, eventually organized the Sikh group into a distinct, formal, symbol-patterned community that came to be known as Khalsa (Martial) identity.

Society

Tripura's Darlong Community

News: The Lok Sabha recently passed a bill to amend a constitutional order to include Darlong, a tribal clan in Tripura in the list of Scheduled Tribes (ST).

About:

- Darlong is tribal community of 11,000 people.
- Despite its small population, the community has a high prevalence of education and cultural activities and members of the community serve in senior position of local administration.

Prelims Perspective:

- There are 19 tribal communities in the state.
- These include Tripuri or Debbarma, **Reangs or Brus**, Jamatia, Noatia, Uchoi, **Chakma, Mog, Lushai**, Kuki, Munda, Kour, Oram, Santhal, Bhil, Bhutia, Chaimar or Sermai, Garo, Khasi, **Lepcha** and **Halam**.

Quick Revision:

- Tropic of Cancer passes through Tripura.
- It shares borders with Assam to the north-east and Mizoram to the east.
- It also shares border with Bangladesh to the west, north and south.

Geography

COASTAL EROSION

News: The Ministry of Earth Sciences informed the Lok Sabha that of the 6,907.18 km long Indian coastline of the mainland, a significant area is under varying degrees of Coastal erosion.

Key Findings:

- About 34% is under varying degrees of erosion.
- 26% of the coastline is of an accreting nature, and the remaining 40% is in a stable state.
- West Bengal, located on the eastern coast of the country, with a 534.35 km-long coastline, suffered erosion along about 60.5% of the coast (323.07 km) over the period from 1990 to 2018.
- This is followed by Kerala on the west coast, which has 592.96 km of coastline and 46.4% of it (275.33 km) faces erosion.
- Tamil Nadu, with a long coastline of 991.47 km, recorded erosion along 42.7% of it (422.94 km).
- Gujarat, with the longest coastline of 1,945.60 km, recorded erosion along 27.06% (537.5 km) of it.
- In the Union Territory of Puducherry, with a 41.66 km-long coastline, about 56.2% of its coast (23.42 km) recorded erosion.

What is coastal erosion?

- It is the process by which local sea-level rise, strong wave action, and coastal flooding wear down or carry away rocks, soils, and/or sands along the coast.
- There are four main processes of coastal erosion. These are corrosion, abrasion, hydraulic action and attrition.

Factors responsible for Coastal erosion

- Wave energy is considered to be the primary reason for coastal erosion.
- Natural hazards like cyclones, thermal expansion of seawater, storm surges, tsunami etc due to the melting of continental glaciers and ice sheets as a result of climate change hamper the natural rhythm and precipitate erosion.
- Strong littoral drift resulting in sand movement can also be considered as one of the major reasons for coastal erosion. Littoral drift means the natural movement of sediment along marine shorelines by wave action in response to prevailing winds.
- Dredging, sand mining and coral mining have contributed to coastal erosion causing sediment deficit, modification of water depth leading to longshore drift and altered wave refraction.
- Coastal erosion is also caused by fishing harbors and dams constructed in the catchment area of rivers and ports reducing the flow of sediments from river estuaries.

Measures to prevent Coastal Erosion:

- Artificial Beach Nourishment
- Protective Structures: Seawalls, Revetments.
- Structures to Trap Sediment Movement.
- Combination of Artificial Beach Nourishment & Structures.
- Control of Beach Groundwater Table or Beach Dewatering System.
- Vegetation Planting.
- Use of Geo-Synthetic Tubes / Bags.

15th Finance Commission recommendations:

- The National Disaster Management Authority (NDMA) and/or Ministry of Home Affairs may develop suitable norms for mitigation measures to prevent erosion and both the Union and the State Governments develop a policy to deal with the extensive displacement of people caused by coastal and river erosion.
- The Commission has also made specific recommendations for 'Mitigation Measures to Prevent Erosion' under NDMF (National Disaster Mitigation Fund) and 'Resettlement of Displaced People Affected by Erosion' under NDRF (National Disaster Response Fund).

India to receive normal monsoon

News: Recently, the India Meteorological Department (IMD) released its first Long Range Forecast (LRF) for 2022 which says that the country is likely to receive a normal monsoon for the fourth consecutive year.

Highlights of Forecast:

- India would get 99% of the Long Period Average (LPA) rainfall — changed from 89 cm to 88 cm in 2018, and in the periodic update in 2022, again revised to 87 cm.
- The IMD does not expect an El Nino but currently La Nina conditions are prevailing over the equatorial Pacific which will continue during the monsoon.
- Current indications suggest “normal” to “above normal” rainfall in the northern parts of peninsular India, central India and the Himalayan foothills.
- Many parts of northeast India and southern parts of South India are expected to see a subdued monsoon.

How is it predicted?

The IMD predicts a ‘normal’, ‘below normal’, or ‘above normal’ monsoon in relation to a benchmark ‘long period average’ (LPA)

- According to the IMD, the ‘LPA of rainfall is the rainfall recorded over a particular region for a given interval (like month or season) average over a long period like 30 years, 50 years, etc’.

Need for LPA?

- An LPA is needed to smooth out trends so that a reasonably accurate prediction can be made because the IMD records rainfall data at more than 2,400 locations and 3,500 rain-gauge stations.
- A 50-year LPA covers for large variations in either direction caused by freak years of unusually high or low rainfall (as a result of events such as El Nino or La Nina), as well as for the periodic drought years and the increasingly common extreme weather events caused by climate change.

What is the range of a Normal Monsoon?

- The LPA of the season rainfall over the country as a whole for the period 1971-2020 is 87 cm.
- The IMD maintains five rainfall distribution categories on an all-India scale. These are:
 - Normal or Near Normal: When the percentage departure of actual rainfall is +/-10% of LPA, that is, between 96-104% of LPA
 - Below Normal: When departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA
 - Above normal: When actual rainfall is 104-110% of LPA
 - Deficient: When departure of actual rainfall is less than 90% of LPA
 - Excess: When the departure of actual rainfall is more than 110% of LPA

Heatwave in India

News: March was exceptionally hot, and April will end on a similar note. The country has already seen four heatwaves early in the summer of 2022, and no immediate respite is expected further.

About:

- A region is considered to be under the grip of a heatwave if the maximum temperature reaches at least 40 degrees Celsius or more in the plains and at least 30 degrees Celsius or more in hilly regions.
- When the maximum temperature departure ranges between 4.5 and 6 degrees, the India Meteorological Department (IMD) declares a heatwave.
- A severe heatwave is declared when the recorded maximum temperature of a locality departure from normal is over 6.4 degrees Celsius.
- Also, if an area records over 45 degrees and 47 degrees Celsius on any given day, then the IMD declares heatwave and severe heatwave conditions, respectively.

Why are most parts of India experiencing Heat waves?

- Except for the southern peninsula and northeast regions, the weather has remained dry across the rest of the country. The lack of pre-monsoon showers has led to an increase in the overall maximum temperature.

- The consequences of paved and concrete surfaces in urban areas coupled with lack of tree cover is another crucial factor.
- More heat waves are expected as global temperatures had risen by an average 0.8 degrees in the past 100 years.
- Higher daily peak temperatures and longer, more intense heat waves are becoming increasingly frequent globally due to climate change.

How can we deal with Heat Waves?

- Identifying heat hot-spots through appropriate tracking of meteorological data and promoting timely development and implementation of local Heat Action Plans with inter-department co-ordination, and a response which targets the most vulnerable groups.
- Review existing standards that focuses on health, labour laws and sectoral regulations which ensures worker safety in context of climatic conditions.
- To make citizens aware about traditional adaptation practices such as staying indoors, asking them to remain hydrated, wearing comfortable clothes.
- Popularisation of simple design features such as shaded windows, underground water storage tanks and insulating housing materials.

Geomagnetic Storm

News: The earth is likely to hit by a geomagnetic storm on 7th April, according to the Space Weather Prediction Center (SWPC) of the National Oceanic and Atmospheric Administration (NOAA).

About:

- Geomagnetic storms are caused when events such as solar flares can send higher than normal levels of radiation towards Earth. This radiation interacts with the Earth's magnetic field causing a geomagnetic storm.
- The disturbance that drives the magnetic storm may be a solar coronal mass ejection (CME) or (much less severely) a co-rotating interaction region (CIR), a high-speed stream of solar wind originating from a coronal hole.

Classification:

- At its safest level, a G1 storm affects power grids by causing weak fluctuations, minor impacts on satellite operations, and causes the northern and southern lights to occur.
- At its most extreme, G5, there would be voltage control problems with some grid system collapses or blackouts, radio waves wouldn't be able to travel for one to two days, low-frequency radio would be out for hours, and the auroras would be able to be seen at lower latitudes than usual.

Trivia:

- In February this year, Elon Musk's Starlink project was hit hard when a geomagnetic storm damaged 40 of its satellites.

General Studies – 2

Polity & Constitution

1. Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.
2. Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.
3. Separation of powers between various organs dispute redressal mechanisms and institutions
4. Comparison of the Indian constitutional scheme with that of other countries.
5. Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.
6. Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.
7. Salient features of the Representation of People’s Act.
8. Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
9. Statutory, regulatory and various quasi-judicial bodies.

Social Justice

10. Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
11. Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.
12. Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.
13. Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
14. Issues relating to poverty and hunger.

Governance

15. Important aspects of governance, transparency and accountability, e-governance, applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.
16. Role of civil services in a democracy.

International Relations

17. India and its neighborhood- relations.
18. Bilateral, regional and global groupings and agreements involving India and/or affecting India’s interests.
19. Effect of policies and politics of developed and developing countries on India’s interests, Indian diaspora.
20. Important International institutions, agencies and fora- their structure, mandate

Polity & Governance

CBI and its credibility

News: Delivering the 19th D.P. Kohli Memorial lecture, Chief Justice of India (CJI) N.V. Ramana said that the Central Bureau of Investigation (CBI) has come under deep public scrutiny. Its actions and inactions have raised questions regarding its credibility.

About CBI:

- The CBI was set up in 1963 by a resolution of the Ministry of Home Affairs
- The CBI at present is under the control of Department of Personnel and Training (DoPT) of the Ministry of Personnel, Public Grievances and Pensions.
- CBI derives power to investigate from the Delhi Special Police Establishment Act, 1946.
- The Santhanam Committee on Prevention of Corruption recommended the establishment of the CBI.
- It also offers assistance to the Central Vigilance Commission and Lokpal.

Shortcomings in the functioning of CBI:

- **Political Interference:** The Supreme court has been critical of CBI by terming it as a 'caged parrot speaking in its masters voice'
- **Shortage of workforce:** Government has been accused of mismanaging the resources of CBI, through a system of inefficient, and biased recruitment policies which is used to bring in favored officers.
- **Limited Powers:** The powers of members of CBI are subject to the consent of the state government.
- **Multiple agencies:** A single incident these days gets investigated by multiple agencies which often leads to dilution of evidence and delay in decision making, thus further undermining the credibility of the CBI.

Suggestions recommended by CJI:

- CJI proposed to bring several central agencies like the CBI, ED and Serious Fraud Investigation Officer (SFIO) under one roof.
- He further suggested that such organisation should be headed by an independent and impartial authority, appointed similarly like the CBI director.
- He emphasized on the need for adequate representation of women in the criminal justice system.
- He underscored the need for having harmonious relationship between the Centre and States. He recommended giving due recognition to state agencies, personnel as police and public order form part of state list.
- Lastly, police reforms are long overdue which included lack of infrastructure, sufficient manpower and modern equipment.

The Chandigarh Conundrum

News: The newly elected Punjab Legislative Assembly passed a resolution, moved by the Chief Minister himself, on April 1 in a special session seeking the transfer of Chandigarh to Punjab.

About Bifurcation and Chandigarh:

- Under the Punjab Reorganisation Act, 1966 following the Punjabi Suba movement, Haryana was carved out of the Hindi-speaking regions as a separate State.
- The hill regions of Punjab were merged with what was then the Union Territory (UT) of Himachal Pradesh.
- Chandigarh was made a UT and has remained the joint capital of Haryana and Punjab with State assets divided between Punjab and Haryana in a ratio of 60:40.

What is the Chandigarh Conundrum?

- The lack of full rights to Chandigarh since 1966
- It has featured as a common discourse, whether in the 1973 Anandpur Sahib resolution, Dharam Yudh Morcha (then separatist movement) and the 1985 Rajiv-Longowal Accord.
- The Punjab assembly has so far passed six such resolutions with the last being in 2014

- The Centres' opposition to the latest Assembly resolution is the first time a political party has taken a contrarian stand.

What are Union Territories and How are they carved out of states?

- Part VIII of the Constitution is concerned with administration of the Union Territories.
- The President of India appoints an administrator or Lieutenant Governor for each UT. In practice, this means that the Union Territories follow the central government's will.
- There are differences in governing of UTs depending on whether they have legislative assembly or not. For example, smaller ones such as Chandigarh, Daman, Diu and Dadra Nagar Haveli are governed directly by the centre. Puducherry and J&K are UTs with legislative assembly and government, alongwith an LG.
- As per Article 3 of the Indian Constitution, the constitutional power to create new states and UTs in India is solely reserved to the Parliament of India.
- Parliament can do so by announcing new states/union territories, separating territory from an existing state or merging two or more states/union territories or parts of them.

Tamil Nadu's 10.5% Vanniyar Quota Cancelled by Supreme Court

Observations by Supreme Court:

- The Supreme Court held that 10.5% internal reservation to Vanniyakula Kshatriya community violates the fundamental rights of equality, non-discrimination and equal opportunity of 115 other Most Backward Communities (MBCs) and De-Notified Communities (DNCs) in Tamil Nadu.
- The allotment of 10.5% reservation to a single community from within the total Most Backward Classes (MBC) quota of 20% in the State, leaving only 9.5% to 115 other communities in the MBC category, was done without 'substantial basis'.
- The court said there was no assessment or analysis done prior to the 2021 Act to back the claim that the Vanniyakula Kshatriyas were relatively more backward than the other MBCs and DNCs.
- The court underscored that while caste can be the starting point for internal reservation, it is incumbent on the State government to justify the reasonableness of the decision.
- Though the court held the 2021 Act and its percentages of reservation unconstitutional, it upheld the legislative competence of the State to enact a law sub-classifying and apportioning percentages within identified backward classes.

About Vanniyakula Kshatriya Reservation:

- Reservation in Tamil Nadu comprises 69% under a 1994 Act protected under the Ninth Schedule of the Constitution.
- The Vanniyakula Kshatriya reservation was provided under the State within the reservation for the Most Backward Classes and Denotified Communities Act, 2021.
- The second Tamil Nadu Backward Commission in 1983, held that the population of Vanniyakula Kshatriyas was found to be 13.01% of the State's total population.

What is Ninth Schedule of the Indian Constitution?

- It was added by the First amendment to the Indian Constitution.
- It was added in 1951 to protect land reforms laws from being challenged in the courts on the grounds of violation of Fundamental rights.
- It was created by inserting Article 31B
- While most of the laws protected under the Schedule concern agriculture/land issues, the list includes other subjects too.
- The Article 31B excludes judicial review, the Supreme court has said in the past that laws under ninth schedule would be open to scrutiny if they violated Fundamental Rights or the basic structure of the constitution.

Delimitation Commission

News: Protests were carried out against members of J&K Delimitation Commission when they embarked upon a two days visit to hold consultations with citizens, political parties and civil society groups.

What is Delimitation and need for it?

- Delimitation is the act of redrawing boundaries of an Assembly or Lok Sabha seat to represent changes in population over time.
- This exercise is carried out by a Delimitation Commission, whose orders have the force of law and cannot be questioned before any court.
- The objective is to redraw boundaries (based on the data of the last Census) in a way such that the population of all seats, as far as possible, may remain same throughout the State.
- Apart from changing the limits of a constituency, the process may result in a change in the number of seats in a state.

History of Delimitation in J&K:

- Assembly seats in J&K were delimited in 1963, 1973 and 1995.
- Prior to August 5, 2019, carving out of J&K's Assembly seats was carried out under the J&K Constitution and Jammu and Kashmir Representation of the People Act, 1957.
- Until then, the delimitation of Lok Sabha seats in J&K was governed by the Constitution of India.
- However, the delimitation of the state's Assembly was governed by the J&K
- There was no census in the state in 1991 and hence no Delimitation Commission was set up by the state until 2001 census.

Issues with Delimitation in J&K:

- There have been apprehensions that the delimitation process may end up favoring Jammu region over Kashmir in terms of seats.
- Under-representation of Ladakh with growing demands there for being recognized under the 6th schedule.
- There have been demands for division of seats for STs both in Jammu and Kashmir, as ST population is almost equal in both the region.

State of De-Notified Tribes in India

News: A standing committee of Parliament, tabled last week, has criticized the functioning of the development program for de-notified, nomadic and semi-nomadic tribes.

Who are de-notified, nomadic and semi-nomadic tribes?

- De-notified tribes (DNTs) are communities that were 'notified' as being 'born criminal' during the British regime under a series of laws starting with the Criminal Tribes Act of 1871.
- These communities are most vulnerable and deprived.
- Nomadic and Semi-Nomadic tribes are those who move from one place to another.

Findings of standing committee report:

- The committee highlights that scheme of economic empowerment of DNT communities formulated to provide coaching, health, insurance, financial assistance for construction of homes for members of DNT, with outlay of over 200 crores, could not spend a single rupee in 2021-22.
- It also mentions about reduction in Budgetary allocation to Rupees 28 crores for 2022-23 as against Rupees 50 crores allocated for 2021-22.
- The standing committee report in Parliament has cited a statement by the Secretary, Department of Social Justice and Empowerment, that 269 DNT communities are not covered under any reserved categories.

Key committees involved in assisting De-Notified Tribes:

- A National Commission for De-notified, Nomadic and Semi-Nomadic Tribes (NCDNT) was constituted in 2006 by the then government.
- It was headed by Balkrishna Sidram Renke also known as Renke Commission
- The Idate Commission
- NITI Aayog has setup a committee to identify the De-notified, nomadic and semi-nomadic communities (DNCs)
- Ethnographic studies of DNCs are being conducted by the Anthropological Survey of India

Singapore International Arbitration Centre (SIAC)

News: Amazon and Future Group have agreed to appear before the Singapore International Arbitration Centre (SIAC), the parties informed the Supreme Court (SC) recently.

Reasons for approaching SIAC:

2 parties while making a deal sign a contractual agreement which mentions about

- Arbitral institution administering the arbitration.
- The rules that are applicable
- The seat of arbitration

In case of Amazon and Future Group, both parties have agreed to refer their disputes to SIAC.

What is the process followed at SIAC?

- Once the dispute is referred to arbitration, the process of appointment of the arbitral tribunal takes place.
- Both parties appoint one member each to the tribunal, while third member is jointly appointed by the two nominees.

Appointment of Emergency Arbitrator:

- Under the rules of SIAC, parties can move SIAC to appoint an emergency arbitrator to get urgent interim relief, even as the process of appointment of the main arbitral tribunal is underway.

What if parties don't comply with the order voluntarily?

- As per Indian law, there is no express mechanism for enforcement of the orders of the Emergency arbitrator.
- However, the parties voluntarily comply with emergency award.
- In cases where the parties don't comply with the order voluntarily, then the party which has won the emergency award, here Amazon, can move the High Court in India under Section 9 of the Arbitration & Conciliation Act, 1996, to get similar reliefs as granted by the Emergency Arbitrator.

Do we have any International Arbitration Centre? Yes, in Mumbai.

About SIAC:

- It is a not-for-profit international arbitration organization based in Singapore, which administers arbitrations under its own rules of arbitration and the United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules.

Will hear petition against Electoral Bond Scheme: CJI

News: The top court is seized of petitions filed by 2 NGOs – Common Cause and Association of Democratic Reforms (ADR) challenging the scheme.

About Electoral Bonds:

- Electoral bonds are banking instruments that can be purchased by any citizen or company to make donations to political parties, without the donor's identity being disclosed.
- It works like a promissory note that can be bought by any Indian citizen or company incorporated in India from select branches of State Bank of India.
- The citizen or corporate can then donate the same to any eligible political party of his/her choice.
- An individual or party will be allowed to purchase these bonds digitally or through cheque.

More about Electoral Bond Scheme, 2018:

- A citizen of India or a body incorporated in India will be eligible to purchase the bond
- Such bonds can be purchased for any value in multiples of ₹1,000, ₹10,000, ₹10 lakhs, and ₹1 crore from any of the specified branches of the State Bank of India.
- The purchaser will be allowed to buy electoral bonds only on due fulfillment of all the KYC norms and by making payment from a bank account.
- The bonds will have a life of 15 days.

- Donors who contribute less than ₹20,000 to political parties through purchase of electoral bonds need not provide their identity details, such as Permanent Account Number (PAN).

Issues surrounding the Scheme:

- **Non-transparent Funding:** The identity of the donor is not revealed to the party or public. Thus, transparency is not enhanced for the voter.
- **No anonymity for Donors:** The privacy of the donor is compromised as the bank will be aware of their identity.
- **Unlimited Donations:** The electoral bonds scheme and amendments in the Finance Act of 2017 allows for 'unlimited donations from individuals and foreign companies to political parties without any record of the sources of funding'.
- **Opposition by Election Commission of India (ECI):** The ECI, in May 2017, objected to the amendments in Representation of People Act, which exempted political parties from disclosing donations received through electoral bonds.
- The electoral bonds scheme removes all pre-existing limits on political donations and effectively allows well-resourced corporations to fund elections and subsequently paving the way for crony capitalism.
- It is argued that Electoral Bonds will help any party in power because the government may know who donated what money and to whom.
- Concerns surrounding the possibility of misuse of funds.

Way Forward:

- The ECI has been demanding that a law be passed to make political parties liable to get their accounts audited by an auditor from a panel suggested by the CAG or EC.
- A National Election Fund can be established to which all donations could be directed. 2nd ARC, Dinesh Goswami Committee have also recommended state funding of elections.

Comptroller and Auditor General

News: The country's top auditor, the CAG of India, has pulled up the Unique Identification Authority of India (UIDAI) for 'deficient data management'.

Issues flagged by CAG:

- There are issues of data-matching, errors in authentication, and shortfall in archiving, the CAG has said in its 108-page audit report on the functioning of the UIDAI.
- The CAG has said the data of Aadhaar card holders have not been matched with their Aadhaar number even after 10 years in some cases.
- The CAG has flagged that UIDAI has not ensured that the applications or devices used by agencies or companies for authentication were not capable of storing the personal information of the residents, which put the privacy of residents at risk.
- The government's auditor has noted that the UIDAI has not prescribed any specific proof, document, or process to confirm whether a person who is applying for Aadhaar has resided in India for the period specified by the Rules.
- The CAG has said that UIDAI generated Aadhaar numbers with incomplete information, which, along with the lack of proper documentation or poor quality biometrics, have resulted in multiple or duplicate Aadhaar cards being issued to the same person.
- The CAG has noted that the UIDAI does not have adequate arrangements with the postal department, due to which a large number of Aadhaar cards were returned to the government after they could not be delivered to their intended recipients.

Suggestions made by CAG:

- UIDAI may prescribe a procedure and required documentation other than self-declaration, in order to confirm and authenticate the residence status of applicants, in line with the provisions of the Aadhaar Act.
- UIDAI may review charging of fees for voluntary update of residents' biometrics, since they (UIDAI) were not in a position to identify reasons for biometric failures and residents were not at fault for capture of poor quality of biometrics.

- UIDAI may conduct thorough verification of the documents, infrastructure, and technological support claimed to be available, before on-boarding the entities (Requesting Entities and Authentication Service Agencies) in the Aadhaar ecosystem.
- UIDAI may explore alternate ways to capture uniqueness of biometric identity for minor children below five years since uniqueness of identity is the most distinctive feature of Aadhaar established through biometrics of the individual.
- UIDAI may frame a suitable data archival policy to mitigate the risk of vulnerability to data protection and reduce saturation of valuable data space due to redundant and unwanted data, by continuous weeding out of unwanted data.

Supreme court to look into easing Child Adoption

News: The Supreme Court has decided to examine a plea to simplify the legal process for the adoption of children in the country.

- The petition filed said that there were only 4,000 child adoptions annually though there were 3 crore orphan children in the country.

Laws regarding Child Adoption in India:

- The adoption in India takes place under Hindu Adoptions and Maintenance Act, 1956 (HAMA) and the Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act).
- HAMA, 1956 falls in the domain of Ministry of Law and Justice and JJ Act, 2015 pertains to the Ministry of Women and Child Development.
- As per the government rules, Hindus, Buddhists, Jains, and Sikhs are legalized to adopt kids.
- Until the JJ Act, the Guardians and Ward Act (GWA), 1980 was the only means for non-Hindu individuals to become guardians of children from their community.
- However, since the GWA appoints individuals as legal guardians and not natural parents, guardianship is terminated once the ward turns 21 and the ward assumes individual identity.

Child Adoption Resource Authority (CARA)

- CARA is an autonomous and statutory body of Ministry of Women and Child Development set up in 2015.
- It functions as the nodal body for the adoption of Indian children and is mandated to monitor and regulate in-country and inter-country adoptions.
- It is designated as the Central Authority to deal with inter-country adoptions in accordance with the provisions of the 1993 Hague Convention on Inter-Country Adoption, ratified by India in 2003.

Issues surrounding Child Adoption in India:

- There is a wide gap between adoptable children and prospective parents, which may increase the length of the adoption process. Data shows that while more than 29,000 prospective parents are willing to adopt, just 2,317 children are available for adoption.
- Only 40 children with disabilities were adopted between 2018 and 2019, accounting for approximately 1% of the total number of children adopted in the year. Annual trends reveal that domestic adoptions of children with special needs are dwindling with each passing year.
- During the pandemic, cases of threat of child trafficking and illegal adoption rackets came into play. These rackets usually source children from poor or marginalised families, and unwed women are coaxed or misled into submitting their children to trafficking organisations.
- Between 2017-19, the Central Adoption Resource Authority (CARA) faced an unusual upsurge in adoptive parents returning children after adopting. According to the data, 60% of all children returned were girls, 24% were children with special needs, and many were older than six.

PM Award for Excellence in Public Administration – UDAN Scheme

News: The Ministry of Civil Aviation's flagship Regional Connectivity Scheme UDAN (Ude Desh ka Aam Nagrik) has been awarded Prime Minister's Award for Excellence in Public Administration this year.

About:

- The Ude Desh Ka Aam Nagrik (UDAN) scheme is a low-cost flying scheme launched with the aim of taking flying to the masses.
- The first flight under UDAN was launched by the PM in April 2017.
- It is also known as the regional connectivity scheme (RCS) as it seeks to improve air connectivity to tier-2 and tier-3 cities through revival of unused and underused airports.

How does the scheme operate?

- Airlines are awarded routes under the programme through a bidding process and are required to offer airfares at the rate of ₹2,500 per hour of flight.
- At least 50% of the total seats on an aircraft have to be offered at cheaper rates.
- In order to enable airlines to offer affordable fares they are given a subsidy from the government for a period of three years.

Impact of the Scheme:

- The scheme has connected around 67 underserved/unserved airports, including heliports and water aerodromes, and over 92 lakh people have benefited from it.
- More than 1 lakh 79 thousand flights have flown under this scheme.
- The scheme has helped connect with several sectors pan-India including Hill states, North-eastern region, and islands.
- In addition, KRISHI UDAN scheme launched in August 2020, on international and national routes has assisted farmers in transporting agricultural products.

Some of the challenges:

- Many small airlines await infusion of funds, to be able to undertake maintenance of aircraft, pay rentals to lessors, give salaries to its staff.
- Many players don't have more than one or two planes and they are often poorly maintained. New planes are too expensive for these smaller players.
- State governments are facing issues in acquisition of lands to setup airports, this is a time-consuming process.
- The scheme focuses on connecting hilly terrain regions but that comes with its own challenges. It requires licensing, special attention and technical capacity, which has proved to be another major constraint.
- Insufficient runway lengths also restrict certain airports from receiving regional flights. For example, SpiceJet – largest player in the scheme, was unable to start certain routes due to lack of airport infrastructure, including airport readiness and smaller runways.
- The pandemic induced lockdown halted the development of UDAN airports and delayed acquisition of aircrafts by selected airline operators.

Way Forward:

- Developing a competitive and viable regional aviation is critical to support the orderly growth of Indian aviation. This applies to both airlines and airports.
- While it is extremely important to build airports in regional areas, the government should also ensure accessibility of these airports from nearby catchment areas. Taxes on fuel also need to be reduced, which has been a demand in the industry for a long time.

Household Consumer Expenditure Survey

News: The All-India Household Consumer Expenditure Survey is set to resume this year (2022) after a prolonged break. The results will include separate data sets for rural and urban parts, and splice spending patterns for each State and Union Territory, as well as different socio-economic groups.

About:

- Traditionally, a quinquennial (recurring every five years) survey conducted by the National Sample Survey Office - NSSO (comes under the National Statistical Office), Ministry of Statistics and Programme Implementation.

- Collects information on the consumption spending patterns of households across the country, both urban and rural.
- Reveals the average expenditure on goods (food and non-food) and services. Helps generate estimates of household Monthly Per Capita Consumer Expenditure (MPCE) as well as the distribution of households and persons over the MPCE classes.

Importance of Survey:

- Helps in calculating the demand dynamics of the economy.
- Helps in understanding the shifting priorities in terms of baskets of goods and services, thus providing pointers to the producers of goods and providers of services.
- To assess living standards and growth trends across multiple strata.
- The CES is an analytical as well as a forecasting tool which helps the Government in planning required interventions and policies.
- To spot and address possible structural anomalies that may cause demand to shift in a particular manner in a specific socio-economic or regional division of the population.
- To rebase the Gross Domestic Product (GDP) and other macro-economic indicators.

Anti-Defection Law

News: Vice President Venkaiah Naidu recently said it is time for amending the anti-defection law to plug the loopholes.

About:

- It is covered under the Tenth Schedule of the Indian Constitution
- It specifies the circumstances under which changing of political parties by legislators invites action under the law.
- It was added to the Constitution by the 52nd Amendment Act, 1985.
- It was a response to the toppling of multiple state governments by party-hopping MLAs after the general elections of 1967.

Exceptions:

- It allows a group of MP/MLAs to join (i.e., merge with) another political party without inviting the penalty for defection. And it does not penalize political parties for encouraging or accepting defecting legislators.
- As per the 1985 Act, a 'defection' by one-third of the elected members of a political party was considered a 'merger'.
- However, the 91st Constitutional Amendment Act, 2003, changed this and now at least two-thirds of the members of a party must be in Favour of a 'merger' for it to have validity in the eyes of the law.
- The members disqualified under the law can stand for elections from any political party for a seat in the same House.

Grounds of Disqualification:

- If an elected member voluntarily gives up his membership of a political party.
- If any independently elected member joins any political party.
- If any nominated member joins any political party after the expiry of six months.
- If he votes or abstains from voting in such House contrary to any direction issued by his political party or anyone authorized to do so, without obtaining prior permission. As a precondition, for his disqualification, his abstention from voting should not be condoned by his party or the authorized person within 15 days of such incident.

Issues:

- Article 105 clause 2 and Article 194 clause 2, give complete free speech to MP and they give complete protection to their say in the house or vote given in the house. (10th schedule is somehow going against that)
- There is no clarity in the law about the timeframe for the action of the House Chairperson or Speaker in the anti-defection cases.

- Defection is the subversion of electoral mandates by legislators who get elected on the ticket of one party but then find it convenient to shift to another, due to the lure of ministerial berths or financial gains.
- Defection leads to instability in the government and affects the administration.
- Promotes Horse-Trading.
- Defection is bad but merger is alright. (Anything in retail is bad but wholesale is alright)

Recommendations:

- The Supreme Court has suggested that Parliament should set up an independent tribunal headed by a retired judge of the higher judiciary to decide defection cases swiftly and impartially.
- Some commentators have said the law has failed and recommended its removal. Former Vice President Hamid Ansari has suggested that it applies only to save governments in no-confidence motions.
- The Election Commission has suggested it should be the deciding authority in defection cases.

Way Forward:

- The problem arises from the attempt to find a legal solution to what is essentially a political problem. If stability of government is an issue due to people defecting from their parties, the answer is for parties to strengthen their internal systems.
- There is an ardent need for legislation that governs political parties in India. Such a law should bring political parties under Right to Information (RTI), strengthen intra-party democracy.

91st Amendment Act

News: Recently, the High Court of Bombay noted that arguable issues have been raised in a Public Interest Litigation (PIL) challenging the “lifetime status of the rank of Cabinet minister” according to Pratap Singh Rane, a six-time Chief Minister of Goa and a legislator for a full 50 years.

- The PIL has contended that Goa has a 12-member Cabinet, and the conferment of Cabinet status on Rane results in the number of Cabinet ranks rising to 13, which exceeds the ceiling mandated by the Constitution.
- This limit was set by 91st Amendment) Act, 2003 to the Indian Constitution.

About:

- The Constitution (91st Amendment) Act, 2003 inserted clause 1A in Article 164, which says the total number of Ministers, including the Chief Minister, in the Council of Ministers in a State shall not exceed 15% of the total number of members of the Legislative Assembly of that State.
- It also provided that the number of Ministers, including the Chief Minister in a State shall not be less than twelve.
- Similar amendments were also made under Article 75 which said;
 - The PM shall be appointed by the President and the other Ministers shall be appointed by the President on the advice of the PM.
 - The total number of ministers, including the Prime Minister, in the COM shall not exceed 15% of the total strength of the Lok Sabha.

The purpose of the 91st Amendment was to prevent jumbo cabinets and the resultant drain on the public exchequer.

What is PIL?

- Public interest Litigation (PIL) means litigation filed in a court of law, for the protection of “Public Interest”, such as Pollution, Terrorism, Road safety, Constructional hazards.
- Any matter where the interest of the public at large is affected can be redressed by filing a Public Interest Litigation in a court of law.
- Public interest litigation is not defined in any statute or in any act. It has been interpreted by judges to consider the intent of the public at large.
- It is the power given to the public by courts through judicial activism. The person filing the petition must prove to the satisfaction of the court that the petition being filed is for public interest.
- The court can itself take cognizance of the matter and proceed suo motu or cases can commence on the petition of any public spirited individual.

Few matters entertained under PIL are:

- Bonded Labour matters
- Neglected Children
- Non-payment of minimum wages to workers and exploitation of casual workers
- Atrocities on women
- Environmental Pollution and disturbance of ecological balance
- Food adulteration

The era of the PIL movement was heralded by Justice P.N. Bhagawati in the case of S.P. Gupta vs. Union of India 1981.

Olga Tellis Case 1985

News: The Constitution Bench judgment of the Supreme Court in Olga Tellis vs Bombay Municipal Corporation, in 1985 case, held that pavement dwellers are different from trespassers may become a game-changer in the Jahangirpuri (Delhi) case.

About:

- The case started in 1981 when the State of Maharashtra and the Bombay Municipal Corporation decided that pavement and slum dwellers in Bombay city should be evicted and deported to their respective places of origin or places outside the city of Bombay.
- One of the main questions was whether eviction of a pavement dweller would amount to depriving him/her of their livelihood guaranteed under Article 21 of the Constitution.
- Article 21 mandates that 'no person shall be deprived of his life or personal liberty except according to procedure established by law'.
- There are nearly 20 million pavement dwellers in India.
- The Constitution Bench was also asked to determine if provisions in the Bombay Municipal Corporation Act, 1888, allowing the removal of encroachments without prior notice, were arbitrary and unreasonable.
- The Supreme Court also decided to examine the question of whether it was constitutionally impermissible to characterize pavement dwellers as trespassers.

Observations made by Supreme Court in Olga Tellis vs Bombay Municipal Corporation, 1985 case:

- The SC ruled that eviction of pavement dwellers using unreasonable force, without giving them a chance to explain is unconstitutional. It is violation of their right to livelihood.
- The court had objected to authorities treating pavement dwellers as mere trespassers.

State Government's response:

- The State government and the corporation countered that pavement dwellers should be estopped. Estoppel is a judicial device whereby a court may prevent or 'estop' a person from making assertions.
- Estoppel may prevent someone from bringing a particular claim contending that the shacks constructed by them on the pavements cannot be demolished because of their right to livelihood.
- They cannot claim any fundamental right to encroach and put-up huts on pavements or public roads over which the public has a 'right of way.'

What did the Supreme Court rule presently?

- The court rejected the government's argument of Estoppel, saying 'there can be no Estoppel against the Constitution.'
- The right to livelihood was an 'integral component' of the right to life.
- If the right to livelihood is not treated as a part of the constitutional right to live, the easiest way of depriving a person of his right to life would be to deprive him of his means of livelihood to the point of abrogation.
- On the second question whether provisions in law allowing statutory authorities to remove encroachments without prior notice was arbitrary. Such powers are designed to operate as an 'exception' and not the 'general rule.' The procedure of eviction should lean in favour of procedural safeguards which follow the natural principles of justice like giving the other side an opportunity to be heard.

- The court emphatically objected to authorities treating pavement dwellers as mere trespassers. The apex court ruled that pavement dwellers live on 'filthy footpaths out of sheer helplessness' and not with the object of offending, insulting, intimidating or annoying anyone.
- The court highlighted that they live and earn on footpaths because they have 'small jobs to nurse in the city and there is nowhere else to live.'

Section 144 CrPC

News: The administration of Uttarakhand's Haridwar district imposed prohibitory orders under Section 144 of the Code of Criminal Procedure (CrPC), 1973 near the town of Roorkee.

About:

- This law empowers the magistrate of any state or union territory in India to pass an order prohibiting the gathering of four or more people in a specified area.
- It is imposed in urgent cases of nuisance or apprehended danger of some event that has the potential to cause trouble or damage to human life or property.
- This order can be passed against a particular individual or general public.

Features:

- It places restrictions on handling or transporting any kind of weapon in the given jurisdiction.
- As per the order under this section, there shall be no movement of public and all educational institutions shall also remain closed.
- Further, there will be a complete bar on holding any kind of public meeting or rallies during the period of operation of this order.
- It is deemed a punishable offence to obstruct law enforcement agencies from disbanding an unlawful assembly.
- It also empowers the authorities to block internet access in the region.
- The ultimate purpose of Section 144 is to maintain peace and order in the areas where trouble could erupt to disrupt the regular life.

Duration:

- Orders passed under Section 144 remain in force for two months, unless the state government considers it necessary to extend it. But in any case, the total period for which the order is in force cannot be more than six months.

Why is the law criticized?

- It is too broad and the words of the section are wide enough to give absolute power to a magistrate that may be exercised unjustifiably. The immediate remedy against such an order is a revision application to the magistrate himself.
- An aggrieved individual can approach the High Court by filing a writ petition if his fundamental rights are at stake. However, fears exist that before the High Court intervenes, the rights could already have been infringed.
- Imposing prohibitory orders over a very large area is not justified because the security situation differs from place to place and cannot be dealt with in the same manner.

Supreme Court Rulings:

- 1961 'Babulal Parate vs State of Maharashtra and Others': Supreme Court refused to strike down the law, saying it is 'not correct to say that the remedy of a person aggrieved by an order under the section was illusory'.
- In 1967, the court rejected a challenge to the law saying 'no democracy can exist if 'public order' is freely allowed to be disturbed by a section of the citizens'.
- In 1970 (Madhu Limaye vs Sub-Divisional Magistrate), the court said the power of a magistrate under Section 144 'is not an ordinary power flowing from administration but a power used in a judicial manner and which can stand further judicial scrutiny'.

The court, however, upheld the constitutionality of the law, ruling that the restrictions imposed through Section

144 are covered under the 'reasonable restrictions' to the fundamental rights laid down under Article 19(2) of the Constitution.

Punjab-Haryana dispute over river waters and SYL Canal

News: The Haryana Vidhan Sabha has passed a resolution seeking completion of the Sutlej-Yamuna Link Canal. The canal once completed, will enable the sharing of river waters of Ravi and Beas between the two states.

Background around the project:

- The creation of Haryana from the old (undivided) Punjab in 1966 threw up the problem of giving Haryana its share of river waters.
- Punjab was opposed to sharing waters of the Ravi and Beas with Haryana, citing riparian principles, and arguing that it had no water to spare.
- However, Centre, in 1976, issued a notification allocating to Haryana 3.5 million acre feet (MAF) out of undivided Punjab's 7.2 MAF.
- In a reassessment in 1981, the water flowing down Beas and Ravi was estimated at 17.17 MAF, of which 4.22 MAF was allocated to Punjab, 3.5 MAF to Haryana, and 8.6 MAF to Rajasthan.
- The Eradi Tribunal headed by Supreme Court Judge V Balakrishna Eradi was set up to reassess availability and sharing of water. The Tribunal, in 1987, recommended an increase in the shares of Punjab and Haryana to 5 MAF and 3.83 MAF, respectively.
- In addition, there have been militant issues surrounding the project where engineers, laborer's involved in the project have been killed by militants.

Punjab's argument:

- Many areas in Punjab may go dry after 2029.
- The state has already over-exploited its groundwater for irrigation.
- Out of 138 blocks, 109 blocks are 'over-exploited', two blocks are 'critical', five blocks are 'semi-critical' and only 22 blocks are 'safe'

Haryana's demand:

- It says that providing irrigation is tough for the state and there was a problem of drinking water in southern parts of Haryana, where groundwater has depleted up to 1,700 feet.
- Haryana has been citing its contribution to the central food pool and arguing that it is being denied its rightful share in the water as assessed by a tribunal.

Facts for Prelims:

- Water resources are under the State List
- Article 262 – Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley. It may also provide that neither the Supreme Court nor any other court is to exercise jurisdiction in respect of any such dispute or complaint.

Social Justice

One Health Concept

News: The Ministry of Fisheries, Animal Husbandry and Dairying has launched a pilot project in the state of Uttarakhand to implement the One Health Framework by One Health Support Unit.

About:

- One Health is an approach that recognizes that the health of people is closely connected to the health of animals and our shared environment.
- One Health' vision derives its blueprint from the agreement between the tripartite-plus alliance comprising the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE).
- Its purpose is to encourage collaborations in research and sharing of knowledge at multiple levels across various disciplines like human health, animal health, plants, soil, environmental and ecosystem health in ways that improve, protect and defend the health of all species.



Why is it important?

- In recent years the way humans, animals, environment interact amongst each other has changed significantly.
- Human population is growing and expanding into new geographic areas due to which close contact with animals and environment provides more opportunities for disease to pass between animals and people.
- Scientists have observed that there are more than 1.7 million viruses circulating in wildlife, many of whom are likely to be zoonotic in nature.
- Disruptions in environmental conditions and habitats can provide new opportunities for diseases to pass to animals.

India's efforts towards One Health Concept:

- Establishment of a National Standing Committee on Zoonosis in 1980s.
- Assistance to states for Control of Animal Diseases (ASCAD) – Capacity building for Veterinarians.
- Funds sanctioned for setting up a 'Centre for One Health' at Nagpur.
- Department of Biotechnology has launched the country's first One Health Consortium.
- Covid-19 pandemic has shown the importance of 'One Health' principles in governance of infectious diseases, especially the efforts needed to prevent and contain zoonotic diseases throughout the world.

Mid-Day Meal Scheme

News: From the next academic session, Karnataka is likely to become the 13th state to provide eggs under the mid-day meal scheme. The proposal comes after successive surveys pointing out high prevalence of malnutrition, anemia and low immunity among children in many parts of the state.

About:

- Mid-Day meal scheme was renamed PM Poshan Shakti Nirman in 2021.
- It was launched on 15th August 1995 as a centrally sponsored scheme.
- Initially it was launched for students up to class 5. In 2007, the UPA government expanded it to Class 8.

ADDITIONAL FOOD ITEMS SERVED TO CHILDREN

STATE	FOOD	NUMBER OF DAYS/WEEK
Andhra Pradesh	Egg/Banana, Chikki	5, 3
Bihar	Egg	1
Gujarat	Milk (12 dists, 26 blocks)	5
Haryana	Milk	3
Jharkhand	Egg/Seasonal fruit	2
Karnataka	Hot flavoured milk	5
Kerala	Boiled egg/Banana, Milk	1, 2
Madhya Pradesh	Milk	3
Maharashtra	Banana/Soya biscuit/Rajgira laddu/Chikki	1
Odisha	Egg	2
Punjab	Sweet kheer	1
Rajasthan	Seasonal fruit, Hot milk	1, Daily
Tamil Nadu	Egg/Banana	Daily
Telangana	Egg	3



STATE	FOOD	NUMBER OF DAYS/WEEK
Uttar Pradesh	Seasonal fresh fruit	1
Uttarakhand	Egg/Fruit/Milk/Gud papdi/Ramdana ke laddu	1
West Bengal	Egg/Cheese/Mushroom	1

Note: For 2021-22, Source: Parliament Question

Lesser known facts:

- The first initiative to provide meals to children had been taken by the erstwhile Madras Municipal Corporation around 1920.
- In post-Independence India, Tamil Nadu was again the pioneer, with Chief Minister K Kamaraj rolling out a school feeding scheme in 1956.
- Kerala had a school lunch scheme run by a humanitarian agency from 1961. The state government officially took over the initiative on December 1, 1984, making Kerala the 2nd state in the country to have a school lunch programme.
- Later, several state governments started such schemes in their own way, until the centre stepped in 1995.

Calories requirement:

- For children in Primary Grades – At least 450 calories and 12-gram protein.
- For upper primary Children – 700 calories and 20-gram protein.

Distribution of costs?

- Under the rules, the allocation of Rs 4.97 per child per day (primary classes) and Rs 7.45 (upper primary) are shared in 60:40 ratio with states and UTs with a legislature, and 90:10 with the Northeastern states, Jammu and Kashmir, Himachal Pradesh and Uttarakhand, while the Centre bears 100% of the costs in UTs without legislature.
- But the states and UTs that supplement the meals with additional items such as milk and eggs contribute more.
- Components such as payments to cooks and workers are also split in the same ratio between the Centre and states.
- However, the Centre bears the entire cost of food grains and their transportation, and also handles the expenditure on management, monitoring and evaluation of the scheme.

'SVANidhi se Samridhhi'

News: The Ministry of Housing and Urban Affairs (MoHUA) has launched 'SVANidhi se Samridhhi' program in additional 126 cities across 14 states/UTs. Quality Council of India (QCI) is the implementing partner for the program.

About:

- It is an additional program of PMSVANidhi, launched on 4th January 2021 to map the socio-economic profile of the PM SVANidhi beneficiaries and their beneficiaries.
- It assesses' beneficiaries' potential eligibility for various Central welfare schemes.
- These schemes include Pradhan Mantri Jeevan Jyoti Bima Yojana, PM Suraksha Bima Yojana, Pradhan Mantri Jan Dhan Yojana, Pradhan Mantri Shram Yogi Maandhan Yojana, Registration under Building and other Constructions Workers (Regulation of Employment and Conditions of Service) Act (BOCW), National Food Security Act (NFSA) portability benefit – One Nation One Ration Card (ONORC), Janani Suraksha Yojana, and Pradhan Mantri Matru Vandana Yojana (PMMVY).

PM SVANidhi Scheme:

- It is a special micro-credit facility plan to provide affordable loan of up to ₹10,000 to more than 50 lakh street vendors, who had their businesses operational on or before 24 March 2020.
- Interest subsidy at 7 % per annum on regular repayment of loan.
- Cashback up to INR 1200/- per annum on undertaking prescribed digital transactions.
- Small Industries Development Bank of India is the technical partner for implementation of this scheme. It will manage the credit guarantee to the lending institutions through Credit Guarantee Fund Trust for Micro and Small Enterprises.

Challenges:

- Several banks are seeking applications on stamp papers worth between Rs. 100 and Rs. 500.
- There have also been instances of banks seeking PAN cards and even checking the CIBIL or Credit score of applicants or state authorities asking for voter ID cards, which many migrant vendors do not carry with them. There have also been complaints of harassment by police and municipal officials.

E-Dar Portal

News: Recently, the Ministry of Roads, Transport and Highways (MoRTH) developed the portal named 'e-DAR' (e-Detailed Accident Report). The portal provides instant information on road accidents and helps accelerate accident compensation claims.

How will the portal help?

- Digitalised Detailed Accident Reports (DAR) will be uploaded to the portal for easy access. The web portal will be linked to the Integrated Road Accident Database (iRAD). From iRAD, applications to more than 90% of the datasets would be pushed directly to the e-DAR. Stakeholders like the police, road authorities, hospitals, etc., are required to enter very minimal information for the e-DAR forms. Thus, e-DAR would be an extension and e-version of iRAD.
- DAR portal would conduct multiple checks against fake claims by conducting a sweeping search of vehicles involved in the accident, the date of the accident, and the First Information Report number.
- The portal would be linked to other government portals like Vaahan or and would get access to information on driving licence details and registration of vehicles.
- Hotspots for accidents would also be identified so as to obtain solutions to avoid accidents at these hotspots.

Status of Road Accidents in India:

- Road accidents continue to be a leading cause of death, disabilities and hospitalization in the country despite our commitment and efforts.
- India ranks first in the number of road accident deaths across the 199 countries and accounts for almost 11% of the accident related deaths in the World.

Initiatives to curb Road Accidents:

- Motor Vehicles Amendment Act, 2019 – The act hikes the penalties for traffic violations, defective vehicles, juvenile driving. It provides for a Motor vehicle accident fund, which would provide compulsory insurance cover to all road users in India for certain types of accidents,
- Initiatives taken by MoRTH continue to implement a multi-pronged road safety strategy. It includes setting up driver training schools, creating awareness, strengthening automobile safety standards, improving road infrastructure,
- High priority has been accorded to rectification of black spots.

Poverty in India – A World Bank Report

News: Recently, the World Bank published the paper titled 'Poverty has Declined over the Last Decade but Not as Much as Previously Thought'.

Highlights of the Report:

- Extreme poverty in India was 12.3% points lower in 2019 compared with 2011, as poverty headcount rate declined from 22.5% in 2011 to 10.2% in 2019, with a comparatively sharper decline in rural areas.
- The extent of poverty reduction during 2015-2019 is estimated to be notably lower than earlier projections based on growth in private final consumption expenditure reported in national account statistics.
- Poverty reduction was higher in rural areas compared with urban India. Rural and urban poverty dropped by 14.7 and 7.9% points during 2011-2019.
- Smallholder farmers have experienced higher income growth. Real incomes for farmers with the smallest landholdings have grown by 10% in annualized terms between the two survey rounds (2013 and 2019) compared to a 2% growth for farmers with the largest landholding. The growth in incomes of smallest landholders in rural areas provides more evidence of moderation in income disparity in rural areas.

Importance of Report:

- The World Bank's paper is significant as India has no official estimation of recent periods. The last expenditure survey was released in 2011 by the National Sample Survey Organisation (NSSO), when the country had also released official estimates of poverty and inequality.

- It sheds light on how poverty and inequality have evolved since 2011 using a new household panel survey, the Consumer Pyramids Household Survey conducted by Centre for Monitoring the Indian Economy (CMIE).

Government Schemes to tackle Poverty:

- Annapurna Scheme
- Pradhan Mantri Awas Yojana
- Pradhan Mantri Jan Dhan Yojana
- National Urban Livelihood Mission and Deendayal Antyodaya Yojana - National Rural Livelihood Mission (DAY-NRLM)
- National Old Age Pension Scheme
- Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2005

Tathastu-ICS

International Relations

Economic Cooperation and Trade Agreement (ECTA)

News: India and Australia signed an Economic Cooperation and Trade Agreement (ECTA) in the presence of PM Narendra Modi and his counterpart in Canberra Scott Morrison.

About:

- First trade agreement of India with a developed country after more than a decade.
- It covers areas such as Trade in Goods, Rules of origin, Technical Barriers to Trade (TBT), Sanitary and Phytosanitary (SPS) measures, Dispute settlement, Telecom, Pharmaceutical products.

Features of Agreement:

- It provides an institutional mechanism to encourage and improve trade between the two nations.
- India will benefit from preferential market access provided by Australia on 100% of its tariff lines. Sectors such as textiles, gems and jewelry, leather, food and farm produce stand likely to benefit.
- India will be offering preferential access to Australia on over 70% of its tariff lines, including lines of export interest to Australia which are primarily raw materials and intermediaries such as coal, mineral ores and wines etc.
- Indian graduates from STEM (Science, Technology, Engineering and Mathematics) will be granted extended post-study work visas.
- Australia will also set up a programme to grant visas to young Indians looking to pursue working holidays in Australia.

India-Australia relations:

- The India-Australia Comprehensive Strategic Partnership initiated during the India-Australia Leaders' Virtual Summit held in June 2020 is the cornerstone of India-Australia multi-faceted bilateral relations.
- Australia is the 17th largest trading partner of India and India is Australia's 9th largest trading partner.
- India-Australia bilateral trade for both merchandise and services is valued at USD 27.5 billion in 2021.
- India's merchandise exports to Australia grew 135% between 2019 and 2021. India's exports consist primarily of a broad-based basket largely of finished products and were USD 6.9 billion in 2021.
- India's merchandise imports from Australia were USD 15.1 billion in 2021, consisting largely of raw materials, minerals and intermediate goods.
- India-Australia are partners in the Trilateral Supply Chain Resilience Initiative (SCRI) along with Japan which aims to enhance resilience of supply chains in the Indo-Pacific region.
- India-Australia are also members of QUAD grouping.

THE HINDU

Boosting ties

The India-Australia Economic Cooperation and Trade Agreement (ECTA) seeks to encourage trade between the two countries. The agreement will benefit labour-intensive sectors, apart from increasing quotas for Indian chefs and yoga teachers in Australia

TRADE IN GOODS	TRADE IN SERVICES
<ul style="list-style-type: none">■ Labour-intensive Indian sectors such as textiles, gems and jewellery, leather, food and farm produce and automobiles to benefit■ Australian coal, mineral ores and wines to get easier entry	<ul style="list-style-type: none">■ Indian students in Australia to get work visas for two to four years■ Australian firms in business, communication, construction and engineering services to gain
<ul style="list-style-type: none">■ Working group to explore market access issues for both sides in whisky and other alcoholic beverages	<ul style="list-style-type: none">■ Fast track approval for patented, generic and biosimilar medicines

INDIA & AUSTRALIA TRADE AGREEMENT

IndAus ECTA (Economic Cooperation & Trade Agreement)

Expected benefits from IndAus ECTA

- 10,00,000 jobs
- Boost to domestic manufacturing
- Growth in exports

#IndAusECTA

Way Forward:

- The India-Australia ECTA will further cement the already deep, close and strategic relations between the two countries.
- It will significantly enhance bilateral trade in goods and services, create new employment opportunities, raise living standards, and improve the general welfare of the people of the two countries.

State Visit of President of India to Turkmenistan

News: 4 agreements were signed, including in financial intelligence and disaster management when Indian President visited Turkmenistan for the first time.

What was discussed during the meet?

- Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline was on the agenda as India suggested measures related to security of pipeline.
- India highlighted the importance of International North South Transport Corridor (INSTC) and Ashgabat Agreement on International Transport and Transit Corridor.
- The Leaders called for deepening of cooperation in the education sector between the two countries and to develop direct contacts between leading higher educational institutions of Turkmenistan and India.
- India expressed its readiness to partner with Turkmenistan in its drive towards digitalisation and noted that Space can be another area of mutually beneficial co-operation.
- Sectors that were identified as areas of cooperation between the two nations include energy, petrochemicals, transport, communication, textile, leather and footwear, chemicals, pharmaceuticals.

Way Forward:

- Turkmenistan offers India a very good opportunity to strengthen economic presence in the nation, especially in the ICT sector.
- Turkmenistan also support's India's permanent position in the UN Security Council.
- With its strategic location in Central Asia and the opportunity it provides in connectivity is something on which India feel a partnership with Turkmenistan can be useful in the long run.

Strengthening India-Nepal Relations

News: The Prime Minister of Nepal, Sher Bahadur Deuba recently visited India and held a summit meeting with Prime Minister, Narendra Modi.

Outcomes of the Visit:

- Operationalization of the 35 KM cross-border rail link from Jaynagar (Bihar) to Kurtha (Nepal). This will be the first broad-gauge passenger rail link between the two sides.
- The Solu Corridor, a power transmission line built under Indian line of credit, was handed over to Nepal. This will facilitate electricity connection to several remote North-eastern districts of Nepal.
- India's RuPay card was launched in Nepal. Nepal now becomes the 4th country, after Singapore, Bhutan and the UAE, where RuPay card is valid.
- Nepal signed a framework agreement to join the India-led International Solar Alliance.
- Three more pacts were signed – a memorandum of understanding (MoU) on enhancing technical cooperation in the railways sector, and two agreements between Indian Oil Corporation and Nepal Oil Corporation for the supply of petroleum products for five years and for sharing of technical expertise.
- India plays a key role in developing Nepal's power sector, through capacity building and direct support to infrastructure projects related to generation and transmission.
- Agreement was reached to expedite work on delayed Pancheshwar multipurpose dam project on the Mahakali river.

Issues:

- Border issues between the 2 nations erupted in 2019 when Nepal had released a new political map that claims Kalapani, Limpiyadhura and Lipulekh of Utrakhand as part of Nepal's territory.

- China's influence in Nepal is growing concern for India's strategic interests. China considers Nepal a key partner in its Belt and Road Initiative (BRI) and is looking to invest in Nepal's infrastructure.
- India must engage with Nepal on all fronts, right from increasing people to people contact to bureaucratic as well as political interactions. The border disputes must be resolved diplomatically as Nepal holds significant importance of acting as a buffer state between India and China. However, it must be noted that none of the differences was allowed to dominate the recent visit of PM Deuba.

The 2+2 Dialogue

News: The fourth '2+2' dialogue between India and the United States is underway in Washington DC. India's EAM and Defense Ministers, S Jaishankar and Rajnath Singh, are meeting with their American counterparts, Secretary of State Anthony Blinken and Secretary of Defense Llyod Austin.

About: The 2+2 dialogue is a format of meeting of the Foreign and Defense Ministers of India and its allies on strategic and security issues.

Importance:

- A 2+2 ministerial dialogue enables the partners to better understand and appreciate each other's strategic concerns and sensitivities taking into account political factors on both sides, in order to build a stronger, more integrated strategic relationship in a rapidly changing global environment.
- India and the US have signed a troika of "foundational pacts" for deep military cooperation, beginning with the Logistics Exchange Memorandum of Agreement (LEMOA) in 2016, followed by the Communications Compatibility and Security Agreement (COMCASA) after the first 2+2 dialogue in 2018, and then the Basic Exchange and Cooperation Agreement (BECA) in 2020.

India's other 2+2 Strategic Partners:

- India's other 2+2 strategic partners include Australia, Japan and Russia.

India-Finland Relations

News: Recently, Finland's Minister of Economic Affairs met India's Union Minister of State Science and Technology.

Outcomes:

- India is keen to develop research collaborations with Finnish R&D institutions and technology collaboration with Finnish Industry especially focusing on the following technology domains and application of Quantum Computing in areas such as sustainable energy technologies, Water and Marine technologies, Food and Agri-technologies, affordable healthcare, bio-based economy, bio-banks and bio-based materials.
- The Department of Science and technology has initiated several new mission mode programs like EV's, cyber-physical systems, quantum technologies, green hydrogen fuel and sought joint collaboration with Finland in solving issues of societal challenges.
- Assurances were given by Finnish minister regarding partnership with India for Carbon-neutral technologies and enhance cooperation for sustainability in climate change.



- The Finnish Minister also invited India to explore the possibility of deeper cooperation in Finland's Biobank project to mediate high-quality human samples for medical research to promote the development of new products and services that promote public health.

About India-Finland Ties:

- In recent years, bilateral relations have acquired diversity with collaboration in research, innovation, and investments by both sides. 2019 marked 70 years of diplomatic relations between the two countries.
- Finland sees India as a market for its products and a favourable investment destination for its high technology industries. India views Finland as an important member of the European Union and a repository of modern technology.
- India and Finland have strong bonding in Science, Technology and Innovation. IMD and Finnish Meteorological Institute (FMI) have been cooperating in the field of atmospheric environment since 2014.
- Under such collaborations, Air Quality Forecasting Models developed by FMI are customized for the Indian region resulting in enhanced capability to forecast pollution events.
- Finland is a major player in 5G/6G technology and top IT companies in India are looking for increasing collaboration.
- In 2020, India's total trade (goods and services) with Finland was USD 2.3 billion which is in India's favour. Finland's top imported goods from India (Jan-Dec 2020) include medicinal, pharmaceutical products, articles of apparel and clothing accessories, metals, textile yarns and electric machinery parts.
- India's imports from Finland include machinery for special industries, paper and paperboard articles, metal scrap, electric machinery and parts.
- There are several Indian dance and Yoga schools in Finland too.

OPEC +

News: Russian President Vladimir Putin and Saudi Crown Prince Mohammed bin Salman gave a 'positive assessment' to their cooperation on the OPEC+ producers group to stabilize the world oil market.

- Saudi Arabia and other major Persian Gulf oil producers have so far resisted U.S. calls to increase output as prices have surged amid the crisis in Ukraine and concerns about possible sanctions on Russian exports. So, measures such as these are necessary to set things right.

About:

- Opec+ refers to the alliance of crude producers, who have been undertaking corrections in supply in the oil markets since 2017.
- OPEC plus countries include Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan.

OPEC:

- The Organization of the Petroleum Exporting Countries (OPEC) was founded in Baghdad, Iraq, with the signing of an agreement in September 1960 by five countries namely Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. They were to become the Founder Members of the Organization.
- OPEC is a permanent, intergovernmental organization.
- OPEC's objective is to co-ordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry.
- It is headquartered in Vienna, Austria.
- OPEC membership is open to any country that is a substantial exporter of oil and which shares the ideals of the organization.

OPEC member countries:

- Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates, Venezuela.

Colombo Security Conclave

News: Recently, the Colombo Security Conclave (CSC) Virtual Conference was organized by the National Investigation Agency of India.

About:

- The CSC, was formed in 2011 as a trilateral maritime security grouping of India, Sri Lanka and Maldives. It welcomed Mauritius as a fourth member. Bangladesh and Seychelles attended as observers and have been invited to join the group.
- The fifth meeting of national security advisers of the CSC identified key areas of cooperation to enhance and strengthen regional security in following areas; Maritime safety and security, countering terrorism and Radicalization, Combating trafficking and Transnational organized crime, Cyber security, protection of critical infrastructure and technology and humanitarian assistance and disaster relief.

Why CSC matters?

- India has a large coastline of nearly 7500 Km along with islands of strategic chokepoints. This makes maritime security a priority for the country, in which CSC plays a vital role.
- The grouping is also in line with India's vision of "SAGAR: Security and Growth for all in the Region" and India being a member of QUAD grouping.
- It hopes to restrict China's influence in an area of strategic importance and to reduce the Chinese footprint in the member countries.

Conclusion

The cooperation in maritime domain is of crucial significance owing to growing Chinese influence in the region. The CSC is likely to succeed if it maintains a common strategic vision.

Kuril Island Dispute

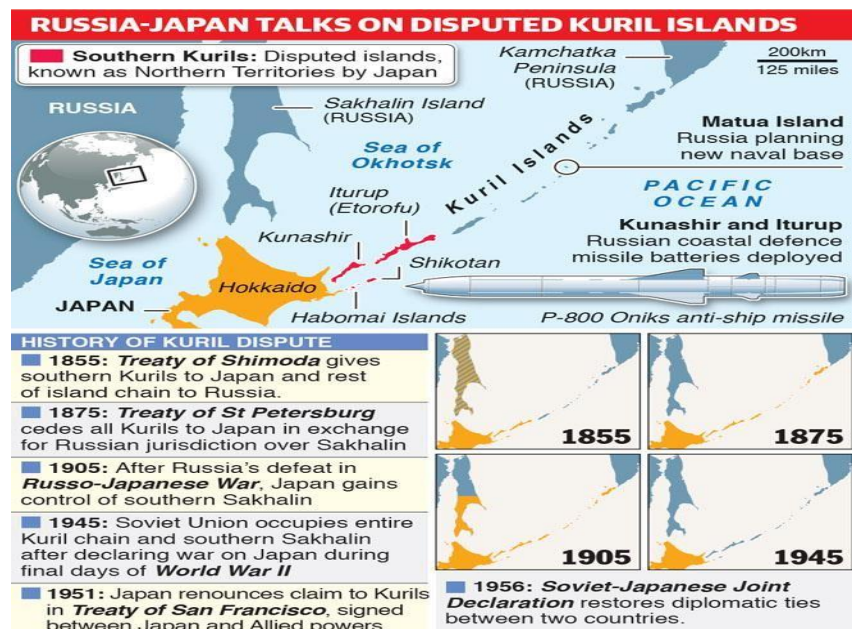
News: Recently, Japan described four islands whose ownership it disputes with Russia as illegally occupied in the latest version of a diplomatic Bluebook.

Location and Significance of Kuril Island:

- **Location**
 - The Kuril Islands are stretched from the Japanese island of Hokkaido to the southern tip of Russia's Kamchatka Peninsula separating the Okhotsk Sea from the North Pacific Ocean.
 - The chain is part of the belt of geologic instability circling the Pacific (Ring of Fire) and contains at least 100 volcanoes, of which 35 are still active, and many hot springs.
- **Significance**
 - The islands are surrounded by rich fishing grounds and are thought to have offshore reserves of oil and gas.
 - Russia has deployed missile systems in the region. Russia also plans a submarine project and intends to prevent any American military use of the islands.
 - The Japanese people, especially conservatives in Hokkaido, are emotionally attached to the islands.

Background:

- The Kuril Islands dispute between Japan and Russia is over the



sovereignty of South Kuril Islands.

- The South Kuril Islands comprise Etorofu island, Kunashiri island, Shikotan island and the Habomai island.
- These islands are claimed by Japan but occupied by Russia as the successor state of the Soviet Union.
- Series of Agreements and treaty were signed between the two nations. It includes Treaty of Shimoda (1855), Treaty of Saint Petersburg (1875), Yalta Agreement (1945), San Francisco Peace Treaty (1951) and Japan-Soviet Joint Declaration (1956)

Current Scenario:

- Despite a series of agreements, the dispute continues, and Japan still claims historical rights to the southernmost islands and has tried repeatedly to persuade the Soviet Union and, from 1991, Russia to return those islands to Japanese sovereignty.
- In 2018, the Russian President and the Japanese Prime Minister (PM) met on the sidelines of the East Asia Summit and decided to end the territorial dispute by the Japanese PM agreeing to negotiate based on the 1956 declaration. This implicitly showed that Japan has given up the two islands to maintain peace with Russia.
- However, Russia indicated that the joint declaration signed by Japan and the Soviet Union in 1956 neither mentions a basis for returning Habomai and Shikotan nor clarifies which country has sovereignty over the islands.
- Further, in 2019, the Japanese PM made it clear that the country is not in the favour of withdrawing control over the Islands. Japan also believes that the islands are an inherent part of the nation's territory. Therefore, Japan mentioned that it aims to sign the peace treaty after the territorial issue is resolved.

China's Global Security Initiative

News: A new Global Security Initiative (GSI) was put forward by Chinese President. The GSI looks to counter the US Indo-Pacific strategy and the Quad.

About:

- As per the Chinese President, Global Security Initiative will stay committed to the vision of common, comprehensive, cooperative and sustainable security.
- It would oppose unilateralism, and say no to group politics and bloc confrontation.
- This initiative would oppose the use of unilateral sanctions and long-arm jurisdiction.

Principles:

- This initiative would build an Asian security model of mutual respect, openness and integration.
- It would oppose the destruction of the international order under the banner of so-called rules.
- It will also oppose the dragging of the world under the cloud of the new cold war.
- This initiative will oppose the use of the Indo-Pacific strategy to divide the region and create a new Cold War, and the use of military alliances to put together an Asian version of NATO.

Why the need for such an initiative?

- With growing threats posed by unilateralism, hegemony and power politics, and increasing deficits in peace, security, trust and governance, mankind is facing more and more intractable problems and security threats.
- Thus, China held that the Global security initiative is envisaged to uphold the principle of "indivisible security".
- The principle of "indivisible security" means that no country can strengthen its own security at the expense of others.

Is a New Cold War in the making?

- China's aggressive development under the relatively enlightened authoritarianism.
- In order to contain rising China's assertiveness, the US under its 'pivot to Asia policy' Has launched a Quad initiative & Indo pacific narrative.
- Most recently, the US proposed to expand G7 to G-11 without including China in it.
- China's actions in the South China Sea, first by land reclamation and then constructing artificial islands for extending extra-territorial claim, has seen sharp criticism from the US and its allies.

Does India need to worry?

- There could be a warning for New Delhi in these efforts, that others are stitching up formal, institutionalized security cooperation that leave India out.
- With two new treaties now in the region—AUKUS being the other—and more potentially on their way, New Delhi needs to consider seriously whether its continuing scepticism of closer security cooperation with others best serves India's interest.
- More problematically, it is another indicator that India has not entirely escaped its traditional aversion to external security partnerships even when the limitations of its domestic capacities are self-evident.

Tathastu-ICS

General Studies – 3

Economic Development

1. Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.
2. Inclusive growth and issues arising from it.
3. Government Budgeting.
4. Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.
5. Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.
6. Food processing and related industries in India- scope' and significance, location, upstream and downstream requirements, supply chain management.
7. Land reforms in India.
8. Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
9. Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
10. Investment models.

Technology

11. Science and Technology- developments and their applications and effects in everyday life.
12. Achievements of Indians in science & technology; indigenization of technology and developing new technology.
13. Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

Environment & Bio-diversity

14. Conservation, environmental pollution and degradation, environmental impact assessment.

Disaster Management & Security

15. Disaster and disaster management.
16. Linkages between development and spread of extremism.
17. Role of external state and non-state actors in creating challenges to internal security.
18. Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention.
19. Security challenges and their management in border areas - linkages of organized crime with terrorism.
20. Various Security forces and agencies and their mandate.

Economic Development

Foreign Contribution Regulation Act

News: The Supreme Court upheld amendments introducing restrictions in the Foreign Contribution Regulation Act while clearly stating that no one has fundamental or absolute right to receive Foreign contributions.

About FCRA:

- The FCRA regulates Foreign donations and ensures that such contributions do not adversely impact our internal security.
- The act was first enacted in 1976. It was subsequently amended in 2010 and 2020.
- It is applicable to all associations, groups and NGO's which intend to receive foreign donations.
- It is mandatory for all such NGO's to register themselves under the FCRA. The registration is valid for 5 years and it can be renewed if they comply with all the norms.

 **The Parliament must be credited with having taken recourse to corrective dispensation for eradicating the mischief, which any sovereign country can ill-afford... The Parliament is supreme and has a final say in matters of legislation**
SUPREME COURT



What constitutes Foreign Contribution under FCRA?

- Foreign contribution under FCRA covers any 'donation, delivery or transfer made by any foreign source of any article' as long as it is not given as a gift for personal use, or if its market value in India at the time it was made is 'not more than such sum as may be specified from time to time by the Central government'.

Exceptions:

- Any currency, or security can fall under the ambit of the Act though it excludes any money received 'by way of fee or towards cost in lieu of goods or services rendered by such person in the ordinary course of his business, trade or commerce whether within India or outside India'.
- Neither are donations made by Non-Resident Indians (NRIs) considered to be 'foreign contribution' although a donation from a person of Indian origin who has assumed foreign nationality is treated as 'foreign contribution'.

Entities that cannot receive Foreign Contribution:

- A host of entities are barred from receiving foreign funds, including election candidates, those connected with a registered newspaper, judges, government servants or employees of any entity controlled or owned by the government and members of any legislature. Political parties and their office bearers, too, are prohibited from receiving foreign funds.

Changes made by the Law:

- An amendment to Section 7 of the Act completely prohibits the transfer of foreign funds received by an organization to any other individual or association.
- Every person (or association) granted a certificate or prior permission to receive overseas funds must open an FCRA bank account in a designated branch of the SBI in New Delhi.
- The Government is also authorized to take the Aadhaar numbers of all the key functionaries of any organization that applies for FCRA registration or for prior approval for receiving foreign funds.
- Another change is that the portion of the receipts allowed as administrative expenditure has been reduced from 50% to 20%.

Observations made by Supreme Court:

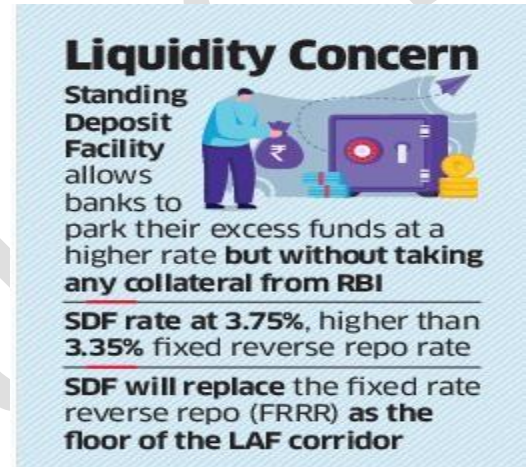
- The supreme court observed that unbridled inflow of Foreign funds may destabilize the sovereignty of the nation.
- The court mentioned that the amendments only provide a strict regulatory framework to moderate the inflow of Foreign funds into the country.
- Uncontrolled inflow of Foreign funds has the potential to impact the socio-economic structure and polity of the country.

Standing Deposit Facility (SDF)

News: The Reserve Bank of India (RBI) introduced the Standing Deposit Facility (SDF), an additional tool for absorbing liquidity, at an interest rate of 3.75 per cent.

About:

- The RBI has introduced the SDF, allowing banks to park their excess funds at a higher rate but without taking any collateral from the Central Bank.
- Bankers have said that RBI's move will push overnight rates higher and make the reverse repo rate redundant for now.
- The SDF rate has been set at 3.75%, higher than the 3.35% fixed reverse repo rate, which is the rate at which banks park their excess funds with the RBI in exchange of government securities as collateral.
- With a higher rate offered on SDF, large banks which have excess securities will not mind parking their extra deposits at a higher rate without any collateral.



RBI's Monetary Policy Review

News: For the 11th time in a row, the RBI in its latest monetary policy review has decided to keep the main policy rate i.e. Repo rate unchanged at 4%.

About:

- The RBI has acknowledged impact of ongoing Russia-Ukraine war on the rise in crude oil and commodity prices. The RBI has slashed growth forecast to 7.2% for fiscal year 2022-23 from the earlier 7.8% prediction.
- While maintaining accommodative stance, the Monetary Policy Review has signaled it has shifted its priorities to tackle inflation. Therefore, there may be a possibility of hike in key policy rate in the coming months. The RBI has hiked its inflation forecast from 4.5% projection to 5.7%.
- It has also introduced Standing Deposit Facility – an additional tool for absorbing liquidity. It intends to suck out surplus liquidity of Rs. 8.5 lakh crore from the financial system which is fueling inflation.
- The RBI policy panel took a concrete step by restoring the policy rate corridor under Liquidity adjustment facility (LAF) to pre-pandemic width of 50 basis points.

Various Policy Stances of RBI:

- **'Accommodative'** - An accommodative stance means the central bank is prepared to expand the money supply to boost economic growth. The central bank, during an accommodative policy period, is willing to cut the interest rates. A rate hike is ruled out. The central bank typically adopts an accommodative policy when growth needs policy support and inflation is not the immediate concern.
- **'Neutral'** – It suggests that the central bank can either cut rate or increase rate. This stance is typically adopted when the policy priority is equal on both inflation and growth. During neutral policy, the central bank doesn't commit to hike rates or cut.

- **'Hawkish Stance'** – It indicates that the Central Bank's top priority is to keep the inflation low. During such a phase, the central bank is willing to hike interest rates to curb money supply and thus reduce the demand. A hawkish policy also indicates tight monetary policy. When the central bank increases rates or 'tighten' the monetary policy, banks too increase their rate of interest on loans to end borrowers which, in turn, curbs demand in the financial system.
- **'Calibrated Tightening'** – It means during the current rate cycle, a cut in the repo rate is off the table. But, the rate hike will happen in a calibrated manner. This means the central bank may not go for a rate increase in every policy meeting but the overall policy stance is tilted towards a rate hike.

Red flags over PLI Scheme

News: Following red flags raised by the Department for Promotion of Industry and Internal Trade, the NITI Aayog has commenced work on evolving a set of objective criteria to track value addition by companies which avail financial rewards under the NDA government's flagship Production-Linked Incentive (PLI) scheme.

About:

- The PLI scheme was conceived to scale up domestic manufacturing capability, accompanied by higher import substitution and employment generation.
- Launched in March 2020, initially targeted three industries- mobile and allied component manufacturing, electrical component manufacturing, and medical devices.
- It was later expanded to 14 sectors including automobile and auto components, electronics and IT hardware, telecom, pharmaceutical, solar modules, metals and mining, textiles and apparel, white goods, drones, and advanced chemistry cell batteries.
- The incentives, calculated on the basis of incremental sales, range from as low as 1 per cent for the electronics and technology products to as high as 20 per cent for the manufacturing of critical key starting drugs and certain drug intermediaries.

Issues:

- There were no common set of parameters to understand the value addition by companies that have received or are likely to receive incentives under the PLI scheme. Different ministries monitor the value addition of their respective PLI schemes. There is no way to compare two different schemes.
- The target for companies to qualify for incentives are too steep. Citing the example of the Information Technology hardware sector, a government official said, "Until last fiscal, only 3-4 companies managed to achieve the incremental sales targets to qualify for the PLI scheme."
- Unlike global companies, most domestic companies relied on one or two supply chains which have been severely disrupted and due to no fault of their own.

Cabinet approves policy for use of land acquired under the Coal Bearing Areas (Acquisition & Development) Act, 1957

News: The policy approval provides for utilization of such land for the purpose of development and setting up of infrastructure relating to coal and energy.

About CBA Act, 1957

- The Coal Bearing Areas (Acquisition and Development) Act, 1957 provides for the acquisition of land containing or likely to contain coal deposits and for matters connected therewith.
- Under the provisions of this Act, the land is acquired for Government Companies only for coal mining and activities strictly incidental to mining purposes.
- For other requirements, like permanent infrastructure, offices, residence etc. the land is acquired under Land Acquisition Act, 1894.
- Mining rights and surface rights of a single patch of land may not be acquired under different Acts.

Key Provisions:

- The policy provides clear framework for utilization of following types of lands under the CBA Act. It includes lands no longer suitable or economically viable for coal mining activities or land from which coal has been mined out/de-coaled and such land has been reclaimed.
- The government coal companies such as Coal India Limited and its subsidiaries shall remain the owners of the lands acquired under CBA Act.
- The Government company which owns the land would lease such land for a specific period given under the policy. The entities for leasing shall be selected through a transparent, fair and competitive bid process and mechanism in order to achieve optimal value. The lands will be considered for activities such as setting up washeries, coal gasification and coal-to-chemical plants and to set up or provide for energy-related infrastructure.

Significance:

- Establishment of various coal and energy related infrastructure, without transfer of ownership from Government companies, would lead to generation of a large number of direct and indirect employment.
- The proposal to utilise land for rehabilitation purposes would ensure proper utilization of land and would eliminate wastage of all-important land resources, avoid acquisition of fresh chunks of land for rehabilitation of Project Affected Families.
- It will also address the demand of displaced families as they prefer to stay as close as possible to their original places. It will help in obtaining local support for coal projects.
- The policy will unlock land for various coal and energy infrastructure development activities that would encourage investment in backward areas of the country.

Oil Bonds

News: Recently, the Finance Minister has countered criticism of high oil prices by claiming that the government cannot bring down taxes - and thus oil prices because it has to pay for oil bonds issued by the Previous Government.

About:

- An oil bond is an IOU, or a promissory note issued by the government to the OMCs, in lieu of cash that the government would have given them so that these companies don't charge the public the full price of fuel. An IOU which stands for "I owe you", is a document that acknowledges existence of debt.
- An oil bond says the government will pay the oil marketing company the sum of, say, Rs 1,000 crore in 10 years.
- And to compensate the OMC for not having this money straightaway, the government will pay it, say, 8% (or Rs 80 crore) each year until the bond matures.
- Thus, by issuing such oil bonds, the government of the day is able to protect/ subsidize the consumers without either ruining the profitability of the OMC or running a huge budget deficit itself.

Why were they issued?

- When fuel prices were too high for domestic consumers, governments in the past often asked Oil Marketing Companies (OMCs) to avoid charging consumers the full price.
- But if oil companies don't get paid, they would become unprofitable. To address this, the government said it would pay the difference.
- If the government paid that amount in cash, it would have been pointless, because then the government would have had to tax the same people to collect the money to pay the OMCs. This is where oil bonds come in.

Is it right to issue such bonds?

- Former PM Manmohan Singh was correct in noting that issuing bonds just pushed the liability to a future generation. But to a great extent, most of the government's borrowing is in the form of bonds. This is the reason why Fiscal Deficit is so keenly tracked.
- In a country like India, all governments are forced to resort to the use of bonds of some kind.

- The current NDA government itself, which has issued bonds worth Rs 2.79 lakh crore (twice the amount of oil bonds) to recapitalise public sector banks.

How much tax is charged on fuel prices?

- There are two components to the domestic retail price — the price of crude oil itself, and the taxes levied on this basic price.
- Together they make up the retail price.
- The taxes vary from one product to another. For instance, as of now, taxes account for 50% of the total retail price for a litre of petrol, and 44% for a litre of diesel.

However, critics claim that what the government has had to pay for oil bonds, the payout is not big compared to revenues earned in this sector.

Parliamentary Panel for MSME Finances

News: Recently, the Parliamentary standing committee on finance has suggested several measures for strengthening credit flow to the Micro, Small and Medium Enterprises (MSMEs) sector.

Suggestions made by the Panel:

- Developing the Udyam portal into a one-stop central data repository for the MSME sector by linking it with other databases such as CIBIL data, utility bills data etc. At the moment it is linked with Government e-marketplace (GeM), Income Tax, GST and Trade Receivables Discounting System (TReDS) portal.
- Survey/census of MSMEs in line with the changed definition, be conducted at the earliest so as to estimate the actual number of MSMEs in the country along with realistic assessments of their credit requirements.
- Creating a 'Unified Payments Interface (UPI) for MSME Lending' for all MSMEs in the formal sector to access small-ticket working capital loans in a mobile-based, contactless, paperless, and low-cost way.
- The panel also recommended a 'Vyapar' credit card scheme for MSMEs under SIDBI akin to the Kisan Credit Card (KCC) scheme of the National Bank for Agriculture and Rural Development (NABARD) to bring crores of MSMEs into the formal financial system including street vendors and kirana stores.

Need to improve Credit Flow to MSME Sector?

- Lack of Formalization is the primary concern. Less than 40% of 6.34 crore MSME's, as per government data, borrow from the financial system.
- The committee noted that whatever data is there with regard to the MSME sector, they exist in a fragmented manner and there is no real integration across multiple datasets. Thus, banks are reluctant to lend to the MSME sector.
- The last MSME survey was conducted by National Sample Survey Office (NSSO), Ministry of Statistics and Programme Implementation six years ago while the government had revised the MSME definition in 2020.

Government initiatives:

- Prime Minister's Employment Generation Program
- Scheme for regeneration of Traditional Industries (SFURTI)
- A scheme for Promoting Innovation, Rural Industry and Entrepreneurship (SFURTI)
- Champions Portal
- Udyam Registrations Portal
- MSME Sambandh

Special Purpose Acquisition Companies (SPACs)

News: The government is reportedly considering a regulatory framework for special purpose acquisition companies (SPACs).

- The company law committee which was setup in 2019 to make recommendations to boost ease of doing business in India has suggested frameworks for SPAC's to be setup.

About:

- An SPAC, or a blank-cheque company, is an entity specifically set up with the objective of acquiring a firm in a particular sector.
- An SPAC aims to raise money in an initial public offering (IPO) without any operations or revenues.
- The money that is raised from the public is kept in an escrow account, which can be accessed while making the acquisition.
- If the acquisition is not made within two years of the IPO, the SPAC is delisted and the money is returned to the investors.

Significance of SPACs:

- Listing through SPACs is considered remarkable since the entire process takes place pursuant to a definitive agreement, with minimum risk and assured certainty.
- SPACs provide unique opportunities to Indian businesses that intend to get listed on Foreign stock exchanges. For example, the recent listing of Renew Power Private Limited, an Indian renewable energy company, on NASDAQ through an internationally incorporated SPAC in August 2021. Therefore, it speaks the popularity of SPACs.
- These are attractive to investors, despite them essentially being shell companies, as the blank-cheque companies are people sponsoring.
- For certain businesses, SPACs also provide an opportunity for exposure to countries and consumer bases where demand for such niche products exist, consequently allowing such companies to attain higher valuation.

Challenges:

- There are chances of lesser returns for retail investors post-merger.
- Not every SPAC are able to attract targets as the overall transactions is expected to be completed within strict timeline.
- As the process is time-bound, it may result in making hasty decisions which may prompt dissenting shareholders to exit and reduce overall gains for investors.
- In many cases, disappointing results have caused shareholders to commence class action suits and initiate investigations against SPAC sponsors in the US.

Way Forward:

- While recognising SPACs within the contours of the Companies Act is a welcome step, it may still require a more sophisticated analysis of SPAC-related issues based on prevailing market practices, in consultation with Securities and Exchange Board of India (SEBI).
- It is necessary to tread SPACs with cautious optimism and greater regulatory oversight, given that instances of underwhelming performances by SPACs have slowly begun to surface.

Digital Banking Units

News: Finance Minister Nirmala Sitharaman has reiterated her Budget announcement on setting up 75 digital banking units in 75 districts of the country this year.

About:

- Digital banking involves taking all traditional banking activity online - doing away with paperwork like cheques, pay-in slips, demand drafts and so on.
- A digital banking unit is a specialised fixed point business unit or hub housing certain minimum digital infrastructure for delivering digital banking products and services as well as servicing existing financial products and services digitally in self-service mode at any time.
- Commercial banks (other than regional rural banks, payment banks and local area banks) with past digital banking experience are permitted to open DBUs in tier 1 to tier 6 centres, unless otherwise specifically restricted, without having the need to take permission from the RBI in each case.

Services they may offer:

- As per the RBI, each DBU must offer certain minimum digital banking products and services.

- The services include savings bank accounts under various schemes, current accounts, fixed deposits and recurring deposit accounts, digital kit for customers, mobile banking, Internet banking, debit cards, credit cards, and mass transit system cards.

Advantages of DBU:

- Digital banking units will help banks themselves which are now looking to reduce physical footprint with fewer brick and mortar branches, with a 'light' banking approach.
- It will increase penetration in rural market for banks.
- Cheaper to establish as compared to opening up entire new branch.
- Such units also require lesser staff, with cheaper maintenance due to technological tools and hence can be high-yield units for the parent bank.
- It will help increase financial literacy.

Conclusion

Given the rapid rise of Digital transactions and increasing awareness regarding financial literacy in the nation coupled with Fintech innovations, it becomes critical to develop digital infrastructure to support Digital banking. It will pay increasing dividends for the years to come.

India is now third highest military spender

News: World military spending continued to grow in 2021, reaching a record \$2.1 trillion despite the economic fallout of the pandemic, according to new data on global military spending published by the Stockholm International Peace Research Institute (SIPRI).

About:

- The five largest spenders in 2021 were the U.S., China, India, the U.K. and Russia, together accounting for 62% of expenditure.
- The U.S. and China alone accounted for 52%.

SIPRI:

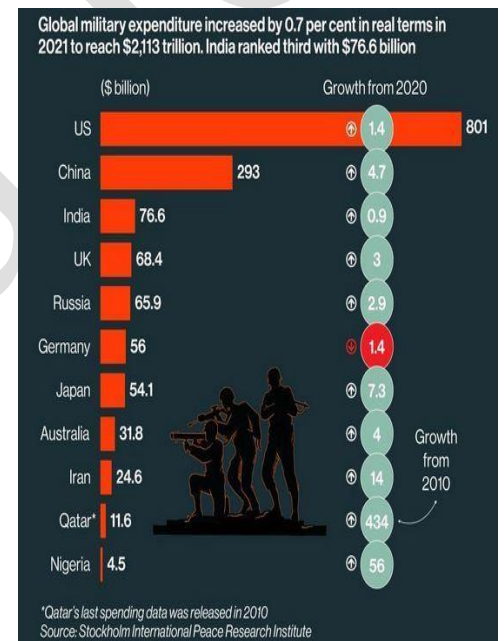
- Stockholm International Peace Research Institute is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- Established in 1966, SIPRI provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.

India's defence expenditure:

- India's military spending of \$76.6 billion ranked third highest in the world.
- This was up by 0.9% from 2020 and by 33% from 2012.
- Amid ongoing tensions and border disputes with China and Pakistan that occasionally spill over into armed clashes, India has prioritized the modernisation of its armed forces and self-reliance in arms production, the report said.
- In a drive to strengthen the indigenous arms industry, 64% of capital outlays in the 2021 Indian military budget were earmarked for acquisitions of domestically produced arms.

What about Russia and Ukraine?

- Russia increased its military expenditure by 2.9% in 2021, to \$65.9 billion, at a time when it was building up its forces along the Ukrainian border.
- On Ukraine, the report remarked that as it had strengthened its defences against Russia, its military spending 'has risen by 72% since the annexation of Crimea in 2014'.
- Spending fell in 2021, to \$5.9 billion, but still accounted for 3.2% of the country's GDP.



Indonesia's Ban on Palm Oil Export

News: The abrupt ban on palm oil exports by Indonesia, its biggest exporter, is expected to rock household economics globally.

Impact on India:

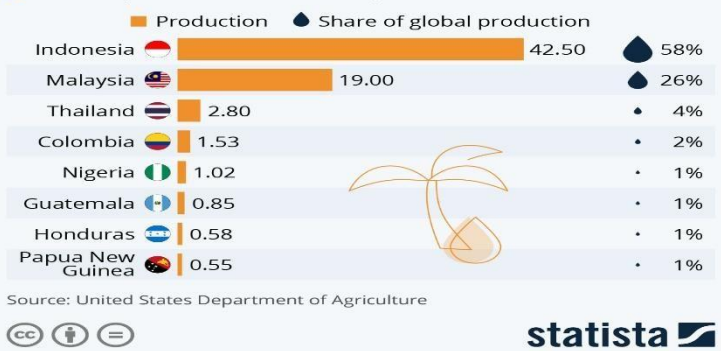
- Palm oil is among the world's most-used cooking oils, and India's dependence on Indonesia is expected to deal a supply-side shock.
- The export ban could send food inflation soaring as India is the largest importer of palm oil from Indonesia.
- India imports about 8 million tonnes of palm oil annually; the commodity accounts for nearly 40% share of India's overall edible oil consumption basket.
- Edible oil prices could surge as much as 100-200% in India if the government fails to find a new source of palm oil.
- Since palm oil and its derivatives are used in the production of several household goods, the impact of the ban could eat into the margins of Indian packaged consumer goods players.
- With cooking oil prices already at record levels owing to delayed shipments of sunflower oil from Ukraine, it becomes necessary for the government to intervene.

What options does India have?

- India is most likely to turn to Malaysia which is 2nd biggest exporter of palm oil. However, Malaysia is facing labour shortage owing to the pandemic which has resulted in a production shortfall.
- India could also explore importing from Thailand and Africa.
- With the ban coming into effect from 28th April, it also becomes necessary to engage with Indonesia as well on an urgent basis.
- Besides, the Centre is likely to negotiate with other oil-supplying nations in Latin America and Canada.

Which Countries Produce The Most Palm Oil?

Amount of palm oil produced in selected countries in 2019 (in million metric tons)



National Edible Oil Mission – Palm Oil (NMEO-OP)

- It has been launched with the aim to augment the availability of edible oil in the country by harnessing area expansion, increasing crude palm oil production with the aim to reduce the import burden.
- The salient features of NMEO-Oil palm include assistance for planting material, inputs for intercropping up to gestation period of 4 years and for maintenance, establishment of seed gardens, nurseries, micro irrigation, bore well/pumpset/water harvesting structure, vermi compost units, solar pumps, harvesting tools, custom hiring centre cum harvester Groups, farmers and officers training, and for replanting of old oil palm gardens etc.
- Annual edible oilseeds such as soybean, rapeseed and mustard, groundnut, sesame, sunflower, safflower and niger are also grown in the country. Potential districts for these crops have been identified on the basis of land suitability and average yield.
- As per ICAR-IIOPR, oil palm requires less water compared to crops like rice, banana and sugarcane for its optimum cultivation.
- Under the Mission emphasis has been given to promote micro irrigation and water conservation in oil palm for efficient water management and judicious use of water.

India's Labour Force Participation Rate

News: Data from the Centre for Monitoring Indian Economy (CMIE) shows that India's Labour Force Participation Rate (LFPR) has fallen to just 40% from an already low 47% in 2016.

- This implies that not only more than half of India's population in the working age group is deciding to sit of the job market, but also the proportion of people is increasing.

About:

- According to the CMIE, the labor force consists of people who are 15 years or older, and belong to either of the following two categories:
 - Are Employed
 - Are unemployed and are willing to work and are actively looking for a job.
- These two categories have people "demanding" jobs. This demand is what LFPR refers to.

Reasons for low LFPR:

- Low Female LFPR is one of the primary reasons for India's LFPR being low.
- According to CMIE data, as of December 2021, while the male LFPR was 67.4%, the female LFPR was as low as 9.4%.
- In other words, less than one in 10 working-age women in India are even demanding work.
- According to World Bank sources, India's Female labor force participation rate is around 25% when the global average is 47%.
- Low women LFPR is essentially due to working conditions such as law and order, public transportation infrastructure, violence against women, societal norms.

Issues with LFPR:

- Unemployment Rate only measures person who are unemployed, but it didn't calculate the total people have stopped demanding work. Typically, this happens when people of the working-age get disheartened from not finding work.
- Employment rate is another variable that is more reliable. The ER refers to the total number of employed people as a percentage of the working-age population.

Way Forward:

- LFPR is an essential parameter that needs strong attention both from government sector and inclusive partnership between public-private sector is the key to achieve our economic objectives. Focus should be given on Women's LFPR because women are also responsible for raising another labour force i.e. their kids.
- Promoting labour intensive industries is another option. Special packages that are industry oriented is the need of the hour to create more jobs.
- Efforts can be made to Draft National Employment Policy which includes a holistic approach towards social and economic issues affecting many policy spheres and not just relies on areas of labour and employment.

World Economic Outlook

News: The latest edition of the International Monetary Fund's (IMF) World Economic Outlook cut its forecast for India's Gross Domestic Product (GDP) growth in FY 2022-23 to 8.2%, making it the fastest-growing major economy in the world, almost twice faster than China's 4.4 %.

Indian Scenario:

- It has also lowered India's growth projection by 0.8 % points for 2022-23 from its previous forecast (9%) for the same period in 2021.
- With import bills rising due to high commodity and fuel prices, the IMF estimates India's current account deficit to widen to 3.1% in FY 2022-23 from 1.6% in FY 2021-22.
- India was 'suffering like many other countries because of the Russia -Ukraine war and negative terms of trade shock' due to higher food and energy prices weighing down trade balances.
- Additionally, external demand was also softening as the rest of the world's growth was impacted.

CHART 1

LABOUR FORCE PARTICIPATION & EMPLOYMENT RATES

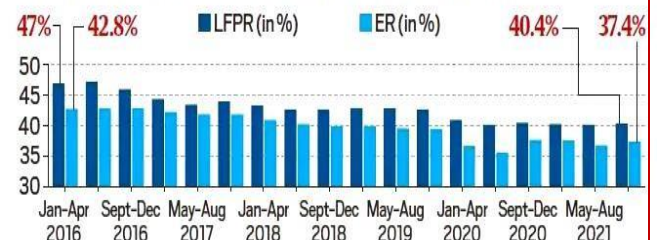
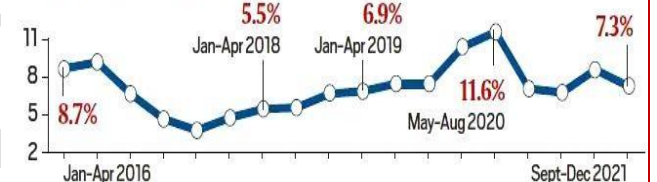


CHART 2

UNEMPLOYMENT RATE



Recommendations by IMF:

- It recommended monetary tightening by central banks to keep inflationary expectations in check amid global supply disruptions caused by the war in Ukraine. The IMF warned that the war would “severely set back the global recovery,” slow growth and stoke inflation.
- Monetary authorities should carefully monitor the pass-through of rising global prices to domestic inflation expectations to calibrate their responses.
- The IMF report backed targeted income support by governments to alleviate stress on household budgets in countries facing large price increases.

Other reports prepared by IMF

- Global Financial Stability Report
- Fiscal Monitor

Petrol and Diesel Pricing in India

News: The Prime Minister urged several Opposition-ruled states to cut taxes on petrol and diesel in order to reduce the economic burden on citizens and work as a team in this time of global crisis following the spirit of cooperative federalism.

About:

- Maharashtra, West Bengal, Telangana, Andhra Pradesh, Tamil Nadu, Kerala, and Jharkhand have not reduced Value-added tax (VAT) on Petrol and Diesel.
- VAT is consumption tax which is added to a product at every point of the supply chain where value is added to it.

Components of Retail Prices of fuel:

- Retail prices of petrol and diesel are made up of mainly 3 components: Base price, Central Excise Duty and State Tax (VAT).
- Central and state taxes form a major chunk of the price of petrol and diesel in India.
- Excise duty is constant for all over India, state taxes (sales tax and value added tax) vary depending upon the rates levied by different state governments.
- In November 2021, the Centre had reduced excise duties on both petrol and diesel to bring some relief to end-use customers.
- Excise duty was reduced by Rs 5 per liter on petrol and Rs 10 per liter on diesel. Fuel prices remained constant after the Centre's excise duty reduction. However, a recent surge in global crude oil prices owing to the war between Russia and Ukraine led to corresponding hikes in the price of petrol and diesel in India too.
- The price reduction varied across states due to differences in VAT rates. States with higher VAT witnessed slightly higher reduction in pump prices.
- Retail rates of petrol and diesel are governed by international prices as India depends on imports for meeting 85% of its oil needs.

Why are states unable to lower Fuel Taxes?

- Petroleum and liquor forms a major source of revenue (roughly a third of states own tax revenue), making it difficult for states to forgo a part of it.
- The economic downturn and the pandemic had led to higher spending needs and reduced revenues.
- States' consolidated fiscal deficit had jumped from 2.6% of Gross Domestic Product (GDP) in FY20 to 4.7% in FY21.

Way Forward:

- India has been experimenting with diversifying its source of oil and gas imports, creating strategic oil reserves, blending ethanol with auto fuel and an ambitious electric mobility plan.
- While such measures are a step in the right direction they are yet to reflect on the energy prices owing to surge in global prices of crude oil, gas, petrol, and diesel.

Science & Technology

The Weapons of Mass Destruction and Their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022

News: The Lok Sabha on Wednesday passed the Bill that sought to prohibit funding of weapons of mass destruction (WMDs) with EAM Dr. S. Jaishankar stating that the passage of the legislation will strengthen national security and enhance India's reputation globally.

Purpose of the Bill:

- It bars person from financing any prohibited activity related to weapons of mass destruction and their delivery systems.
- It empowers the Centre to freeze, seize or attach funds, financial assets or economic resources for preventing such financing.
- It may also prohibit persons from making finances or related services available for the benefit of other person in relation to any activity which is prohibited.

Need for the Bill:

- The existing act does not cover the financial aspect of such delivery systems and the new provisions were essential to meet international obligations.
- The UNSC's targeted financial sanctions and recommendation of FATF have mandated against financing of proliferation of WMD's and their delivery systems.

What are WMDs?

- Weapons that have the capacity to inflict death and destruction on such a massive scale and so indiscriminately that its very presence in the hands of hostile power can be considered a serious threat.
- They are either nuclear, biological, or chemical weapons.

Global efforts made to control the spread of WMD:

- Nuclear Non-proliferation Treaty of 1968
- Biological weapons convention of 1972
- Chemicals weapons convention of 1993

India has not signed the Nuclear Non-Proliferation Treaty, but is signatory to both Biological and Chemicals weapons convention.

Defence Ministry notifies Third positive Indigenization List

News: Recently, the Ministry of Defence has released the **third positive indigenization list of 101 items**, comprising major equipment/platforms.

About:

- It comprises highly complex Systems, Sensors, Weapons and Ammunitions like Light Weight Tanks, Mounted Arty Gun Systems, Next Generation Offshore Patrol Vessels (NGOPV) etc.
- These weapons and platforms are planned to be indigenized progressively with effect from December 2022 to December 2027.
- These 101 items will, henceforth, be procured from local sources as per provisions of Defense Acquisition Procedure (DAP) 2020.

Importance:

- These weapons & platforms will promote domestic industry and transform R&D and manufacturing in the country.
- Reduction in the fiscal deficit, security against its porous borders and hostile neighbors, generation of employment and ignition of the fire of nationalism and patriotism with the strong sense of integrity and sovereignty amongst the Indian Forces.

Government Initiatives to promote self-reliance:

- In May 2020, the Foreign Direct Investment (FDI) limit under the automatic route in the defence sector was hiked from 49% to 74%.
- In October 2021, the government dissolved the four-decade-old Ordnance Factory Board (OFB) and amalgamated 41 factories under seven new state-owned companies to manufacture defence hardware ranging from munitions to heavy weapons and vehicles.
- Defence India Start-up Challenge encourages start-ups, MSME's, innovators to create prototypes or commercialize products and solutions in the area of National Defence and security.
- SRIJAN portal was launched for industry players to play active role in the goal self-reliance in defence sector.

Rice Fortification

News: The Cabinet Committee on Economic Affairs has approved supply of fortified rice in all States and Union Territories (UTs) by 2024 in a phased manner.

About:

Fortified Rice will be supplied throughout the Targeted Public Distribution System (TPDS) under the National Food Security Act (NFSA), Integrated Child Development Services (ICDS), Pradhan Mantri Poshan Shakti Nirman (PM POSHAN)

What is Fortification?

- The World Health Organization (WHO) has explicitly defined fortification.
- It involves deliberate increasing of the content of essential micronutrients i.e. vitamins and minerals in food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health.

Need for Rice Fortification in India?

- India has very high levels of malnutrition among women and children.
- According to the Food Ministry, every second woman in the country is anemic and every third child is stunted.
- Fortification of food is considered to be one of the most suitable methods to combat malnutrition.
- Rice is one of India's staple foods, consumed by about two-thirds of the population. Per capita rice consumption in India is 6.8 kg per month.
- The Copenhagen Consensus (a think-tank) estimates that every 1 rupee spent on fortification results in 9 rupee benefits to the economy.
- Therefore, fortifying rice with micronutrients is an option to supplement the diet of the poor.

Advantages offered:

- Fortified staple foods will contain natural or near-natural levels of micro-nutrients, which may not necessarily be the case with supplements.
- It provides nutrition without any change in the characteristics of food or the course of our meals.
- If consumed on a regular and frequent basis, fortified foods will maintain body stores of nutrients more efficiently and more effectively than will intermittently supplement.
- The overall costs of fortification are extremely low; the price increase is approximately 1 to 2 percent of the total food value.
- It upholds everyone's right to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger.

Issues with fortified food:

- Fortification and enrichment upset nature's packaging. Our body does not absorb individual nutrients added to processed foods as efficiently compared to nutrients naturally occurring.
- Supplements added to foods are less bioavailable. Bioavailability refers to the proportion of a nutrient your body is able to absorb and use.
- They lack immune-boosting substances.

- Fortified foods and supplements can pose specific risks for people who are taking prescription medications, including decreased absorption of other micro-nutrients, treatment failure, and increased mortality risk.
- It may be applied to junk food effectively making unhealthy food look healthy.

Steps towards Fortification in India:

- Journey began in 1950's with fortification of vegetable oil and salt iodization.
- Poshan Abhiyan and Anaemia-Mukt Bharat mission recommend food fortification as an important strategy to tackle micronutrient malnutrition.
- The F+ Logo has been notified to identify fortified foods.

Microbots for Drug Delivery

News: An Indian researcher has found that it is possible to use light as a fuel to move microbots in real-body conditions with intelligent drug delivery that is selectively sensitive to cancer cells.

About:

- These microbots are made from the two-dimensional compound poly (heptazine imide) carbon nitride (i.e. PHI carbon nitride).
- These microbots are like miniaturised humans.
- They range from 1-10 micrometre (a micrometre is one-millionth of a metre) in size, and can self-propel when energised by shining light.

How do they swim?

- The PHI carbon nitride microparticles are photocatalytic.
- Like in a solar cell, the incident light is converted into electrons and holes.
- These charges drive reactions in the surrounding liquid. The charges react with the fluid surrounding them.
- This reaction, combined with the particle's electric field, makes the microbots (micro-swimmers) swim.
- As long as there is light, electrons and holes are produced on the surface of the swimmers, which in turn react to form ions and an electric field around the swimmer.
- These ions move around the particle and cause fluid to flow around the particle.
- So this fluid flow causes the micro-swimmers to move.

Barriers:

- The body fluid and blood contain dissolved salts.
- When salts are present, the salt ions stop the reaction ions from moving freely as they will just bind or recombine with them and stop them.
- So all the chemically propelled swimmers can't swim in solutions containing salts.
- For example, when dissolved in water, common salt (NaCl) breaks up into sodium (Na +) and chloride (Cl -) ions.
- These ions will neutralise the ions created by the photocatalytic reaction, thereby impeding the self-propulsion.

Significance of Research:

- The researchers found that the ions in the salty solution passed through the pores of PHI carbon nitride. Thus, there was little or no resistance from the salt ions.
- In addition to transporting salt ions from the fluid, the voids and pores on the microparticles worked as cargo bays and could soak up large amounts of drug.
- Microswimmers for drug delivery introduced in the past relied on 'artificial capsules,' which were meant to be filled with drugs and delivered to specific locations in the body.
- Creating these capsules, however, could be both complex and expensive. In contrast, the particles used by the researchers are cheap, organic, and spongy by design, binding directly to drugs or other substances.
- This means that they could be easier to implement on a large-scale. Remarkably, they can also be loaded with more drugs (i.e., 185% of their own mass) than other materials used in the past.
- Microswimmers could allow doctors to deliver drugs to targeted regions inside the human body.

5G Vertical Engagement and Partnership Program

News: The Department of Telecommunications (DoT) has invited Expression of Interest (EoI) for '5G Vertical Engagement and Partnership Program (VEPP)' initiative to build strong collaboration partnerships across 5G Use-case ecosystem stakeholders.

About:

- It is an Initiative, where the DoT will “facilitate necessary approvals, regulatory clearances to enable use case prototyping, pilots, demos, trials at the user or vertical industry premises”.
- The DoT will facilitate access to experimental spectrum, access to testbeds and engagement with academia, other ministries for necessary regulatory policies and pilots wherever feasible.

Significance:

- It seeks to build strong collaboration partnerships across 5G Use-case ecosystem stakeholders with velocity and with an exclusive emphasis to address User/Vertical Industry needs.
- It will enable close collaboration between User verticals and 5G Tech stakeholders (Service providers, Solution providers & partner Original Equipment Manufacturers), which can trigger a multiplier effect to try & fine-tune 5G digital solutions in respective economic verticals.

5G Technology:

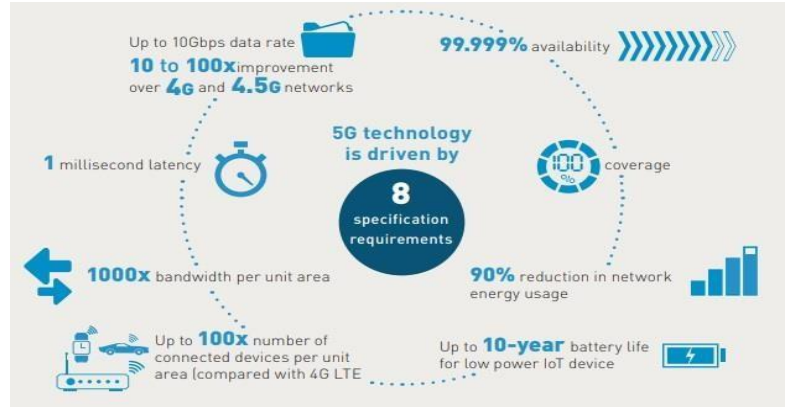
- 5G is the next generation of mobile broadband that will eventually replace, or at least augment 4G LTE connection.
- Operate in the millimeter wave spectrum (30-300 GHz) which have the advantage of sending large amounts of data at very high speeds.
- Operate in 3 bands, namely low, mid and high frequency spectrum.
- Reduced latency will support new applications that leverage the power of 5G, the Internet of Things (IoT), and artificial intelligence.
- Increased capacity on 5G networks can minimize the impact of load spikes, like those that take place during sporting events and news events.

5G in India:

- The government has said the auction of 5G spectrum would take place in March or April 2022. Some experts say it could be delayed by at least one quarter as telecom service providers are yet to complete their trials and test various aspects.
- Telecom Regulatory Authority of India (TRAI) is in the final stages of stakeholder consultations, and is likely to submit its recommendations to the DoT early 2022.
- The Private Telecom companies have progressed at various levels regarding the rollout of 5G - like conducting trials, testing speeds and building indigenous 5G networks.

Conclusion

India's National Digital Communications Policy 2018 highlights the importance of 5G when it states that the convergence of a cluster of revolutionary technologies including 5G, the cloud, Internet of Things (IoT) and data analytics, along with a growing start-up community, promise to accelerate and deepen its digital engagement, opening up a new horizon of opportunities.



Parboiled Rice

News: The Centre has said it will stop the purchase of excess parboiled rice, of which Telangana is a major producer.

About: It is rice that has been partially boiled at the paddy stage, before milling. Parboiling of rice is not a new practice, and has been followed in India since ancient times.

Methods for preparation:

- CFTRI, Mysuru, uses a method in which the paddy is soaked in hot water for three hours. The water is then drained and the paddy steamed for 20 minutes. Also, the paddy is dried in the shade.
- Chromate soaking process: It uses chromate, a family of salt in which the anion contains both chromium and oxygen, which removes the odour from the wet rice.
- All the process involves 3 stages – soaking, steaming and drying. Once it passes through these stages, the paddy goes for milling.

Benefits:

- Parboiling makes rice tougher. This reduces the chances of the rice kernel breaking during milling.
- Parboiling also increases the nutrient value of the rice.
- Parboiled rice has a higher resistance to insects and fungi.

Negatives:

- The rice becomes darker and may smell unpleasant due to prolonged soaking.
- Besides, setting up a parboiling rice milling unit requires a higher investment than a raw rice milling unit.

National Cyber Security Strategy

News: Recently, Chinese state-sponsored hackers targeted Indian electricity distribution centres near Ladakh. Amid a surge in cyberattacks on India's networks, the Centre is yet to implement the National Cyber Security Strategy which has been in the works since 2020.

Cyber-attacks in India:

- As per American cybersecurity firm Palo Alto Networks' 2021 report, Maharashtra was the most targeted State in India — facing 42% of all ransomware attacks.
- India is among the more economically profitable regions for hacker groups and hence these hackers ask Indian firms to pay a ransom, usually using cryptocurrencies, in order to regain access to the data.
- One in four Indian organisations suffered a ransomware attack in 2021.
- Indian organisations witnessed a 218% increase in ransomware — higher than the global average of 21%.
- Software and services (26%), capital goods (14%) and the public sector (9%) were among the most targeted sectors.

National Cyber Security Strategy:

Conceptualised by the Data Security Council of India (DSCI), the report focuses on 21 areas to ensure a safe, secure, trusted, resilient, and vibrant cyberspace for India.

- There needs to be a focus on security in the early stages of design in all digitisation initiatives and for developing institutional capability for assessment, evaluation, certification, and rating of core devices.
- Monitoring and mapping of the supply chain of the Integrated Circuits (ICT) and electronics products. Leveraging the country's semiconductor design capabilities globally at strategic, tactical and technical levels.
- Mapping and modelling of devices and platforms deployed, supply chain, transacting entities, payment flows, interfaces and data exchange.
- State-level cybersecurity policies and guidelines for security architecture, operations, and governance need to be developed.

Recommendations made by the report:

- A minimum allocation of 0.25% of the annual budget, which can be raised upto 1% has been recommended to be set aside for cyber security.
- The report suggests investing in modernisation and digitisation of ICT, setting up a short and long term agenda for cyber security via outcome-based programs and providing investments in deep-tech cyber security innovation.

- The DSCI also recommends creating a 'cyber security services' with cadres chosen from the Indian engineering services.
- Cyber insurance being a yet to be researched field, must have an actuarial science to address cybersecurity risks in business and technology scenarios as well as calculate threat exposures.
- Cyber diplomacy plays a huge role in shaping India's global relations. To further better diplomacy, the government should promote brand India as a responsible player in cyber security and also create 'cyber envoys' for the key countries/regions.
- It also suggests charting a five-year roadmap factoring possible technology transformation, setting up exclusive courts to deal with cybercrimes and remove backlog of cybercrimes by increasing centres providing opinion related to digital evidence under section 79A of the IT act.
- The DSCI suggests advanced forensic training for agencies to keep up in the age of AI/ML, blockchain, IoT, cloud, automation.

Government's Initiatives:

- Cyber Surakshit Bharat Initiative
- Cyber Swacchta Kendra
- Indian Cyber Crime Coordination Centre (I4C)
- Information Technology Act, 2000
- National Critical Information Infrastructure Protection Centre (NCIIPC)

Global Center for Traditional Medicine

News: Recently, the groundbreaking ceremony was performed for the first-of-its-kind World Health Organization (WHO) Global Centre for Traditional Medicine (GCTM) in Jamnagar, Gujarat.

Traditional Medicine:

- According to the WHO, traditional medicine is the total sum of the "knowledge, skills and practices indigenous and different cultures have used over time to maintain health and prevent, diagnose and treat physical and mental illness".
- Its reach encompasses ancient practices such as acupuncture, ayurvedic medicine and herbal mixtures as well as modern medicines.
- In India, it is often defined as including practices and therapies — such as yoga, Ayurveda, Siddha.

Need for establishing GCTM:

- The Centre aims to channel the potential of traditional medicine, by integrating it with technological advancements and evidence-based research.
- It will seek to set policies and standards on traditional medicine products and help countries create a comprehensive, safe, and high-quality health system.
- It will support efforts to implement the WHO's Traditional Medicine Strategy (2014-23). It aims to support nations in developing policies & action plans to strengthen the role of traditional medicine in pursuing the goal of universal health coverage.

Why is it necessary to acknowledge Traditional Medicine?

- According to WHO estimates, 80% of the world's population uses traditional medicine.
- National health systems and strategies do not yet fully integrate traditional medicine workers, accredited courses and health facilities.
- There is a need to conserve biodiversity and sustainability as about 40% of approved pharmaceutical products today derive from natural substances.
- WHO has referred to modernization of the ways traditional medicine is being studied. Artificial intelligence is now used to map evidence and trends in traditional medicine.
- Traditional medicine is also being extensively updated by mobile phone apps, online classes, and other technologies.

ISRO, IISc experts develop 'space bricks' for Mars

About:

- ISRO and IISc have collaborated to develop a novel scalable technique of manufacturing space bricks using Martian Summit Soil (MSS).
- The team has used a 'bacterial growth induced biocementation process' for manufacturing bricks in an organic manner with minimal intervention. In simple words: Bacteria are very versatile organisms and certain species are capable of bio-mineralisation – a process by which living organisms produce minerals to harden existing tissues – which was exploited to make these bricks.
- The team used one specific bacterium (*Sporosarcina pasteurii*), which was introduced into stimulant soil. Also, guar gum, a naturally occurring polymer was used as an additive to add strength to the bricks.



Significance:

- The research said that Martian soil was not the same as the Lunar soil. It is harsher on microbial life compared to lunar soil.
- A scalable casting-based manufacturing method was developed compared to when lunar brick was made. Apart from enabling production of multiple bricks simultaneously, it also provides flexibility to produce a range of shapes, including hollow structures.
- The space bricks can be used to construct building-like structures on Mars that could facilitate human settlement on the red planet.

Integrated Command and Control Centres (ICCCs)

News: The government has announced that 80 of the 100 planned Integrated Command and Control Centres have been set up, with the rest to be completed by August 15.

About:

- The Smart Cities Mission includes setting up ICCCs for each such city as a vital step.
- These ICCCs are designed to enable authorities to monitor the status of various amenities in real time.
- Initially aimed at controlling and monitoring water and power supply, sanitation, traffic movement, integrated building management, city connectivity and Internet infrastructure, these centres have since evolved to monitor various other parameters.
- The ICCCs are now also linked to the CCTNS (Crime and Criminal Tracking Networks and Systems) network under the Ministry of Home Affairs.

Role of ICCCs during Pandemic:

- They served as war-rooms for Covid-19 management. The government used them to manage the outbreak, with real-time surveillance and monitoring of districts across the country.
- The war-rooms were used to track people under quarantine, suspected Covid-19 cases and track status of positive Covid-19 cases.

Smart-cities mission:

- The Smart Cities Mission aims at developing 100 cities, which were shortlisted, into self-sustainable urban settlements. The mission was launched on June 25, 2015 and was projected as one aimed at transforming the process of urban development in the country.
- It focuses on 'area-based development', which includes city improvement (retrofitting), city renewal (redevelopment) and city extension (greenfield development), plus a pan-city initiative in which 'smart solutions' are applied covering larger parts of the city.

- Key focus areas of the scheme include the construction of walkways, pedestrian crossings, cycling tracks, efficient waste-management systems, integrated traffic management and assessment.
- The scheme also assesses various indices to track urban development such as the Ease of Living Index, Municipal Performance Index, City GDP framework, Climate-Smart Cities assessment framework.

Way Forward for ICCCs:

- The Ministry of Housing and Urban Affairs has begun work to finalise its recommendation for providing ICCCs as a service to states and smaller cities.
- The Ministry aims to finalise an ICCC model and implement a pilot project across six major states — Uttar Pradesh, Maharashtra, Karnataka, Madhya Pradesh, Rajasthan and Tamil Nadu.

Draft Battery Swapping Policy

News: Recently, the NITI Aayog released the draft battery swapping policy for Electric Vehicles (EVs) in the country.

- The policy aims to improve the efficiency of the battery swapping ecosystem for electric scooters and three-wheeler electric rickshaws, thereby driving EV adoption.
- As per the draft policy, all metropolitan cities with a population above 40 lakhs will be prioritized for the development of a battery swapping network under the first phase.

Battery Swapping:

- It is a mechanism of which involves exchanging discharged batteries for the charged ones. It provides flexibility to charge these batteries separately and keeps the vehicle in operational mode with negligible downtime.
- Battery swapping is generally preferred for two wheelers' and three wheelers' with smaller batteries that are easier to swap.

Features of Draft Policy:

- As per the draft policy, battery swapping will fall under the Battery-as-a-Service (BaaS) business model, and such models would have to ensure interoperability between EVs and batteries for a successful mainstreaming of battery swapping as an alternative.
- This Policy stipulates the minimum technical and operational requirements that battery swapping ecosystems would need to fulfil, to enable effective, efficient, reliable, safe, and customer-friendly implementation of battery-swapping infrastructure.
- Providing direct and indirect financial support to Battery Providers (for the cost of batteries) and EV users.
- The draft policy has suggested that the Goods & Services Tax Council considers reducing the differential across the tax rates on Lithium-ion batteries and electric vehicle supply equipment. Currently, the tax rate on the former is 18% and 5% on the latter.
- The policy also proposes to assign a Unique Identification Number (UIN) to swappable batteries at the manufacturing stage to help track and monitor them.
- The Bureau of Energy Efficiency (BEE) is the Central Nodal Agency responsible for the rollout of EV public charging infrastructure and will be responsible for the implementation of battery swapping networks across the country.

Need for the Policy:

- EVs are traditionally purchased with "fixed" batteries which can only be charged using the power supply while housed within the EV.
- Adequate, affordable, accessible, and reliable charging networks are a prerequisite for mass EV adoption.
- While developing charging infrastructure takes a significantly longer time and there are limitations as well in getting required space in urban areas. Thus, the government in Budget Speech 2022-23 had announced that the Centre would introduce a battery swapping policy and interoperability standards in order to improve efficiency in the EV ecosystem.

Government initiatives:

- The Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) Phase II scheme which was supposed to end in March 2022 was extended up to March 2024.
- PLI scheme for manufacturing Advanced Chemistry Cell (ACC) batteries in 2021.
- PLI scheme covering EV startups was also approved for automotive sector with budgetary outlay.

Blue Straggler Stars

News: Recently, Scientists at Indian Institute of Astrophysics, Bengaluru, have found support for one way to understand peculiarity about Blue Straggler Star.

- The researchers made use of the observations by the UVIT instrument (Ultraviolet Imaging Telescope) of Astrosat, India's first science observatory in space.
- Earlier in September 2021, in the first-ever comprehensive analysis of blue stragglers, Indian researchers had proposed a hypothesis for the evolution of blue straggler stars.

About:

- Blue Straggler Star are hot, blue, massive stars and seem to have a different trajectory of evolution from the norm. There are a few stars that, when they are expected to start expanding in size and cooling down, do just the opposite.
- They grow brighter and hotter as indicated by their blue color.
- Since they lag their peers in evolution, they are called stragglers, more specifically, blue stragglers, because of their hot, blue color.

Reasons behind unusual behavior:

- Possibility 1
 - These do not belong to the family of stars in the cluster, and hence not expected to have the group properties.
- Possibility 2
 - If they belong to the group, the evasive behavior is due to these stars gaining mass from a binary companion.
 - In this second scenario, the straggler draws matter from the giant companion star and grows more massive, hot and blue, and the red giant ends up as a normal or smaller white dwarf.
 - In the research, the scientists found conclusive evidence of white dwarf companions to blue stragglers.
- Possibility 3
 - Straggler draws matter from a companion star, but there is a third star that facilitates this process.

Digital Services Act (DSA), 2022

News: Recently, the European Parliament and European Union (EU) Member States announced that they had reached a political agreement on the Digital Services Act (DSA), 2022.

About:

- As defined by the EU Commission, the DSA is "a set of common rules on intermediaries' obligations and accountability across the single market", and ensures higher protection to all EU users, irrespective of their country.
- The DSA will tightly regulate the way intermediaries, especially large platforms such as Google, Facebook, and YouTube, function when it comes to moderating user content.
- Instead of letting platforms decide how to deal with abusive or illegal content, the DSA will lay down specific rules and obligations for these companies to follow.

To whom will it be applicable?

- According to the EU, DSA will apply to a 'large category of online services, from simple websites to Internet infrastructure services and online platforms.'

- Obligations for each of these will differ according to their size and role.
- The legislation brings in its ambit platforms that provide Internet access, domain name registrars, hosting services such as cloud computing and web-hosting services.
- Very large online platforms (VLOPs) and Very large online search engines (VLOSEs) will face more stringent requirements.

What EU members need to do once DSA becomes a law?

- Each EU Member State will have the primary role in enforcing these, along with a new 'European Board for Digital Services.'
- The EU Commission will carry out 'enhanced supervision and enforcement' for the VLOPs and VLOSEs.
- Penalties for breaching these rules could be huge — as high as 6% of the company's global annual turnover.

Provisions of the Law:

- Online platforms and intermediaries such as Facebook, Google, YouTube, etc. will have to add 'new procedures for faster removal' of content deemed illegal or harmful.
- The Act proposes allowing independent vetted researchers to have access to public data from these platforms to carry out studies to understand these risks better.
- Marketplaces such as Amazon will have to 'impose a duty of care' on sellers who are using their platform to sell products online. They will have to collect and display information on the products and services sold in order to ensure that consumers are properly informed.
- The DSA adds 'an obligation for very large digital platforms and services to analyze systemic risks they create and to carry out risk reduction analysis'.
- It proposes to ban 'Dark Patterns' or 'misleading interfaces' that are designed to trick users into doing something that they would not agree to otherwise.
- It also proposes 'transparency measures for online platforms on a variety of issues, including on the algorithms used for recommending content or products to users'.

Conclusion

As far as India is concerned, On Dec. 16, 2021, the Joint Parliamentary Committee submitted its long-awaited report to the Indian Parliament after two years of deliberations on the Personal Data Protection Bill, 2019. This is, hopefully, the culmination of a series of extensions provided to the JPC and will pave the way for a strong data protection law in the world's largest democracy.

IT Rules, 2021

News: The Information & Broadcasting (I&B) Ministry has blocked 16 YouTube news channels, including six from Pakistan. It was done on charges of spreading false and unverified information to create panic, incite communal disharmony and disturb public order in the country.

The action has been taken using emergency powers under Rule 18 of the IT Rules, 2021.

About:

- It mandates a grievance redressal system for over the top (OTT) and digital portals in the country.
- Significant social media firms have to appoint a chief compliance officer and have a nodal contact person who can be in touch with law enforcement agencies 24/7.
- Social media platforms will also have to name a grievance officer who shall register the grievance within 24 hours and dispose of it in 15 days.
- If there are complaints against the dignity of users, particularly women about exposed private parts of individuals or nudity or sexual act or impersonation-social media platforms will be required to remove that within 24 hours after a complaint is made.
- They also will have to publish a monthly report about the number of complaints received and the status of redressal.
- There will be three levels of regulation for news publishers-self-regulation, a self-regulatory body, headed by a retired judge or an eminent person, and oversight from the Information and Broadcasting Ministry, including codes of practices and a grievance committee.

What is a significant social media intermediary?

- Social media companies with more than 50 lakh registered users will be considered 'significant social media intermediaries' under the new norms.

Consequences of Non-compliance:

- Social media giants such as Facebook, Twitter, Instagram and WhatsApp messenger could face a ban if they do not comply with the new Information Technology rules.
- They also run the risk of losing their status as "intermediaries" and may become liable for criminal action if they do not comply with the revised regulations.

CERT-IN – Mandate and its role

News: CERT-In has asked all government and private agencies to mandatorily report cyber security breach incidents to it within six hours of noticing them.

About:

- Computer Emergency Response Team - India is an organisation of the Ministry of Electronics and Information Technology with the objective of securing Indian cyberspace.
- It is the nodal agency which deals with cybersecurity threats like hacking and phishing.
- It collects, analyses and disseminates information on cyber incidents, and also issues alert on cybersecurity incidents.
- CERT-IN provides Incident Prevention and response service as well as security quality management services.

Mandate:

- CERT-In is empowered under Section 70B of the Information Technology Act to collect, analyse and disseminate information on cyber security incidents.
- It mandates all service providers, intermediaries, data centres, corporates and government organisations to mandatorily enable logs of all their ICT (Information and Communication Technology) systems.
 - The service providers have to maintain the logs securely for a rolling period of 180 days, and the same shall be maintained within the Indian jurisdiction.
 - The log should be provided to CERT-In along with reporting of any incident or when directed by the computer emergency response team.
- To ensure the chain of events is accurately reflected in the time frame, service providers have been asked to connect and synchronize all their ICT systems clocks to the Network Time Protocol (NTP) Server of the National Informatics Centre (NIC) or National Physical Laboratory (NPL).
- It also require virtual asset, exchange, and custodian wallet providers to maintain records on KYC and financial transactions for a period of five years.

Need:

- It will address the issue of hindrance in the analysis of breach incidents in handling cyber incidents.
- There have been cases in the past where cases of non-storage or availability of data and proper records with intermediaries and service providers have been identified. These guidelines will streamline the date records to be maintained and proper reporting of security incidents to CERT-In.
- End-user has the right to know if their data is loaded so that an individual can protect himself from fraud transactions, fake loans, ID misuse etc. Government must also force companies to inform their users within 24 hours of the incident.

Way Forward:

- India is one of the fastest digital adapters and rapid digitization does require forward-looking measures to boost cybersecurity. There is a need for different government departments to find the gaps in their organization and address those gaps and create layered security system, wherein security threat intelligence sharing is happening between different layers.

Environment & Bio-diversity

Draft Indian Antarctic Bill introduced in Lok Sabha

News: The government has introduced the 'Antarctic Bill' in the Lok Sabha, that envisages regulating visits and activities to Antarctica as well potential disputes which may arise among those present on the continent.

About the Bill:

- **Regulate Visit** – The Bill provides for strict guidelines and system of permits, which will be issued by a government appointed committee, without which any expedition or individual will not be allowed to enter Antarctica.
- **Protect Mineral Resources** – It prohibits drilling, dredging, excavation or collection of mineral resources. Only exception is for scientific research with a permit.
- Prohibition on introducing Birds not native to Antarctica
- **Protecting native plants** – Strict prohibition on damaging native plants, flying or landing helicopters or operating vessels that could disturb birds and seals, using firearms that could disturb birds and animals, remove soil or any biological material native to Antarctica.

Need for the Bill:

- As India is a signatory to the Antarctic Treaty since 1983 it made it essential for us to make a set of laws which covers portions of the continent where India has had its research bases.
- We are also signatory to treaties such as Convention on Conservation of Antarctic Marine Living Resources and the Commission for Conservation of Antarctic Marine Living Resources.
- These laws will help India's courts deal with disputes committed in part of Antarctica, thus help build our credibility.

India's research stations at the Poles:

- Maitri (1989) and Bharati (2012) – Both in Antarctica
- Himadri in Svalbard, above the Arctic circle.
- India has so far conducted 40 Scientific expeditions to Antarctica.

IPCC: Part III of Sixth Assessment Report

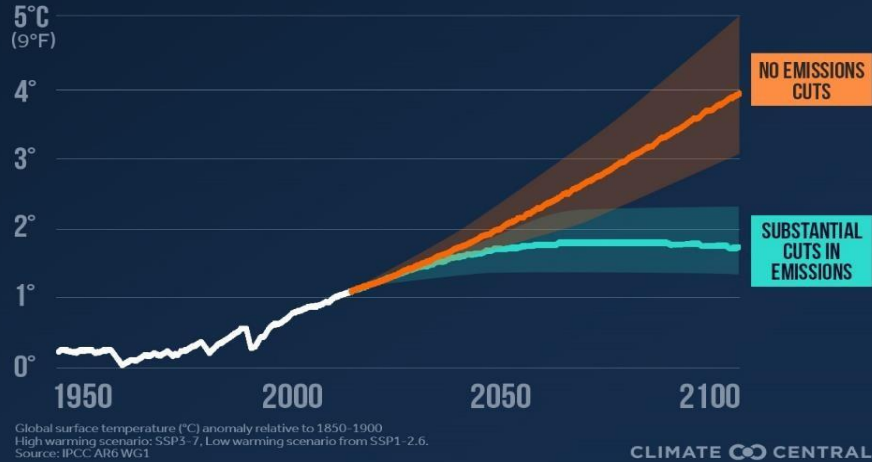
News: Recently, the United Nations' climate science body, the Intergovernmental Panel on Climate Change (IPCC), published the third part of its Sixth Assessment Report (AR6).

Findings of the Report:

- **Emissions by the Least Developed Countries:**
 - Carbon inequality remains pervasive as ever with Least Developed Countries (LDCs) emitting only 3.3% of global emissions in 2019.
 - Their average per capita emissions in the period 1990-2019 were only 1.7 tonnes CO₂e, compared to the global average of 6.9 tCO₂e.
 - LDCs contributed less than 0.4% of total historical CO₂ emissions from fossil fuels and industry in the period 1850-2019.
- **Green House Gas (GHG) Emissions:**
 - In 2019, global net anthropogenic Greenhouse gas (GHG) emissions were at 59 Gigatonnes of carbon dioxide equivalent (GtCO₂e), 54% higher than in 1990.
 - This emissions growth has been driven mainly by CO₂ emissions from the burning of fossil fuels and the industrial sector, as well as methane emissions.
 - But the average annual rate of growth slowed to 1.3% per year in the period 2010-19, compared to 2.1% per year in the period 2000-09.

FUTURE TEMPERATURES

WARMING DEPENDS ON CHOICES TODAY



- **Pledges to Paris Agreement:**

- Upon adding up the NDCs announced by countries till October 2021, the IPCC finds that it is likely that warming will exceed 1.5 degrees Celsius (°C) in this century, thereby failing the Paris Agreement's mandate.
- The CO₂ emissions from existing and planned fossil fuel infrastructure — coal, oil, and gas — contribute greatly to this projected failure.
- In its best-case scenario, known as the C1 pathway, the IPCC outlines what the world needs to do to limit temperatures to 1.5°C, with limited or no 'overshoot'. To achieve the C1 pathway, Global GHG emissions must fall by 43% by 2030.

- **Demand-Side Mitigation:**

- It adds that demand-side mitigation, behavioral changes such as adopting plant-based diets, shifting to sustainable practices, walking or cycling, 'can reduce Global GHG emissions in end use sectors by 40-70% by 2050 compared to baseline scenarios. However, most of such mitigation efforts potential lies with developed countries.

- **Impact on GDP:**

- The IPCC states that low-cost climate mitigation options could halve global GHG emissions by 2030.
- Investing in De-carbonization would have a minimal impact on global GDP.

- **Low Emissions Technologies:**

- Widespread 'system transformations' are required across the energy, buildings, transport, land and other sectors, to achieve the 1.5°C target and this will involve adopting low-emission or zero carbon pathways of development in each sector.
- As the cost of low emissions technologies have fallen continuously since 2010 at the same time their deployment, or usage, has increased multiple fold – 10 times for solar and 100 times for Electric vehicles. Thus, they offer plethora of solutions in mitigating Global GHG emissions.

About IPCC:

- It is the international body for assessing the science related to climate change.
- It was set up in 1988 by the World Meteorological Organisation (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.
- IPCC assessments provide a scientific basis for governments at all levels to develop climate related policies, and they underlie negotiations at the UN Climate Conference – the United Nations Framework Convention on Climate Change (UNFCCC).

About Assessment Report:

- They are the most comprehensive evaluations of the state of earth's climate.
- Every few years (about 7), the IPCC produces assessment reports.
- These reports have formed the basis of the global response to Climate Change.
- Discussions of these reports have produced the Paris Agreement, and also Kyoto Protocol.

Gujarat tops Niti Aayog's First State Energy and Climate Index

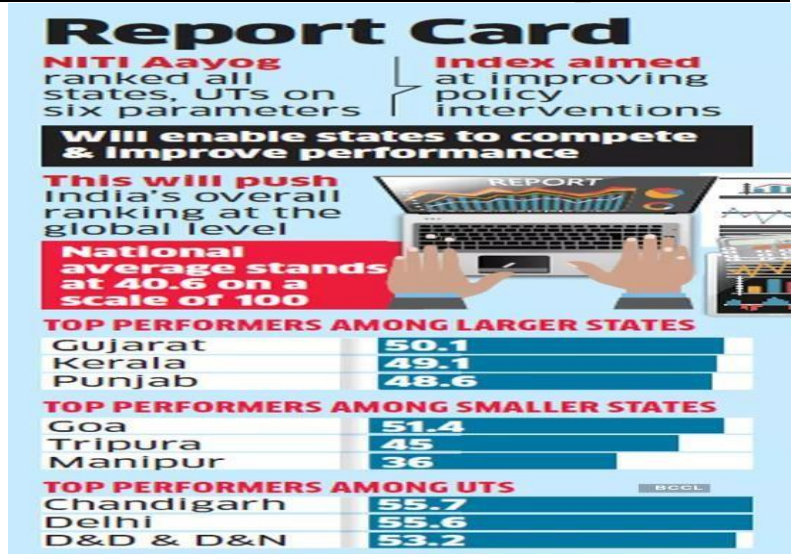
News: Gujarat topped NITI Aayog's first State Energy and Climate Index among larger states, followed by Kerala and Punjab, while Jharkhand, Madhya Pradesh and Chhattisgarh ended up as the bottom three performers on the index.

About:

- The states have been categorized based on size and geographical differences as larger and smaller states and UTs.
- It is based on 2019-20 data.
- It ranks the states on 6 parameters namely DISCOM's Performance, Access, affordability and Reliability of energy, clean energy initiatives, energy efficiency, environment sustainability and new initiatives.
- The states and UTs are categorized into three groups: Front Runners, Achievers, and Aspirants.

Performance:

- Gujarat, Kerala and Punjab have been ranked as the top three performers in the category of larger States
- Goa emerged as the top performer in the smaller States category followed by Tripura and Manipur.
- Among UTs, Chandigarh, Delhi and Daman & Diu/Dadra & Nagar Haveli are the top performers.
- Punjab was the best performer in discom performance, while Kerala topped in access, affordability and reliability category.
- Haryana was the best performer in clean energy initiative among larger States and Tamil Nadu in the energy-efficiency-category.



Global Wind Report 2022

News: Recently, the Global Wind Report for 2022 was published by the Global Wind Energy Council (GWEC).

Highlights of the Report:

- Wind energy installations every year across the world must quadruple from the 94 GW (Gigawatt) installed in 2021 within this decade to meet the global climate targets.
- New installations of 93.6 GW in 2021 brought global cumulative wind energy capacity to 837 GW, a Year-on-Year (YoY) growth of 12%.
- New offshore installations in 2022 are likely to decline to the 2019 / 2020 levels, primarily due to the reduction of installations in China. However, offshore wind energy generation increases return on investment, along with reducing greenhouse gas emissions.
- Market growth is expected to regain momentum from 2023, eventually passing the 30GW-mark in 2026.

Challenges:

- Badly designed markets which do not enable bankable renewable energy projects.
- Inconsistent policy environments focused on short-term political aims.
- Infrastructure and transmission bottlenecks.

- Lack of adequate industrial and trade policies related to renewable technologies
- Hostile political or misinformation campaigns.

Opportunities for India:

- More than 1.4 GW of wind was installed in 2021, exceeding the 1.1 GW of installations during the previous year.
- The Union Ministry of New and Renewable Energy (MNRE) has set a target of installing 5 GW of offshore capacity by 2022 and 30 GW by 2030. India is yet to develop its offshore wind energy facility.
- India can generate 127 GW of offshore wind energy with its 7,600 km of coastline.

Government Initiatives:

- National Wind-Solar Hybrid Policy
- National Offshore Wind Energy Policy

Way Forward:

- Governments need to tackle issues such as planning barriers and grid connection challenges.
- Sincere efforts are needed from policy makers side to streamline the procedure to grant permits, including land allocation and grid connection projects.
- Workforce planning for large-scale renewables deployment should be an early policy priority and investment in grids must treble from current levels through to 2030.

Wildlife (Protection) Amendment Bill, 2021

News: Recently, the Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change submitted its report on the proposed the Wild Life (Protection) Amendment Bill, 2021.

About Wildlife (Protection) Act, 1972

- The Act provides a legal framework for the protection of various species of wild animals and plants, the management of their habitats, and the regulation and control of trade in wild animals, plants and products made from them.
- The Act also lists schedules of plants and animals that are afforded various degrees of protection and monitoring by the government.

Features of the Bill:

- The Bill seeks to implement provisions of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The Bill provides for the central government to designate a Management Authority, which grants export or import permits for trade of specimens.
 - Every person engaging in trade of a scheduled specimen must report the details of the transaction to the Management Authority.
 - As per CITES, the Management Authority may use an identification mark for a specimen.
 - The Bill prohibits any person from modifying or removing the identification mark of the specimen.
 - Additionally, every person possessing live specimens of scheduled animals must obtain a registration certificate from the Management Authority.
- It also provides to designate a Scientific Authority, which gives advice on aspects related to impact on the survival of the specimens being traded.
- The bill provides for rationalizing schedules. Currently the act has 6 schedules. The Bill reduces this number to 4.
 - Schedule I for species that will enjoy the highest level of protection,
 - Schedule II for species that will be subject to a lesser degree of protection and
 - Schedule III that covers plants.
 - It removes the schedule for vermin species. Vermin refers to small animals that carry diseases and destroy food.
 - It inserts a new schedule for specimens listed in the Appendices under CITES (scheduled specimens)
- The Bills empowers the central government to regulate or prohibit the import, trade, possession or proliferation of invasive alien species.

- Under the Act, state governments may declare areas adjacent to national parks and sanctuaries as a conservation reserve, for protecting flora and fauna, and their habitat. The bill empowers the central government to also notify a conservation reserve.
- The Act entrusts the Chief Wild Life Warden to control, manage and maintain all sanctuaries in a state.
- The Bill provides for any person to voluntarily surrender any captive animals or animal products to the Chief Wild Life Warden. No compensation will be paid to person for surrendering such items. The surrendered items become property of the state government.
- Penalties - The Act prescribes imprisonment terms and fines for violating the provisions of the Act. The Bill increases these fines.

Type of Violation	1972 Act	2021 Bill
General Violation	Up to INR 25,000	Up to INR 1,00,000
Specially protected animals	At least INR 10,000	At least INR 25,000

Invasive species threatens wildlife habitats of Western Ghats

News: *Senna spectabilis* is an invasive species found mostly in the forest areas of the Nilgiri Biosphere Reserve (NBR).

About:

- Invasive alien species are plants, animals, pathogens and other organisms that are non-native to an ecosystem, and which may cause economic or environmental harm or adversely affect human health.
- In particular, they impact adversely upon biodiversity, including decline or elimination of native species – through competition, predation, or transmission of pathogens – and the disruption of local ecosystems and ecosystem functions.

Impact of Invasive species:

- Reduced Biodiversity
- Decreased availability and quality of key natural resources
- Water Shortages
- Pollution caused by overuse of chemicals to control infestations
- Increased frequency of wildfires and flooding

Concerns observed:

- The invasive species has now spread through the most iconic wildlife habitats of the Western Ghats, destroying habitats of elephants, deer, gaur and tigers by pushing out native flora.
- The allelopathic traits of the species prevent other plants from growing under it. Allelopathy is a biological phenomenon by which an organism produces one or more biochemicals that influence the germination, growth, survival, and reproduction of other organisms.
- This drastically affects primary productivity at the ground level. The forest floor is almost bare under the invasive species. Grasses and herbs get completely wiped out and herbivores are deprived of their forage.
- The carrying capacity of forests to feed wildlife is drastically declining under the invasion, which accelerates man-animal conflict further.

What efforts were made by Kerala Forest Department?

- They attempted to remove the trees by uprooting, girdling, cutting, chopping the tree branches, and even testing the application of chemicals.
- However, all the efforts were in vain. Instead, multiple coppice shoots started growing from each cut tree stump. The situation is similar in the Karnataka and Tamil Nadu.

River Ranching Programme

News: Over 10,000 fish fingerlings of Indian major carps — catla, rohu and mrigal — were released in the Ganga at Sangam nose under the ranching programme organised by ICAR-Central Inland Fisheries Research Institute (CIFRI), Prayagraj, recently.

About:

- River Ranching is a form of aquaculture in which a population of a fish species (such as salmon) is held in captivity for the first stage of their lives.
- They are then released, and later harvested as adults when they return from the sea to their freshwater birthplace to spawn.
- River ranching programme was introduced as special activity under the 'Pradhan Mantri Matsya Sampada Yojana (PMMSY) scheme to augment and enhance fish production and productivity by expanding, intensifying, diversifying and utilizing land & water productively.

Need:

- As the human population is growing, requirement of high-quality protein & demand of fish is increasing gradually. Thus, to promote sustainable use and conservation of fishery resources in an economical and environmentally responsible manner, River Ranching Programme was launched.
- This programme will help in achieving sustainable fisheries, conserving biodiversity, assessing ecosystem services, reducing habitat degradation and maximizing social-economic benefits.
- It will also ensure the upgradation of traditional fishery, trade & social protection of Inland communities and ecosystem sustainability.

Pradhan Mantri Matsya Sampada Yojana:

- It is a scheme for focused and sustainable development of fisheries sector in the country.
- 20,050 crores have been sanctioned for its implementation during a period of 5 years from FY 2020-21 to FY 2024-25 in all States/Union Territories, as a part of AatmaNirbhar Bharat Package.
- The scheme focuses on beneficiary-oriented activities in Marine, Inland fisheries and Aquaculture.
- It seeks to adopt 'Cluster or Area based approaches'.

Aim of Scheme:

- Enhance fish production by an additional 70 lakh tonne by 2024-25.
- Increase fisheries export earnings to Rs.1,00,000 crore by 2024-25.
- Double incomes of fishers and fish farmers.
- Reduce post-harvest losses from 20-25% to about 10%.
- Generate additional 55 lakhs direct and indirect gainful employment opportunities in fisheries sector and allied activities.

₹20,000 crores for Fishermen through Pradhan Mantri Matsya Sampada Yojana (PMMSY)

- Critical gaps in fisheries value chain
- Government will launch the PMMSY for integrated, sustainable, inclusive development of marine and inland fisheries.
- ₹11,000 Cr for activities in Marine, Inland fisheries and Aquaculture
- ₹9000 Cr for Infrastructure - Fishing Harbours, Cold chain, Markets etc.
- Cage Culture, Seaweed farming, Ornamental Fisheries as well as New Fishing Vessels, Traceability, Laboratory Network etc. will be key activities.
- Provisions of Ban Period Support to fishermen (during the period fishing is not permitted), Personal & Boat Insurance
- Will lead to Additional Fish Production of 70 lakh tonnes over 5 years.
- Employment to over 55 lakh persons; double exports to ₹1,00,000 Cr.
- Focus on Islands, Himalayan States, North-east and Aspirational Districts.

Source: Government of India

Security & Disaster Management

Forest Fires

News: According to a recent study (Managing Forest Fires in a Changing Climate) released by the Council on Energy, Environment and Water (CEEW), **the** frequency and intensity of forest fires, as well as the number of months in which such fires occur, have increased in the past two decades.

Key Findings:

- There has been a ten-fold increase in forest fires in the past two decades, and more than 62% of Indian states are prone to high-intensity forest fires.
- Andhra Pradesh, Assam, Chhattisgarh, Odisha and Maharashtra are the most prone to high-intensity forest fire events caused by rapid change in climate.
- Mizoram has had the highest number of forest fire incidences in the last two decades, with more than 95% of its districts being forest fire hotspots.
- Districts that were earlier flood prone have now become drought prone due to a 'swapping trend' as a result of climatic changes.
- More than 75% of Indian districts are extreme climate event hotspots, and more than 30% of districts are extreme forest fire hotspots.
- Despite the North-Eastern Region being a rain-fed area, it is witnessing more forest fire incidences during increased dry spells across March-May and due to the muddled rainfall distribution pattern.
- Earlier, forest fires would take place during the summer months, that is between May and June. Now, during spring, between March and May, because of climate changes.
- The duration that forest fires could take place was two to three months earlier, but it is now nearly six months.

Recommendations of CEEW:

- The forest fires should be treated as 'natural disasters' and be brought under the National Disaster Management Authority.
- Moreover, by designating forest fires as natural disasters, there will also be a financial allotment made to manage them.
- A forest fire only alert system needs to be developed that can provide real time impact-based alerts.
- Capacity-building initiatives targeted at district administrations and forest-dependent communities can avert the extent of loss and damage due to forest fires.
- The state government/ state forest departments (SFDs) should repurpose public buildings like government schools and community halls by fitting them with clean air solutions – like air filters – to create clean air shelters for communities worst impacted by fires and smoke from forest fires.

Government Efforts:

- National Action Plan on Forest Fires (NAPFF) 2018 and Forest Fire Prevention and Management Scheme.
- Since 2004, The Forest Survey of India developed the Forest Fire Alert System to monitor forest fires in real time. At present, the system now uses satellite information from NASA and ISRO to gather details regarding Forest fires.

Border Security Force

News: Months after the Union Government enhanced the operational limits of the Border Security Force in Punjab, West Bengal and Assam, the border guarding force carried out its first operation under the increased powers to catch cattle being smuggled out of Assam.

About:

- The operation initiated from Bangladesh border on March 21 in Assam's Silchar district entailed the Central Armed Police Force (CAPF) to seize a truck carrying nine buffaloes, more than 15 km from their outpost at Balichera.

- According to BSF, the increased territorial jurisdiction helped them plan operations better and also curtailed the ability of criminal elements to organise closer to the border areas.

What has changed?

- Earlier, the BSF's limit was fixed up to 80 km from international boundary in Gujarat and 15 km in Rajasthan, Punjab, West Bengal and Assam.
- On October 11 last, the MHA, through a notification in the Gazette of India, enhanced the "arrest, search and seize" powers of the BSF up to 50 km from the International Boundary in Punjab, West Bengal and Assam.
- In Gujarat, the limit was reduced from the existing 80 km to 50 km and in Rajasthan, the 50-km limit has remained unchanged.
- These powers pertain to specific crimes such as seizure of narcotics, cattle smuggling, prevention of trans-border crimes, illegal entry of foreigners among others.
- All cases and suspects are to be handed over to local police within 24 hours.

Opposition against changes:

- Law & Order is a state subject and powers of search, seizure and arrest typically lies with state police officials.
- The affected states have questioned the step as an encroachment upon their powers and against the federal structure.
- It is being termed as an attempt to 'interfere through Central agencies'.
- The enhanced powers of the BSF have been opposed by the State governments of Punjab and West Bengal.

However, the Centre said that this in no way impinges on the rights of the local police as all suspects are handed over to them within 24 hours.

Why changes are significant?

- It is meant to improve operational efficiency and crackdown on smuggling rackets.
- Assam and West Bengal face problems of cattle and fake currency smuggling.
- Punjab has the problems of drugs and arms smuggling.
- Recently, the Punjab government had informed a parliamentary committee that drones have been sighted over 133 times near Pakistan border in the last two years.
- According to the BSF, in January and February, around 110 kg of drugs were seized along the Punjab border.

General Studies – 4

Ethics, Integrity & Aptitude

1. Ethics and Human Interface: Essence, determinants and consequences of Ethics in-human actions; dimensions of ethics; ethics - in private and public relationships. Human Values - lessons from the lives and teachings of great leaders, reformers and administrators; role of family society and educational institutions in inculcating values.
2. Attitude: content, structure, function; its influence and relation with thought and behaviour; moral and political attitudes; social influence and persuasion.
3. Aptitude and foundational values for Civil Service, integrity, impartiality and non-partisanship, objectivity, dedication to public service, empathy, tolerance and compassion towards the weaker-sections.
4. Emotional intelligence-concepts, and their utilities and application in administration and governance.
5. Contributions of moral thinkers and philosophers from India and world.
6. Public/Civil service values and Ethics in Public administration: Status and problems; ethical concerns and dilemmas in government and private institutions; laws, rules, regulations and conscience as sources of ethical guidance; accountability and ethical governance; strengthening of ethical and moral values in governance; ethical issues in international relations and funding; corporate governance.
7. Probity in Governance: Concept of public service; Philosophical basis of governance and probity; Information sharing and transparency in government, Right to Information, Codes of Ethics, Codes of Conduct, Citizen's Charters, Work culture, Quality of service delivery, Utilization of public funds, challenges of corruption.
8. Case Studies on above issues

District Collector's Responsibility to conduct Fair Elections

Case Study

You are a District Collector of a city which is scheduled to go to polls in a week. The responsibility to conduct fair elections has been given to you. However, suddenly your mother suffers a heart attack and has to be admitted to a hospital in your home district, which is at a distance of 250 kms from the district of your posting. Doctor informs you that she needs to be shifted in Intensive Care Unit (ICU) and her chances of survival are bleak. You are the only child and want to be with her and your family at this moment. Your plea for an emergency leave has been rejected by the Election Commission. What would you do under such circumstances?

Solution

I have been presented with an ethical dilemma of choosing between personal and administrative responsibilities. Under the given circumstances, both of them demand my immediate personal attention. I will try to deal with the situation in the following manner:

I will visit my mother immediately after work and then try to come back the very same day. I will ask the doctor to keep me updated about my mother's health. I shall communicate the same to my seniors in the government and request a medical attendant to my mother. Since the distance of the hospital is only 250 kms, I will try to pay a visit

to my mother during the lean phases of electoral preparation by taking due permission from election commission. In my absence to ensure that the elections are conducted peacefully, I'll take the following steps:

- I will keep the election commission informed of my absence from city after office hours.
- I will ensure that my subordinates and colleagues are aware of their duties and work so that even in my absence, polls preparation and execution does not suffer.
- I will keep only selected colleagues informed of my absence from the city so that the general assumption keeps prevailing that the district collector is in the city.
- I will always be in constant touch with all the concerned authorities and stakeholders.
- While at work I will try to be in touch with my mother so as to make her feel comfortable. During the telephonic conversation will try to comfort her that she would be well soon and also assure her that after the elections I will spend more time with her. I will try to use technological tools like Skype for video chatting with her on Internet so that she feels better. I will also request the best doctors in the district to examine my mother's case and ensure that she receives the best medical attention and care.

Short News for Prelims

Operation Uplabdh

News: Recently, Railway Protection Force (RPF) conducted a Pan India Drive against the alleged blackmarketeers under Operation Uplabdh.

About:

- The month-long drive under Operation Uplabdh has been able to curb the activities of touts substantially and make railway tickets available to the common man.

What is RPF?

- The contingent of RPF is an Armed Force of the Union of India. It is a security force under the ownership of Indian Railways, Ministry of Railways.
- The force was declared as statutory force in the year 1957 by an enactment of Parliament subsequently declared as an Armed Force of the Union of India in the year 1985.
- This Force draws its men from all parts of the country and thus takes pride in reflecting a truly national character and image. The Force has earned recognition and glory since its inception.

Ecuador Grants Legal Rights to Wild Animals

News: Ecuador, a South American country has become the first country in the world to give legal rights to wild animals.

Aphasia

About:

- It is a brain disorder that leads to problems with speaking, reading and writing.
- A stroke, tumor, head injury or other damage to the language centers of the brain can cause aphasia.

- A brain infection or Alzheimer's disease can trigger it.

Broadcast Seva Portal

News: The Ministry of Information and Broadcasting has launched the Broadcast Seva (BS) Portal.

About:

- It is a 360 degree digital solution that will facilitate stakeholders in seeking permissions, applying for registration, tracking applications, calculating fees and executing payments.
- This portal will provide its services under the wider umbrella efforts of Digital India to all stakeholders to private satellite TV channels, teleport operators, Multi-Service Operators (MSOs), community and private radio channels, etc.
- To provide a single point facility to the stakeholders and applicants to apply for various registrations, permissions and licenses issued by I&B Ministry for broadcast related activities.

Integrated Bio-Refineries Mission

News: Union Minister of State Science & Technology launched a major futuristic PPP (Public Private Participation) mode initiative for 'Clean Energy' with the full launch of "Mission Integrated Bio-refineries".

About:

- The Mission is Co-led by India and the Netherlands. It also involves Brazil and Canada as core members, and the European Commission and the United Kingdom as supporting members.
- It is 6th mission launched by Mission Innovation, and it will channelize focus on clean hydrogen, green power systems, net zero shipping, carbon dioxide removal and urban transitions.

- It will advance sustainable bio-refining pathways and technologies to support the development and commercialization of bio-based fuels, chemicals and materials, by also considering process energy demands.

Goal of the Mission:

- Develop and demonstrate innovative solutions to accelerate the commercialization of integrated bio-refineries, with a target of replacing 10% of fossil-based fuels, chemicals and materials with bio-based alternatives by 2030

Grammy's

News: Indian music composer, Ricky Kej has won the Grammy Award for his album Divine Tides.

- The Grammy Award is an award presented by the Recording Academy to recognize "Outstanding Achievement in the music industry" of the United States.

INS Valsura

News: The President of India presented the prestigious President's Color to the Indian Naval Ship Valsura.

About President's colour:

- Highest award bestowed on a military unit in India in recognition of its exceptional services to the nation.
- Out of the three defense forces, the Indian Navy was the first Indian armed force to be awarded the President Color by Dr. Rajendra Prasad in 1951.

About INS Valsura:

- The name 'Valsura' was derived from two Tamil words, 'Vaal' (Sword) and 'Sorrah' (shark)
- It was considered appropriate due to variety of swordfish found off the coast of Saurashtra.
- In the aftermath of the devastating earthquake in Gujarat, Valsura performed remarkable outreach activity.
- Currently, the unit imparts quality training on contemporary and niche technologies through progressive augmentation of training infrastructure. It has also emerged as training destination for friendly Foreign navies.

Indian Army's 'Tour of Duty' Scheme

News: 'Tour of Duty' will serve as a golden opportunity for youth to experience military life without having to join the armed forces on a long term basis.

About:

- It involves recruiting soldiers, which will be called Agniveers, for a fixed period of three years.
- It will be a voluntary engagement.
- It is for youths who do not want to make defense services their permanent vocation, but still want the experience and thrill and adventure of military professionalism.

Benefits to Soldiers:

- The soldiers would be given a payout along with priority in recruitment to certain government jobs, including the central armed police forces.
- The army is also planning for such youths to have good demand in the corporate world. Such lessons will be introduced during training which will ensure their demand in corporate world remains intact.

Benefits to Government: The scheme will help not only resolve the issue of shortages of personnel but also reduce the burden of pay rises and pensions.

Ganoderma Lucidum: Magical Mushroom



About Magical Mushrooms:

- It is a medicinal mushroom in use for centuries to heal diseases

like diabetes, cancer, inflammation, ulcer as well as bacterial and skin infections.

- It is considered one of the most important medicinal mushrooms in the world since its chemical constituents exhibit various medicinal properties.
- It grows on wood or wood based substrate only.
- Apart from medicines, Ganoderma lucidum is also used as base material for manufacturing products such as tea, coffee, energy supplements, health boosters, beverages, anti-ageing cosmetics.

Prospects in India:

- Awareness is spreading and demand has pushed many countries, including India to produce it on large scale.
- India, primarily an agricultural economy, has huge potential to cultivate this mushroom.
- It can have immense potential for livelihood generation.
- The raw powder of Ganoderma Lucidum can be sold at Rupees 4000 – 5000 per kilogram.

India successfully test fires missile system SFDR booster

News: DRDO on Friday successfully test flight-tested a propulsion system that enables a missile to intercept aerial threats at very long range at supersonic speeds.

About:

- Solid Fuel Ducted Ramjet Booster, is a missile propulsion technology jointly developed by India and Russia.
- A ramjet is a form of air-breathing jet engine that uses the vehicle's forward motion to compress incoming air for combustion without a rotating compressor.
- In a ramjet, the high pressure is produced by "ramming" external air into the combustor using the forward speed of the vehicle. The external air that is brought into the propulsion system becomes the working fluid.
- Ramjets produce thrust only when the vehicle is already moving, ramjets cannot produce thrust when the engine is stationary or static.
- Unlike solid propellant rockets, the Ramjet takes up oxygen from the atmosphere during flight. Hence, it is light in weight and can carry more fuel.

Advantages:

- It enables the missile to intercept aerial threats at very long range at supersonic speeds.
- Air-to-Air missiles that use SFDR technology can achieve longer ranges as they do not require oxidizers.
- The missile based on SFDR fly at supersonic speeds and high maneuverability ensures target aircraft cannot get away.

Indian Tent Turtles

News: The Union Minister of Environment said in parliament that there are no reports to indicate that the Indian tent turtle is on the verge of extinction due to illegal mining in the Narmada river.

- Listed in Schedule – I of the Wildlife Protection Act, 1972 and is thereby provided the highest degree of protection.
- IUCN status – Least Concern
- It is native to India, Nepal and Bangladesh.

Nadabet Seema Darshan Project

News: Union Home and Cooperation minister Amit Shah has inaugurated a border viewing point, on the lines of Wagha-Atari Border of Punjab, at Nadabet in Gujarat's Banaskantha district.



About:

- The Nadabet Seema Darshan Project is projected as the first state-of-the-art BSF project in the country, which will illustrate the origins, development and role of BSF in

the wars as well as the achievements of the heroes who have made supreme sacrifices for the country.

- One of the key attractions of the place will be the daily parade by BSF soldiers
- Tourists will also be able to see various weapons of Indian Army and BSF such as surface-to-surface and surface-to-air missiles, T-55 tanks, artillery guns, torpedoes, wing drop tanks and MiG-27 aircraft at Nadabet.

Enhanced Pinaka Mk-I Rocket System (EPRS)

News: The EPRS was successfully test fired in the Pokhran range in Rajasthan.

About:

- The EPRS is the upgraded version of the Pinaka variant that has been in service with the Indian Army for the last decade.
- The design and development has been carried out by Pune based DRDO laboratories – Armament Research and Development Establishment (ARDE) and High Energy Materials Research Laboratory (HEMRL).
- The upgrades include advanced technologies enhancing the range to meet the emerging requirements of the battlefield.
- While the Mark-1 has a range of 38 km, the enhanced version of Mark-1 tested in the last fortnight has a range of 45 km with some key additional features.
- The new incarnation of pinaka represents one of the few examples of an evolutionary process being followed with an indigenous Indian weapon system.

Megalithic Stone Jars in Assam

News: The discovery of a number of megalithic stone jars in Assam's Dima Hasao district has brought to focus possible links between India's Northeast and Southeast Asia. Together, they date between the second millennium BCE and 13th century CE.

About:

- Megalithic jar sites in Assam were first formally described in 1929 by British civil servants Philip Mills and John Henry Hutton, who reported six sites.
- It is yet to be deciphered as to who made these giant jars or where they lived.

- But traces of clues suggest that, like the Laos jars, the Assam jars may have been used for mortuary practices.
- Finding more sites could also help archaeologists piece together not just what the jars were for, but the heritage of the mysterious people who made them.

Black Sea

News: The sinking of Russian Guided Missile cruiser Moskva, which sank in the Black Sea is a major loss for Russia amid its 50 day long invasion of Ukraine.



About:

- The Black Sea, also known as the Euxine Sea, is one of the major water bodies and a famous inland sea of the world.
- It is surrounded by the Pontic, Caucasus, and Crimean Mountains in the south, east and north respectively.
- It links to the Sea of Marmara through the Bosphorous Strait and then to the Aegean Sea through Dardanelles Strait.
- The Black sea is also connected to the Sea of Azov through the Kerch Strait.

Importance of Black Sea for Russia:

- For Russia, the Black Sea is an entry point into the Mediterranean and a buffer between NATO and itself. It also serves to secure Russia's economic gateway to major markets in southern Europe.
- Militarily, the Black Sea plays a key role in Russia's campaign in Ukraine, as its Black Sea Fleet has been blockading the besieged port city of Mariupol. It comprises Russian vessels in the Black Sea proper, the Sea of Azov and the Mediterranean.

- Complete domination of the Black Sea and Sea of Azov is a key part of Russia's campaign, as it would give Russia a major leg-up in the Crimea-Odesa-Mariupol region, given that Sevastopol is already under its command.

Lemons in India

News: Over the last few weeks, the price of lemon has touched unprecedented highs, with a single lemon retailing between INR 10 and INR 15 in most markets.

Facts to know:

- The fruit is grown in orchards spanning a combined 3.17 lakh hectares across the country. Lemon trees flower and give fruit three times a year.
- Andhra Pradesh is the largest lemon-growing state in India. Other major growers include Maharashtra, Gujarat, Odisha and Tamil Nadu.
- Climatic Conditions – A warm, moderately dry and moist climate is the most suitable for the fruit, with heavy rainfall inducing bacterial diseases in orchards.

What is the fruit's cycle?

- Farmers supply the fruit round the year by inducing flowering through what is known as the 'bahar treatment'
- Lemon growers take three bahars in a year – known as Ambe, Mrig and Hasta and name based on the season when the flowering is induced.

Veer Kunwar Singh

News: The Government will pay tribute to freedom fighter Veer Kunwar Singh (1777-1858) on his birth anniversary (23rd April).

About:

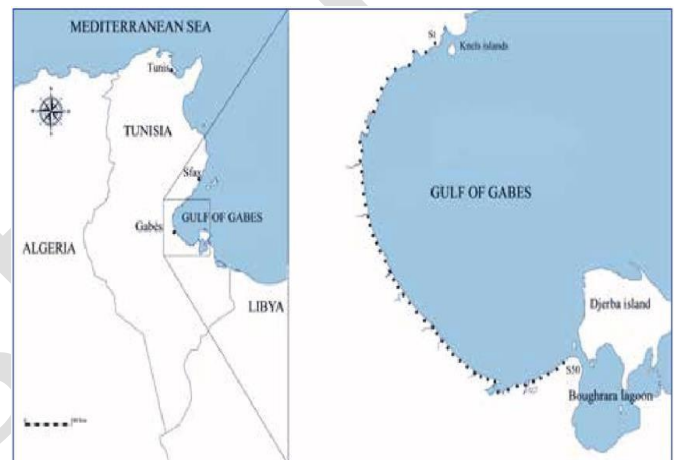
- He was the chief organiser of the fight against the British in Bihar. He is popularly known as Veer Kunwar Singh.
- He led the Indian Rebellion of 1857 in Bihar. He was nearly eighty and in failing health when called upon to take up arms.
- He gave a good fight and harried British forces for nearly a year and remained invincible until the end. He was an expert in the art of guerilla warfare.

Gulf of Gabes

News: A fuel ship with 750 tons of diesel sinks off the Gulf of Gabes in Tunisia.

About:

- Gulf of Gabes, is inlet, on the east coast of Tunisia, Northern Africa.
- It is 60 miles long and 60 miles wide and is bounded by the Qarqannah Islands on the northeast and by Jarbah Island on the southeast.
- Except for the Strait of Gibraltar and Gulf of Venice, it is the only part of Mediterranean with a substantial tidal range, causing uncovering of extensive sandbanks at low water.



Vaquita Porpoise

News: According to the United States Commission for Environmental Cooperation (CEC), Vaquita porpoise (*Phocoena sinus*) is nearing extinction and immediate measures are needed to save the remaining population.

About:

- The vaquita (*Phocoena sinus*) is the world's smallest cetacean. Its name means "little cow" in Spanish.
- It has a dark ring around the eyes which is its most striking feature, along with a proportionally large dorsal fin.
- It is unique among the porpoises as it is the only species of that family found in warm waters.

Protection Status:

- IUCN Red list – Critically Endangered and CITES – Appendix I

'Poison Pill' Defence

News: Twitter has countered Elon Musk's offer to buy the company for more than \$43 billion with a corporate tool known as a poison pill, a defensive strategy familiar to boardrooms trying to fend off takeovers but less familiar to everyday investors.

- This defense mechanism was developed in the 1980s as company leaders, facing corporate raiders and hostile acquisitions, tried to defend their businesses from being acquired by another enterprise, person or group.
- A poison pill is a maneuver that typically makes a company less palatable to a potential acquirer by making it more expensive for the acquirer to buy shares of the target company above a certain threshold.

East Timor

News: East Timor, also known as Timor Leste, holds the second and final round of its presidential election on Tuesday.



About:

- The territory was colonized by Portugal in the 18th century and remained under its control until 1975. When the Portuguese withdrew, troops from Indonesia invaded and annexed East Timor as its 27th province.
- The East Timorese voted for independence in a 1999 U.N.-supervised referendum, but that unleashed even more violence until peace-keeping forces were allowed to enter. The country was officially recognized by the United Nations in 2002.

Geography and Economy:

- East Timor comprises the eastern half of Timor Island, the western half of which is part of Indonesia.
- It spans a 15,000 square km (5,792 square mile) land area – slightly smaller than Israel – and its 1.3 million people are predominantly Roman Catholic.
- East Timor depends on revenues from its offshore oil and gas reserves which account for 90% of its gross domestic product.
- Its main revenue stream, the Bayu Undan gas field, is set to dry up by 2023 and the country is now planning to collaborate with companies like Australia's Santos to turn it into carbon capture facilities.

Alluri Sitarama Raju

News: The Vice-President visited the birthplace of revolutionary freedom fighter Alluri Sitaram Raju (1897 – 1924) at Pandrangi, Andhra Pradesh.

About:

- Alluri Sitaram Raju was an Indian revolutionary who waged an armed campaign against British colonial rule in India. He became a monk at the age of 18.
- In 1922, Alluri Sitaram Raju led the Rampa/Manyam Rebellion against the British Raj's 1882 Madras Forest Act.
- The act restricted free movement of the tribal community within their own forests and disrupted their traditional Podu agriculture system.
- He was nicknamed "Manyam Veerudu" (Hero of the Jungle) by local villagers for his heroic exploits. In 1924, Raju was taken into police custody, tied to a tree, and shot by a public execution, effectively ending the armed rebellion.

NATPOLREX-VIII

News: Recently, the Indian Coast Guard (ICG) has conducted the 8th edition of two-day National Level Pollution Response Exercise, 'NATPOLREX-VIII', off Mormugao harbour, Goa.

About:

- The exercise consisted of a two-day programme featuring table-top exercise, pollution response workshop on marine Oil

and HNS (Hazardous and Noxious Substances) spill followed by exercise at sea.

- During the exercise, various components of NOSDCP (National Oil Spill Disaster Contingency Plan) were invoked to validate and improve the contingency plans and evaluate the preparedness of the resource agencies as well as stakeholders to meet any marine spill disaster at sea.
- The exercise is being attended by more than 85 participants from 50 agencies, including 29 observers from 22 friendly foreign countries & International Organisations and two Coast Guard ships from Sri Lanka and Bangladesh.

Objectives:

- To enhance the preparedness and response capability of all the stakeholders in combating marine spills.
- It aims at validating the procedures and guidelines as contained in the NOSDCP at the national and regional levels under the aegis of SACEP (South Asian Cooperative for Environment Protection), to which India is a member state.

INS Vagsheer

News: Vagsheer, the sixth submarine of the P75 project of the Indian Navy was launched recently.

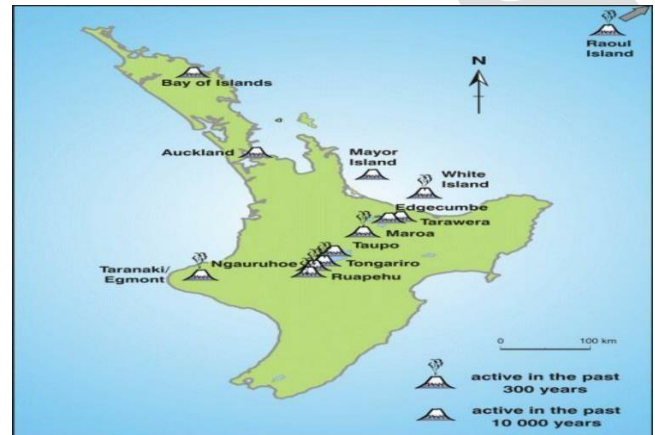
About:

- Vagsheer is named after the sand fish, a deep sea predator of the Indian Ocean.
- It is a diesel attack submarine, designed to perform sea denial as well as access denial warfare against the adversary.
- It is enabled with a C303 anti-torpedo counter measure system.
- Its superior stealth features include advanced acoustic absorption techniques, low radiated noise levels, hydro-dynamically optimised shape. It has the ability to launch a crippling attack using precision guided weapons, underwater or on surface.
- It can do offensive operations across the spectrum of naval warfare including anti-surface warfare, anti-submarine warfare, intelligence gathering, mine laying and area surveillance.

Other Scorpene class submarines under Project P75: INS Kalvari, INS Khanderi, INS Karanj, INS Vela and INS Vagir.

Volcanoes in New Zealand

News: Recently, new research detected pre-eruption warning signals at Whakaari White Island and other active volcanoes, majorly from New Zealand.



Whakaari:

- Whakaari/White Island is in the Bay of Plenty, 43 miles west of Cape Runaway, eastern North Island, New Zealand is an active volcano.
- The island was sighted and named by Capt. James Cook in 1769. It has numerous hot springs, geysers, and fumaroles, its last eruption, which took place in December 2019.

Ruapehu:

- Mount Ruapehu is 2800m stratovolcano in New Zealand's central North Island.
- It is also capped by a hydrothermal system and a warm crater lake.
- The volcano is forested below its line of permanent snow cover. Above the line, glaciers flow from the peak. Within the crater lies a lake, which is drained by the Whangaehu River.

Fincluvation

News: India Post Payments Bank (IPPB), a 100% government owned entity under Department of Posts (DoP) has announced the launch of Fincluvation– a joint initiative to collaborate with Fintech Startup community to co-create and innovate solutions for financial inclusion.

- Fincluvation is an Industry first initiative to create a powerful platform to mobilize the start-up community towards building meaningful financial products aimed at financial inclusion.
- Fincluvation will be a permanent platform of IPPB to co-create inclusive financial solutions with participating start-ups.

RS-28 Sarmat

News: Russia test-launched a new nuclear-capable intercontinental ballistic missile.

About:

- Being dubbed as 'Satan 2' by the West, Sarmat can hit anything on Earth, can be fired over either of the Earth's poles.
- It weighs more than 200 tonnes. Russia has claimed that Sarmat can reach an unmatched 16,000mph and can deploy 10 or more warheads on each missile.
- It is deemed a major challenge to the ground and satellite-based radar and tracking systems.

Gujarat gets India's First Portable Solar rooftop system

News: The first portable solar rooftop system has now been installed in Gandhinagar, Gujarat.

About:

- The new 10 PV Port system is designed to be highly cost-effective, requires low maintenance, and can be installed by a single person.

Ratle and Kwar Power Projects

News: The Prime Minister recently laid the foundation stone of 850 MW Ratle Power Project and 540 MW Kwar Hydro Project in J&K.

- These dams will be constructed on the Chenab river in Kishtwar District.

India's First carbon-neutral Panchayat

News: Palli village in Jammu's Samba district has become the country's first panchayat to become carbon neutral, fully powered by solar energy and with all its records digitised and saturation of benefits of all the Central schemes.

Lata Deenanath Mangeshkar Award

News: Prime Minister Narendra Modi is the first recipient of the Lata Deenanath Mangeshkar Award.

About:

- The Lata Deenanath Mangeshkar Puraskar will be given every year to an individual who has made 'path-breaking, spectacular and exemplary' contribution to the nation, its people and society.
- Master Deenanath Mangeshkar is the father of singing legend Lata Mangeshkar.

Self-replicating mRNA Covid-19 vaccines

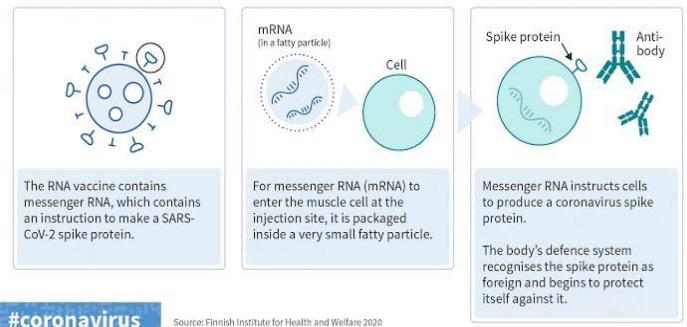
News: A California based pharmaceutical company has developed ARCT-154, a self-amplifying mRNA vaccine against Covid-19 infection.

About:

- An mRNA vaccine uses messenger RNA that encodes the spike protein of the coronavirus.
- The mRNA directs the cell to produce copies of the spike protein, so that the immune system will recognise the spike if and when actual infection takes place, and mount a response.

How does the mRNA coronavirus vaccine work?

thl



#coronavirus

Source: Finnish Institute for Health and Welfare 2020

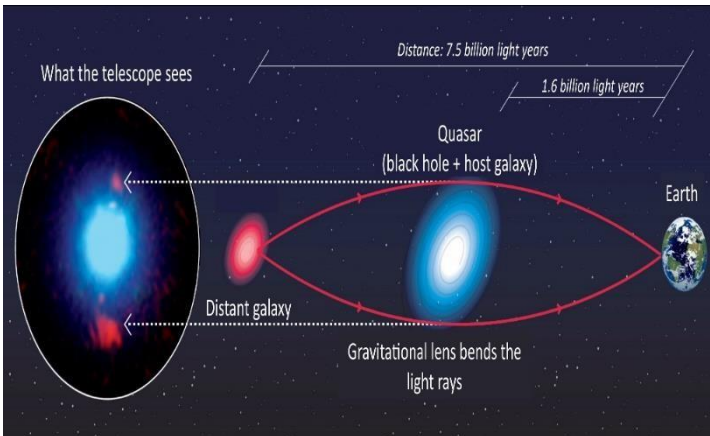
What are self-amplifying mRNA vaccines?

- A self-amplifying mRNA vaccine is an improvement on the traditional RNA platform. It encodes four extra proteins in addition to the vaccine antigen, and these enable amplification of the original strand of RNA once inside the cell. The basic advantage is that it requires a smaller dose.

Gravitational Lensing

About:

- Gravitational lensing is an effect of Einstein's theory of general relativity – simply put, mass bends light.
- The gravitational field of a massive object will extend far into space, and cause light rays passing close to that object (and thus through its gravitational field) to be bent and refocused somewhere else.
- The more massive the object, the stronger its gravitational field and hence the greater the bending of light rays – just like using denser materials to make optical lenses results in a greater amount of refraction.



Benefits:

- It is useful to cosmologists because it is directly sensitive to the amount and distribution of dark matter.
- Lensing can help astronomers work out exactly how much dark matter there is in the Universe as a whole and also how it is distributed.
- Lensing has also been used to help verify the existence of dark matter itself.

Anti-Ship Version of Brahmos Missile

News: An anti-ship version of the BrahMos supersonic cruise missile was successfully test-fired jointly by the Indian Navy and the Andaman and Nicobar Command.

About:

- BrahMos is a joint venture between the Defence Research and Development Organisation of India (DRDO) and the NPOM of Russia. It is named on rivers Brahmaputra and Moskva.
- It is a two-stage (solid propellant engine in the first stage and liquid ramjet in second) missile.
- It is a multiplatform missile i.e it can be launched from land, air, and sea and multi capability missile with pinpoint accuracy that works in both day and night irrespective of the weather conditions. It operates on the 'Fire and Forget' principle
- Brahmos is one of the fastest cruise missiles currently operationally deployed with speed of Mach 2.8, which is nearly 3 times more than the speed of sound.
- Following India's entry into the MTCR (Missile Technology Control Regime) club in June 2016, the range is planned to be extended to 450 km and to 600km at a later stage. The BrahMos missile was initially developed with a range capped at 290 km.

Hattis of Himachal Pradesh

News: The Centre is set to consider the Himachal Pradesh government's request for inclusion of the Hatti community in the list of Scheduled Tribes in the state.

About:

- The Hattis are a close-knit community who got their name from their tradition of selling homegrown vegetables, crops, meat and wool at small markets called 'haat' in towns.
- The Hatti community, whose men generally don a distinctive white headgear during ceremonies, is cut off from Sirmaur by two rivers called Giri and Tons. The Hattis are governed by a traditional council called Khumbli, which like the khaps of Haryana, decide community matters.