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CURRENT AFFAIRS January Month 2022

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Editorials of the Month

Green Energy in 2022

Background:

- One hundred and thirty-three countries pledged to a “net-zero carbon emissions date” and most governments, corporates and civic entities have shown determination to “phase down” and eventually phase out fossil fuels from their energy basket.
- The petroleum market seesawed and was expectedly volatile. Natural gas prices reached stratospheric levels as demand exceeded supplies and geopolitics compounded the imbalance.

Ongoing Trends:

- Redesign and rebuilding: The fossil fuel-based economic system will have to be redesigned and, in parts, rebuilt for clean energy to achieve scale. The process will take decades and require massive capital infusion. No country or multilateral institution can finance this transition individually. The world will have to collaborate and if it fails to do so, the financing deficit will push back the transition even further.
- Fossil fuels will dominate the energy basket during this transition phase. Contributing factors: As has been the case so far, its market will be defined by the “fundamentals” of demand, supply and geopolitics and the “non-fundamentals” of exchange rates and speculative trade. The price movements will be sharp, volatile and unexpected. The “OPEC plus” will resurge in market influence. The low-cost, high resource petrostates (Saudi Arabia, the Gulf nations, Iraq, Iran, Russia) will, in particular, gain greater control over the petroleum market as private companies move beyond fossils under pressure from shareholders and regulators.
- The Democratic Republic of Congo controls more than 50 per cent of the global supply of cobalt; Australia holds a comparably large share of the lithium market; and China controls the mining, processing and refining of rare earth minerals. It is difficult to tell how and when these countries will exercise their market power but it is clear that the “green transition” will create new centres of energy power.
- The US and China are currently embroiled in a “Cold War” over technology, trade, cyber issues and the South China Sea. The US and China appear to be in a similar face-off. But that has not come in the way of their energy relations. A few weeks ago, the two countries decided to coordinate the release of oil stocks from their strategic reserves to cool off the oil market. The underlying reality is that national self-interest and short-term political ambition will be the defining determinant of future energy supply relations cutting across values and rhetoric.

Way forward for India:

- India must assiduously nurture relations with our traditional suppliers of oil and gas. It must not assume their role in the energy market will diminish.
- It should accelerate the build-up of the storage capacity for oil and gas; the latter to hold strategic oil reserves, the former to store gas for inter alia conversion to blue hydrogen.
- It must create a facilitative ecosystem for the search and development of the minerals and metals required for clean energy. It should create a “clean energy aatmanirbhar supply chain”.

Issues with India's GDP Data

Context: There are three major reasons why the GDP data, and hence any narrative of economic recovery based on it, are questionable.

Background

- The NSO released the current GDP series in 2015, using 2011-12 as its base year.
- Some have argued that the problem in the new series is the real growth rate. This is debatable.
- Scholars have pointed to measurement problems, both in the nominal and real GDP growth rates.

Three issues with the GDP data:

Deflation problem:

- The new series entailed a shift from a volume-based measurement system to one based on nominal values, thereby making the deflator problem more critical. Simply put, the NSO calculates real GDP by gathering nominal GDP data in rupees and then deflating this data using various price indices.
- The nominal data needs to be deflated twice: Once for outputs and once for inputs. But the NSO — almost uniquely amongst G20 countries — deflates the nominal data only once. It does not deflate the value of inputs. To see why this is a problem, consider what happens when the price of imported oil goes down.
- In that case, input costs will fall and the profits recorded by Indian firms will rise. This increase in profits is merely the result of a fall in input prices, so it needs to be deflated away. But the NSO doesn't deflate away the increase in profits.
- Since the cost of inputs is measured by the WPI (wholesale price index), a crude measure of the overestimation caused by the absence of "double deflation" is given by the gap between the WPI and the CPI (consumer price index).
- In the 2014-2017 period, oil prices plunged, causing the WPI to fall sharply relative to the CPI. This meant that real growth was probably overstated. In the last few months, the exact opposite has been happening. WPI inflation is soaring. The rapid increase in the WPI relative to the CPI is imparting an upward bias to the deflator.

Sectoral weight:

- When it calculates GDP, it takes a sample of activity in each sector, then aggregates the figures by using sectoral weights. To make sure that the weights are reasonably accurate, the NSO normally updates them once a decade. It has now been more than 10 years since the weights were changed, and there are no signs of a base year revision. As a result, the sectoral weights are still based on the structure of the economy in 2010-11, when in particular the information technology sector was much smaller.

Unorganised sector

- Measurement of the unorganised sector has always been difficult in India. Once in a while, the NSO undertakes a survey to measure the size of the sector. In the meantime, it simply assumes that the sector has been growing at the same rate as the organised sector. However, starting in 2016 the unorganised sector has been disproportionately impacted by a series of shocks.
- In 2018, the NBFC sector reported serious problems, which in turn impacted unorganised sector firms since they were heavily dependent on NBFCs for funds. From 2020 onwards, the pandemic has impacted the unorganised sector more than the organised sector enterprises. Despite these shocks, the NSO does not seem to have made any adjustments to its methodology for estimating the growth of the unorganised sector.

Mediation Bill, 2021

News: The Mediation Bill, 2021 was introduced in Parliament in December 2021. It seeks to 'promote mediation (including online), and provide for enforcement of settlement agreements resulting from mediation'.

Background:

- The Chief Justice of India (CJI), N.V. Ramana, had said that mediation should be made mandatory as a first step in dispute resolution and that a law should be framed in this regard.
- He emphasised the point that a movement needs to be launched to popularise mediation as it was a cheaper and faster dispute resolution mechanism. He said that courts should be the last resort for dispute resolution; therefore, one should explore the options of alternate dispute resolution.
- The Tamil Nadu Mediation and Conciliation Centre, an initiative of the Madras High Court and India's first court-annexed facility with a mediation centre in every district, has significantly reduced the pendency of referred cases.

- Mediation finds legitimacy in some specific laws such as:
 - The Code of Civil Procedure, 1908, the Arbitration and Conciliation Act, 1996,
 - The Companies Act, 2013,
 - The Commercial Courts Act, 2015,
 - The Consumer Protection Act, 2019,
- However, there is no standalone legislation as yet.

Mediation Bill, 2021:

- The bill seeks to promote mediation (including online), and provide for enforcement of settlement agreements resulting from mediation'. In case of civil or commercial disputes, a person must try to settle the dispute by mediation before approaching a court or tribunal.
- There are certain provisions in the Bill which may help in improving the law and order situation in a locality and/or encourage compounding of criminal offences.
 - First, Section 7 of the Bill says that courts will be competent to refer any dispute to mediation relating to compoundable offences or matrimonial offences connected with or arising out of civil proceedings between the parties.
 - Second, Section 44 of the Bill provides for 'any dispute likely to affect peace, harmony and tranquillity amongst the residents or families of any area or locality, to be settled through community mediation.
 - Third, the provisions of the Act shall not have the overriding effect, inter alia, on the Maintenance and Welfare of Parents and Senior Citizen Act, 2007 and the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.
- Section 320 in the Code Of Criminal Procedure (CrPC) provides for the compounding of certain criminal offences which shall have the effect of acquittal of the accused. Here, the policy of the law is to promote friendliness between the parties so that peace between them is restored.
- Many criminal offences are a result of the fact that civil or commercial disputes could not be resolved amicably and in time. The police at times take minor cases lightly or reduce the seriousness of crime by converting a cognisable offence into a non-cognisable one.
- Therefore, the proposed law of mediation, that has the mechanism of not only preventing the breakdown of law and order through community intervention but also the competence to smoothen the route to compounding of certain criminal offences, may ultimately relieve some of the pressure on the police also.

Issues:

- The law to prevent the sexual harassment of women at the workplace has probably been kept out of its scope so that an internal or local complaint committee is able to take up conciliation and close the case locally without involving a third party and detailed procedure.
- The law on the maintenance and the welfare of parents and senior citizens has also been kept out of its scope as offences under it are cognisable offences.

India and Bilateral Investment Treaties

News: The report of the Standing Committee on External Affairs on 'India and bilateral investment treaties (BITs)' was presented to Parliament last month.

Background:

- Since 2011, when India lost its first investment treaty claim in *White Industries v. India*, foreign investors have sued India around 20 times for alleged BIT breaches. This made India the 10th most frequent respondent-state globally in terms of investor-state dispute settlement (ISDS) claims from 1987 to 2019 (UNCTAD). India adopted a new Model BIT in 2016, which marked a significant departure from its previous treaty practice. India is in the process of negotiating new investment deals (separately or as part of free trade agreements) with important countries such as Australia and the U.K.

Recommendations of the Committee

- India has signed very few investment treaties after the adoption of the Model BIT. It recommends that India expedite the existing negotiations and conclude the agreements at the earliest because a delay might adversely impact foreign investment.

- The committee recommends that India should sign more BITs in core or priority sectors to attract FDI. Generally, BITs are not signed for specific sectors. It will require an overhauling of India's extant treaty practice that focuses on safeguarding certain kinds of regulatory measures from ISDS claims rather than limiting BITs to specific sectors.
- Model BIT gives precedence to the state's regulatory interests over the rights of foreign investors. The Model BIT should be recalibrated keeping two factors in mind:
 - tightening the language of the existing provisions to circumscribe the discretion of ISDS arbitral tribunals.
 - striking a balance between the goals of investment protection and the state's right to adopt bonafide regulatory measures for public welfare.
- The committee recommends bolstering the capacity of government officials in the area of investment treaty arbitration. While the government has taken some steps in this direction through a few training workshops, more needs to be done.
- What is needed is an institutionalised mechanism for capacity-building through the involvement of public and private universities. The government should also consider establishing chairs in universities to foster research and teaching activities in international investment law.

Way Forward:

- A very large proportion of ISDS claims against India is due to poor governance. This includes changing laws retroactively which led to Vodafone and Cairn suing India. Annuling agreement in the wake of imagined scam which resulted in taking away S-band satellite spectrum from Devas.
- The judiciary's fragility in getting its act together (sitting on the White Industries case for enforcement of its commercial award for years). The Committee could have emphasised on greater regulatory coherence, policy stability, and robust governance structures to avoid ISDS claims.
- The government should promptly assemble an expert team to review the Model BIT.

Time to revise 7th Schedule

Context: Without delegation of funds, functions and functionaries, local governments are unable to respond to pressure from citizens who demand greater efficiency.

Background of the Seventh Schedule

- Article 246 of the Constitution mentions three lists in the Seventh Schedule — union, state and concurrent lists. The present Seventh Schedule and union (at that time Federal) list, state (at that time Provincial) list and concurrent lists are inherited from that 1935 piece of legislation.
- It states that "Notwithstanding anything in the two next succeeding subsections, the Federal Legislature has, and a Provincial Legislature has not, power to make laws with respect to any of the matters enumerated in List I in the Seventh Schedule to this Act."

Public Goods:

- Ignoring that narrow and technical definition of public good, loosely, we understand "public good" as something that must be delivered by the government. It cannot, or should not, be delivered by the private sector.
- Notwithstanding the use of private security guards, most people will agree "law and order" is a public good.
- Most public goods people will think of are efficiently delivered at the local government level, not Union or state level. There is a Seventh Schedule issue that is thus linked to the insertion of a local body list.
- Countervailing pressure by citizens increasingly demands efficient delivery of such public goods.
- But without delegation of funds, functions and functionaries, presently left to the whims of state governments, local governments are unable to respond.
- Most public goods people will think of are efficiently delivered at the local government level, not Union or state level. There is a Seventh Schedule issue that is thus linked to the insertion of a local body list.
- But without delegation of funds, functions and functionaries, presently left to the whims of state governments, local governments are unable to respond.

- The Rajamannar Committee — formally known as Centre-State Relations Inquiry Committee suggested constitution of a High-Power Commission to examine the entries of Lists I and III in the Seventh Schedule to the Constitution and suggest redistribution of the entries,”.
- Items have moved from the state list to the concurrent list and from the concurrent list to the union list.
- Such limited movements have reflected greater centralisation, such as in 1976. N K Singh, Chairman of 15th Finance Commission has also often made this point, in addition to scrutiny of Article 282.

Demographic Dividend

News: Countries like Singapore, Taiwan and South Korea have already shown us how demographic dividend can be reaped to achieve incredible economic growth by adopting forward-looking policies and programmes.

Background:

- With falling fertility (currently 2.0), rising median age (from 24 years in 2011, 29 years now and expected to be 36 years by 2036), a falling dependency ratio (expected to decrease from 65% to 54% in the coming decade taking 15-59 years as the working age population), India is in the middle of a demographic transition.
- This provides a window of opportunity towards faster economic growth. India has already begun to get the dividend. As fertility declines, the share of the young population falls and that of the older, dependent population rises. If the fertility decline is rapid, the increase in the population of working ages is substantial yielding the ‘demographic dividend’.
- The smaller share of children in the population enables higher investment per child.
- Therefore, the future entrants in the labour force can have better productivity and thus boost income.
- With the passage of time, the share of the older population rises and that of the working age population begins to fall and hence the dividend is available for a period of time, ‘the window of demographic opportunity’.
- Without proper policies, the increase in the working-age population may lead to rising unemployment, fueling economic and social risks. This calls for forward-looking policies incorporating population dynamics, education and skills, healthcare, gender sensitivity, and providing rights and choices to the younger generation.

What can be done in India?

- Countries like Singapore, Taiwan and South Korea have already shown us how demographic dividend can be reaped. There are important lessons from these countries for India.
- The first is to undertake an updated National Transfer Accounts (NTA) assessment. Using NTA methodologies, we find that India’s per capita consumption pattern is way lower than that of other Asian countries. A child in India consumes around 60% of the consumption by an adult aged between 20 and 64, while a child in China consumes about 85% of a prime-age adult’s consumption. The NTA data for India needs to be updated to capture the progress made on such investments since 2011-12.
- India ranks poorly in Asia in terms of private and public human capital spending. It needs to invest more in children and adolescents, particularly in nutrition and learning during early childhood.
- Health spending has not kept pace with India’s economic growth. The public spending on health has remained flat at around 1% of GDP. Evidence suggests that better health facilitates improved economic production. Hence, it is important to draft policies to promote health during the demographic dividend.
- We need to provide universal access to high-quality primary education and basic healthcare. The unmet need for family planning in India at 9.4% as per the latest National Family Health Survey-5 (2019-21) is high as compared to 3.3% in China and 6.6% in South Korea, which needs to be bridged.
- The gender inequality of education is a concern. In India, boys are more likely to be enrolled in secondary and tertiary school than girls. This needs to be reversed.
- As of 2019, 20.3% of women were working or looking for work, down from 34.1% in 2003-04. New skills and opportunities for women and girls befitting their participation in a \$3 trillion economy is urgently needed. It is predicted that if all women engaged in domestic duties in India who are willing to work had a job, female labour force participation would increase by about 20%. Address the diversity between States While India is a young country, the status and pace of population ageing vary among States. Southern States, which are advanced in demographic transition, already have a higher percentage of older people.

- These differences in age structure reflect differences in economic development and health – and remind us of States’ very different starting points at the outset of the 2030 Sustainable Development Goals Agenda.
- But this also offers boundless opportunities for States to work together, especially on demographic transition, with the north-central region as the reservoir of India’s workforce.
- A new federal approach to governance reforms for demographic dividend will need to be put in place for policy coordination between States on various emerging population issues such as migration, ageing, skilling, female workforce participation and urbanisation.

Taxing Cryptocurrencies

News: Notwithstanding the eventual introduction of the Cryptocurrency and Regulation of Official Digital Currency Bill in Parliament, cryptocurrencies continue to proliferate.

Background:

- Although the Income Tax Act, 1961 (“IT Act”) does not specifically mention cryptocurrencies, it does cast a wide enough net to bring crypto transactions under its ambit.
- Trading in cryptocurrency may be classified as transfer of a ‘capital asset’, taxable under the head ‘capital gains. If such cryptocurrencies are held as stock-in trade and the taxpayer is trading in them frequently, the same will attract tax under the head ‘business income’.
- Even if one argues that crypto transactions do not fall under the above heads, Section 56 of the IT Act shall come into play, making them taxable under the head ‘Other sources of income’.

Challenges in taxing cryptocurrencies

- First, the absence of explicit tax provisions has led to uncertainty and varied interpretations being adopted in relation to mode of computation, applicable tax head and tax rates, loss and carry forward, etc.
- For instance, the head of income under which trading of self generated cryptocurrency (currencies which are created by mining, acquired by air drop, etc.) is to be taxed is unclear. Since there is no consistency in the rates provided by the crypto-exchanges, it is difficult to arrive at a fair market value.
- Similarly, when a person receives cryptocurrency as payment for rendering goods or services, how should one arrive at the value of the said currency and how should such a transaction be taxed?
- It is often tricky to identify the tax jurisdiction for crypto transactions as taxpayers may have engaged in multiple transfers across various countries and the cryptocurrencies may have been stored in online wallets, on servers outside India.
- The identities of taxpayers who transact with cryptocurrencies remain anonymous. Exploiting this, tax evaders have been using crypto transactions to park their black money abroad and fund criminal activities, terrorism, etc.
- The lack of third-party information on crypto transactions makes it difficult to scrutinise and identify instances of tax evasion. One of the most efficient enforcement tools in the hands of Income Tax Department is CASS or ‘computer aided scrutiny selection’ of assessments, where returns of taxpayers are selected inter alia based on information gathered from third party intermediaries such as banks.
- However, crypto-market intermediaries like the exchanges, wallet providers, network operators, miners, administrators are unregulated and collecting information from them is very difficult.
- Even if the crypto-market intermediaries are regulated and follow Know Your Customer (KYC) norms, there remains a scenario, where physical cash or other goods/services may change hands in return for cryptocurrencies. Such transactions are hard to trace and only voluntary disclosures from the parties involved or a search/survey operation may reveal the tax evaders.

Way forward:

- The income-tax laws pertaining to the crypto transactions need to be made clear by incorporating detailed statutory provisions. This should be followed by extensive awareness generation among the taxpayers regarding the same. The practice of having separate mandatory disclosure requirements in tax returns (as is the case in the United States) should be placed on the taxpayers as well as all the intermediaries involved, so that crypto transactions do not go unreported.
- Additionally, the existing international legal framework for exchange of information should be strengthened to enable collecting and sharing of information on crypto-transactions.

- This will go a long way in linking the digital profiles of cryptocurrency holders with their real identities.
- Training tax officers: the Government must impart training to its officers in blockchain technology.
- The United Nations Office on Drugs and Crime's 'Cybercrime and Anti-Money Laundering' Section (UNODC CMLS) has developed a unique cryptocurrency training module, which can aid in equipping tax officers with requisite understanding of the underlying technologies.

State Finances, Study of Budgets

News: The "State Finances, Study of Budgets of 2021-22" report, correctly identify the role of the city governments in meeting the challenges the pandemic has thrown up, the report also points to the draining of resources.

Details:

- The report highlights the frontline role played by the third-tier governments by implementing containment strategies, healthcare. Due to this, their finances have come under severe strain, forcing them to cut down expenditures and mobilise funding from various sources.
- The RBI further commented that the functional autonomy of civic bodies must increase and their governance structure strengthened. This could happen by 'empowering them financially through higher resource availability. The RBI did echo the recommendations of the 15th Finance Commission report on local bodies that emphasised city governance structures and financial empowerment.
- The RBI report also highlights the limited coverage of property tax and its failure in shoring up municipal corporation revenues. Organisation for Economic Co-operation and Development (OECD) data show that India has the lowest property tax collection rate in the world — i.e., property tax to GDP ratio.

Issues faced by Urban Govt.:

- During the pandemic, while leaders from the Prime Minister to Chief Ministers to District Magistrate were seen taking a call on disaster mitigation strategies, city mayors were found missing.
- The old approach of treating cities as adjuncts of State governments continues to dominate the policy paradigm. The general approach towards urban empowerment has remained piecemeal in India.
- The first intervention to understand 'the urban' (though there are references in the Five Year plans) and plan with a pan-Indian vision took place in the 1980s when the National Commission On Urbanisation was formed with Charles Correa as its chairperson.
- Another important intervention was in the first half of the 1990s with the Constitution 73rd and 74th Amendments. The latter refers to urban reforms — empowering urban local bodies to perform 18 functions listed in the 12th Schedule. However, there is no mention of financial empowerment.
- The only exception to the rule has been the people's plan model of Kerala where 40% of the State's plan budget was for local bodies (directly) with a transfer of important subjects such as planning, etc.

Solutions:

- This should happen with three F's: the transfer of 'functions, finances and functionaries' to city governments.
- There are nearly 5,000 statutory towns and an equal number of census towns in India.
- Nearly 35% of the population lives in urban centres. And, nearly two-thirds of the country's GDP stems from cities and almost 90% of government revenue flows from urban centres.
- Before value-added tax and other centralised taxation systems, one of the major earnings of cities used to be from octroi. But this source of revenue collection was taken away by the State and the central governments.
- Instead, finance commissions recommended grants to urban local bodies based on a formula of demographic profile. In such a situation, it is difficult for the towns to sustain their ability to perform their bare minimum functions, especially with the latest Pay Commission recommendations.
- This has resulted in burdening people more with taxes and further privatisation/outsourcing of the services of the municipalities. The often-cited example is how cities in the Scandinavian countries manage their functions well — from city planning to mobility to waste management.
- But the truth is that a chunk of the income tax from citizens is given to city governments.
- A committee formed by the Ministry of Housing and Urban Development to review the 74th constitutional amendment recommended that 10% of income tax collected from the cities was to be given back to them as a direct revenue grant from the central government.

IAS Cadre Rules

News: The Central Government has proposed four amendments to Rule 6(1) of the IAS (Cadre) Rules, 1954 dealing with deputation, and has sought the views of State governments before January 25, 2022.

Background:

- It was Sardar Patel who had championed the creation of the Indian Administrative Service (IAS) and the Indian Police Service (IPS) as “All India Services” (AIS) whose members would be recruited and appointed by the Centre and allotted to various States, and who could serve both under the State and the Centre.
- Speaking to the Constituent Assembly on October 10, 1949, Patel said, “The Union will go, you will not have a united India if you have not a good All India Service which has the independence to speak out its mind, which has a sense of security....”.

Central deputation of All India Service officers

- AIS officers are made available for central deputation through a consultative process involving the Centre, the States and the officers concerned.
- The Centre would choose officers only from among those “on offer” from the States.
- The existing Rule 6(1) states that a cadre officer may be deputed to the Central Government (or to another State or a PSU) only with the concurrence of the State Government concerned.
- However, it has a proviso which states that in case of any disagreement, the matter shall be decided by the Central Government. Unfortunately, both the Centre and the States have at times flouted these healthy conventions for political considerations.

Latest controversy:

- In May 2021, the Centre unilaterally issued orders for the central deputation of the Chief Secretary of West Bengal just before his last day in service. Some States used to vindictively withhold the names of some of the officers who had opted for central deputation or delay their relief after they were picked up by the Centre.
- The Central Government has proposed four amendments to Rule 6(1) of the IAS (Cadre) Rules, 1954 dealing with deputation.

Related issues:

- One is a new provision making it mandatory for the State government to provide a certain fixed number of IAS officers for central deputation every year. The proposed amendment more or less compels a State government to offer IAS officers for central deputation even when these officers themselves may not wish to go on central deputation.
- Reasons for shortage of IAS officers are Poor working conditions in junior-level posts, an opaque and arbitrary system of empanelment for senior-level posts, and lack of security of tenure at all levels are the real reasons for the shortage of IAS officers, which the Centre should address.
- The other is a proviso that requires the State government to release such officers whose services may be sought by the Central Government in specific situations. Based on experiences of the recent past, State governments have a justified apprehension that this proviso may be misused for political considerations.
- The contemplated changes have grave implications for the independence, security and morale of IAS officers.
- States are right in perceiving the proposed amendments as a serious infringement of their rights to deploy IAS officers as they deem best, especially when the cutting edge of policy implementation is mostly at the State level.
- States may prefer officers of the State Civil Services to handle as many posts as possible. In course of time, the IAS will lose its sheen, and the best and the brightest candidates will no longer opt for the IAS.
- In *S.R. Bommai vs Union of India* (1994), the Supreme Court held that “States have an independent constitutional existence and they have as important a role to play in the political, social, educational and cultural life of the people as the Union. They are neither satellites nor agents of the Centre”.

Need for Single Border Management Agency for India

News: Recent developments warrant a comprehensive review of border management to ensure the all-weather security of our borders.

Background:

- India shares land borders with Pakistan, China, Nepal, Bhutan, Bangladesh and Myanmar, which stretch approximately 15,106 km.
- In addition, we have an approximately 3,323 km-long LoC with Pakistan, which further extends to the rechristened 110 km stretch of “Actual Ground Position Line” (AGPL) dividing the Siachen glacier region.
- Further east, we have the 3,488 km LAC with China.
- We share maritime boundaries with Sri Lanka, Maldives, Bangladesh, Pakistan, Myanmar and Indonesia; we have a 7,683 km coastline and an approximately 2 million sq km exclusive economic zone (EEZ).
- This makes India’s task more complex than most other countries.

Present structure of Regulation:

- Complexity is accentuated by the fact that along with the army, we have multiple other security agencies — the Central Armed Police Force (CAPF) and the Paramilitary Forces (PMF) — sharing the responsibility.
- While the army is deployed along the LoC and AGPL, the Border Security Force (BSF) looks after the international border with Pakistan and Bangladesh.
- Guarding the LAC has been assigned to the Indo-Tibetan Border Police (ITBP) and Assam Rifles.
- The Sashastra Seema Bal (SSB) is responsible for guarding the borders with Nepal and Bhutan.
- The Assam Rifles looks after our border with Myanmar.
- In a nutshell, in addition to the army, we have four agencies guarding borders with six neighbours.
- Conversely, maritime borders are guarded by a single agency — the Coast Guard.

Way forward:

- There is a lack of a coherent policy on training, planning and the conduct of guarding operations among various outfits. Overall coordination is also affected. Our adversary on the western border has often escalated violations by resorting to the prolonged use of military resources. Chinese provocations along the LAC are military operations. Clearly, the peace-time scenario is now by and large militarised.
- In this scenario, India needs a single security agency adequately equipped, suitably armed and trained in advanced military drills and sub-unit tactics to guard our borders.
- Further, to augment the battle efficiency, a fixed percentage of manpower, including the officer cadre, should be drawn on deputation from the army.
- To ensure the desired training and operational standards, this single security agency should be designated as a paramilitary force under the Ministry of Defence and operate under the army.
- The ITBP and the SSB should be fully merged into the new outfit; the BSF and CRPF still have important internal security duties and can be partially merged. The reorganised Assam Rifles too should retain its role of conducting counter-insurgency operations and act as a reserve for the army for conventional operations.
- Most countries have raised specialised and dedicated armed bodies for border security.
- Iran has the Border Guard Command, Italy has the Border Police Service, Russia has created a Border Guard Service, whereas in the US, it is under Homeland Security. Most of these countries, based on threat perception and for better combat cohesion, have placed these organisations under the command of the armed forces.

Education Emergency in India

News: Faced with an unprecedented education emergency, this is the time to substantially ramp up public spending on education and make it more effective.

Allocation to Education:

- UNESCO’s 2030 framework for action suggests public education spending levels of between 4% and 6% of GDP and 15%-20% of public expenditure.
- A recent World Bank study notes that India spent 14.1 % of its budget on education, compared to 18.5% in Vietnam and 20.6% in Indonesia, countries with similar levels of GDP.
- But since India has a higher share of population under the age of 19 years than these countries, it should actually be allocating a greater share of the budget than these countries. Public spending on education in most States in India was below that of other middle-income countries even before the pandemic.

- Most major States spent in the range of 2.5% to 3.1% of State income on education, according to the Ministry of Education's Analysis of Budgeted Expenditure on Education. This compares with the 4.3% of GDP that lower-middle-income countries spent, as a group, between 2010-11 and 2018-19.
- In the 2021-22 Budget, the Central government's allocation for the Education Department was slashed compared to the previous year, even though the size of the overall budget increased.
- Of the major States and Delhi, eight either reduced or just about maintained their budget allocation for education departments in 2021-22 compared to 2020-21.

What does the data suggest?

- The opacity of education finance data makes it difficult to comprehend this. For instance, the combined Central and State government spending on education was estimated to be 2.8% of GDP in 2018-19, according to the Economic Survey of 2020-21. This figure had remained at the same level since 2014-15.
- On the other hand, data from the Ministry of Education indicates that public spending on education had reached 4.3% of GDP in the same year, rising from 3.8% of GDP in 2011-12.
- The difference in the figures is due to the inclusion of expenditure on education by departments other than the Education Department. Including expenditure on education by, for example, the Ministry of Tribal Affairs, the Ministry of Social Justice and Empowerment (on Anganwadis, scholarships, etc.), the Ministry of Science and Technology (for higher education) is of course legitimate.
- However, the composition of these expenditures is not readily available.

Way forward

- The vast majority of the 260 million children enrolled in preschool and school, especially in government schools, did not have meaningful structured learning opportunities during the 20 months of school closures.
- Infusion of resources: The education system now needs not only an infusion of resources for multiple years, but also a strengthened focus on the needs of the poor and disadvantaged children. What it is spent on and how effectively resources are used are important. It is clear what additional resources are required for.
- The needs include: back-to-school campaigns and re-enrolment drives; expanded nutrition programmes; reorganisation of the curriculum to help children learn language and mathematics in particular, and support their socio-emotional development, especially in early grades; additional learning materials; teacher training and ongoing support; additional education programmes and collection and analysis of data.
- Focus on teacher training: How does expenditure on technology compare with the amounts spent on teacher training, which represents just 0.15% of total estimated expenditure on elementary education?
- Teachers are central to the quality of education, so why does India spend so little on teacher training?

Low Emission Growth

News: While many developing countries made net-zero pledges at COP26 in Glasgow, they face enormous developmental challenges in their attempts to grow in a climate-constrained world.

Background:

- For India, the national context is shaped by high youth unemployment, millions more entering the workforce each year, and a country hungry for substantial investments in hard infrastructure to industrialise and urbanise. Growth with low emission footprint: India's economic growth in the last three decades, led by growth in the services sector, has come at a significantly lower emissions footprint.
- But in the coming decades, India will have to move to an investment-led and manufacturing-intensive growth model to create job opportunities and create entirely new cities and infrastructure to accommodate and connect an increasingly urban population.
- All of this requires a lot of energy. Can India do all of this with a low emissions footprint?

Suggestions for India:

- A coherent national transition strategy is important in a global context where industrialised countries are discussing the imposition of carbon border taxes while failing to provide developing countries the necessary carbon space to grow or the finance and technological assistance necessary to decarbonise. What India needs is an overarching green industrialisation strategy that combines laws, policy instruments, and new or

reformed implementing institutions to steer its decentralised economic activities to become climate-friendly and resilient.

Issues:

- India's industrial policy efforts to increase the domestic manufacturing of renewable energy technology components have been affected by policy incoherence, poor management of economic rents, and contradictory policy objectives.
- India managed to create just a third of jobs per megawatt that China has managed to in its efforts to promote solar PV and wind technologies. China has created more jobs in manufacturing solar and wind components for exports than domestic deployment.
- India could have retained some of those jobs if it were strategic in promoting these technologies.

Opportunities:

- Technologies needed to decarbonise the transport and industry sectors provide a significant opportunity for India. However, India's R&D investments in these emerging green technologies are non-existent.
- The production-linked incentives (PLIs) under 'Aatmanirbhar Bharat' are a step in the right direction for localising clean energy manufacturing activities.
- Aligning existing RD&D investments with the technologies needed for green industrialisation is crucial for realising quantum jumps in economic activities.
- India also needs to nurture private entrepreneurship and experimentation in clean energy technologies.
- Besides China, Korea's green growth strategy provide examples of how India could gain economic and employment rents from green industrialisation without implementing restrictive policies.

Way forward

- India should set its pace based on its ability to capitalise on the opportunities to create wealth through green industrialisation.
- India should follow a path where it can negotiate carbon space to grow, buying time for the hard-to-abate sectors; push against counterproductive WTO trade litigations on decarbonisation technologies; all while making R&D investments in those technologies to ensure that it can gain economic value in the transition.

India's Informal Economy

News: Despite efforts by the government, formalisation of economy still eludes us.

Background:

- Despite witnessing rapid economic growth over the last two decades, 90% of workers in India have remained informally employed, producing about half of GDP.
- Combining the International Labour Organization's widely agreed upon template of definitions with India's official definition (of formal jobs as those providing at least one social security benefit — such as EPF), the share of formal workers in India stood at 9.7% (47.5 million).
- The prevalence of informal employment is also widespread in the non-agriculture sector.
- About half of informal workers are engaged in non-agriculture sectors which spread across urban and rural areas. Industries thriving without paying taxes are only the tip of the informal sector's iceberg.
- What remains hidden are the large swathes of low productivity informal establishments working as household and self-employment units which represent "petty production".
- To conflate the two distinct segments of the informal sector would be a serious conceptual error.

Formal scenario:

- Efforts to encourage formalization include Currency demonetisation, introduction of the Goods and Services Tax (GST), digitalisation of financial transactions and enrolment of informal sector workers on numerous government Internet portals are all meant to encourage the formalisation of the economy.
- The formal sector is more productive than the informal sector, and formal workers have access to social security benefits. The above-mentioned efforts are based on the "fiscal perspective" of formalisation.
- This perspective appears to draw from a strand of thought advanced by some international financial institutions such as the International Monetary Fund, which foregrounds the persistence of the informal

sector to excessive state regulation of enterprises and labour which drives genuine economic activity outside the regulatory ambit.

- Hence, it is believed that simplifying registration processes, easing rules for business conduct, and lowering the standards of protection of formal sector workers will bring informal enterprises and their workers into the fold of formality.

Issues:

- Early on, in an attempt to promote employment, India protected small enterprises engaged in labour intensive manufacturing by providing them with fiscal concessions and regulating large-scale industry by licensing. Such measures led to many labour-intensive industries getting diffused into the informal/unorganised sectors.
- Further, they led to the formation of dense output and labour market inter-linkages between the informal and formal sectors via sub-contracting and outsourcing arrangements (quite like in labour abundant Asian economies). While such policy initiatives may have encouraged employment, bringing the enterprises which benefited from the policy into the tax net has been a challenge.
- Political and economic reasons operating at the regional/local level in a competitive electoral democracy are responsible for this phenomenon, too.

Role of underdevelopment

- Global evidence suggests that the view that legal and regulatory hurdles alone are mainly responsible for holding back formalisation does not hold much water. A well-regarded study, 'Informality and Development' argues that the persistence of informality is, in fact, a sign of underdevelopment.
- The finding suggests that informality decreases with economic growth, albeit slowly.
- A similar association is also evident across major States in India, based on official PLFS data.
- Hence, the persistence of a high share of informal employment in total employment seems nothing but a lack of adequate growth or continuation of underdevelopment.

Way Forward:

- Research by the State Bank of India recently reported the economy formalised rapidly during the pandemic year of 2020-21, with the informal sector's GDP share shrinking to less than 20%, from about 50% a few years ago — close to the figure for developed countries.
- These findings of a sharp contraction of the informal sector during the pandemic year (2020-21) do not represent a sustained structural transformation. They are a temporary (and unfortunate) outcome of the pandemic and severe lockdowns imposed in 2020 and 2021.
- Policy efforts directed at bringing the informal sector into the fold of formality fail to appreciate that the bulk of the informal units and their workers are essentially petty producers eking their subsistence out of minimal resources.
- The economy will get formalised when informal enterprises become more productive through greater capital investment and increased education and skills are imparted to its workers.

Budget and Employment Generation

News: Although the impact of Omicron is less on the economy, the loss of GDP in the last two years is high. Also note that the pre-Covid year FY20 had a low base with 4 per cent growth of GDP. Therefore, the need to focus on higher growth in the forthcoming budget and in the medium term, that is, beyond India@75, is obvious.

Challenges:

- Unemployment rate is high in both rural and urban areas;
- Decline in work participation rates, particularly for women;
- Recovery in employment is still below the levels of the pre-Covid period.
- 85 per cent of the workforce is still in informal sector.
- Lack of skill: Less than 5 per cent of India's workforce has formal skill training.
- Need for structural change: Manufacturing and services need structural change.
- Focus on MSME sector is needed for higher employment.

Policies needed:

Capital expenditure and infrastructure

- The government outlined an infrastructure project pipeline worth more than Rs 102 lakh crore and asset monetisation pipeline of Rs 6 lakh crore to be implemented in the medium term. Continuing focus on infrastructure and capex by the government is important as it is a key driver for the “future of India”.

Focus on export growth

- It is well known that rise in exports is one of the main engines of growth and also important for employment creation. Export growth in India has increased and is expected to reach \$400 billion by the end of FY22.
- One worrying aspect of India’s export performance is the failure in expanding the share of labour intensive products in the export basket. However, one problem in recent years is that India’s trade policy has become more protectionist by increasing import tariffs. India should also join the Regional Comprehensive Economic Partnership (RCEP) for integrating our industries with the value chains in Asia.

Manufacturing and service sector growth

- The share of manufacturing in GDP and employment has hardly increased over time. Production Linked Incentive (PLI) schemes can improve performance. However, more efforts are required to improve the manufacturing sector. Similarly, there are a lot of opportunities for India in the service sector.
- Brand and customer centricity are important here. India can also think of more business in the service sector.
- Growing startups including unicorns in manufacturing and services is part of this effort.

Banking reforms

- Banking reforms are important as bank credit growth is a key indicator of economic growth.
- Credit to GDP ratio in India is only around 55 per cent compared to 100 per cent and 150 per cent in many other countries. Credit should flow to all categories of economic agents like firms, households etc.
- The bad bank, a key initiative of the last budget, is yet to take shape. The role of fintech companies in the financial sector has increased significantly. They may not be able to replace banks although they are competing on payments. The banks also have to focus now on ESG (environment, social and governance) while giving credit. Big technology and digital push is also needed for banks.

K-shaped recovery

- The K-shaped recovery of the economy is still continuing. The policies have to focus on giving a push to the MSME sector, increasing investment in agriculture and rural infrastructure, a social sector push including bridging divides in health and education, social protection measures like foodgrain distribution, cash transfers, MGNREGA in rural areas, urban employment guarantee schemes etc. This will also create demand for the economy.

Conclusion

- In the near term, fiscal policy has to play an important role in achieving the objectives of growth and jobs by expanding fiscal space while the fiscal deficit can be stabilised in the medium term. Increase in private investment may take some more time.

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

George Wittet

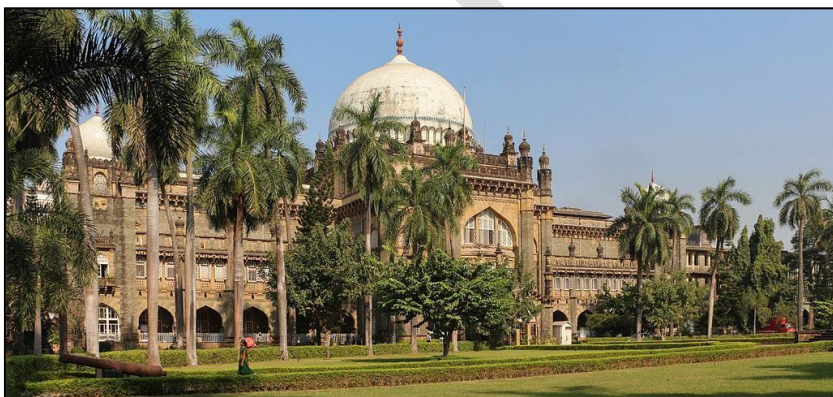
News: The restored and refurbished Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS) (erstwhile Prince of Wales Museum) will open this month as the building enters its centenary year.

Who was George Wittet?

- George Wittet was born in Blair Atholl, Scotland. He studied architecture in Perth, Scotland, and worked in Edinburgh and York before arriving in India in 1904. In India, he became assistant to John Begg, consulting architect to the Government of Bombay. Together, they pioneered the Indo-Saracenic style, using it in many government and public buildings across Bombay.
- About a decade later, Wittet rose to be consulting architect himself and was also elected as the first president of The Indian Institute of Architects. Besides the Prince of Wales Museum, Wittet also designed the Gateway of India, a fine example of Indo-Saracenic architecture and among the most identifiable landmarks of Mumbai.

What is Indo-Saracenic style?

- The Indo-Saracenic style was promoted by British architects starting from the late 19th century.
- It is exemplified by the use of elements seen in architecture across India, from Mughal structures to Hindu temples.
- The style was dominated by Indo-Islamic elements, but sometimes combined with Gothic and neo-classical elements popular in Britain at that time.
- Major features of the style include domes and domelets, chhatris, minarets, and open pavilions.
- Indo-Saracenic was seen as Raj's efforts to promote "Indian" culture, so that their colonial subjects would view them more favorably, especially after the Revolt of 1857.
- Examples from other parts of India include the magnificent:
 - Victoria Memorial in Kolkata
 - Amba Vilas Palace (Mysore Palace) in Mysuru
 - Senate House (on the Madras University campus) in Chennai
 - Secretariat Building (Central Secretariat) in New Delhi
- The dome of the CSMVS is based on the Gol Gumbaz, the mausoleum of king Mohammed Adil Shah of Bijapur. Wittet had toured the historic buildings of Bijapur, which was key to his Indo-Saracenic designs.
- CSMVS's finial is based on that of the Taj Mahal. However, even though he won the competition for the museum's design, it wasn't his design that was executed finally.



Sikh Takht

News: The Delhi Assembly has passed an amendment Bill to the Delhi Sikh Gurdwara Act, 1971, recognizing Takht Damdama Sahib as the fifth Takht of Sikhs.

What is a Sikh Takht?

- A Takht, which means a throne, is a seat of temporal authority for Sikhs. There are five Sikh Takhts, three in Punjab and one each in Maharashtra and Bihar. The Takhts are known to issue hukumnamas (morality orders) from time to time on issues that concern the Sikh community.
- Akal Takht is supreme among them because it is the oldest and was created by a Sikh Guru himself, say Sikh scholars. Any edict or order concerning the entire community is issued only from Akal Takht.

- It is from Akal Takht that Sikhs found to be violating the Sikh doctrine and code of conduct are awarded religious punishment (declared tankhaiya). The three Takhts in Punjab are directly controlled by the SGPC, which appoints the jathedars. The SGPC is dominated by SAD members.
- It is widely understood that SAD puts the final seal on the appointment of these three jathedars.
- The two Takhts outside Punjab have their own trusts and boards.

Akal Takht

- Located in Amritsar, it is the oldest of the Takhts, and considered supreme among the five. It was set up in 1606 by Guru Hargobind, whose succession as the sixth Guru after the execution of his father, Guru Arjan Dev, is considered a turning point in Sikh history. The Akal Takht, a raised platform that he built in front of the causeway leading to the sanctum sanctorum of the Harmandir Sahib (Golden Temple).
- It symbolised the coming together of the temporal authority and the political sovereignty of the Sikh community (miri) with the spiritual authority (piri). It is seen as the first marker of Sikh nationalism.
- The other four Takhts are linked to Guru Gobind Singh, the tenth Sikh Guru.
- **Takht Keshgarh Sahib:** Located in Anandpur Sahib in Punjab. It was here that Guru Gobind Singh raised Khalsa, the initiated Sikh warriors, in 1699.
- **Takht Patna Sahib:** Guru Gobind Singh was born here in 1666.
- **Takht Hazur Sahib:** In Nanded, where Guru Gobind Singh spent time and where he was cremated in 1708.
- **Takht Damdama Sahib:** In Talwandi Sabo of Bathinda. Guru Gobind Singh spent several months here.

Latest amendment:

- Simply put, it adds one more ex officio member in the Delhi Sikh Gurdwara Management Committee (DSGMC) house. Earlier, there were four ex officio members in the house — the chiefs (jathedars) of the other four Is it the first time it has been recognised as the fifth Takht?
- It was back in 1999 that Takht Damdama Sahib was recognised as the fifth Sikh Takht by the Union Home Ministry. It included it as such in the Sikh Gurdwaras Act, 1925 (Punjab Act VIII of 1925) with a notification dated April 23, 1999. Before that, an SGPC sub-committee had declared it the fifth Takht of Sikhs back in November 1966 after Punjab was carved out as a separate state through the Punjab Reorganisation Act, 1966. It comes ahead of the Punjab Assembly elections, where the, Delhi's ruling party, has high stakes.

Veer Bal Divas

News: PM Modi has announced the government decision to mark December 26 as Veer Bal Divas in the memory of Guru Gobind Singh's sons. This is a fitting tribute to the courage of the Sahibzades and their quest for justice.

Details:

- Guru Gobind Singh ji had four sons – Sahibzada Ajit Singh, Sahibzada Jujhar Singh, Sahibzada Zorawar Singh and Sahibzada Fateh Singh. All four of his sons were initiated into the Khalsa and all were executed by Mughal forces before the age of 19.
- Sikhism honors the illustrious martyred sons of Guru Gobind Singh ji in the prayer of ardas for their valor and sacrifice as 'Char Sahibzade', that is the four princes of the Khalsa warrior order.
- The day marks when Sahibzada Zorawar Singh and Sahibzada Fateh Singh attained martyrdom when they were executed by the Mughals (1705).
- The brothers were captured with their grandmother Mata Gujari, the mother of Guru Gobind Singh.
- They were imprisoned with their grandmother and put to death by cruel Mughals on the orders of Aurangzeb, who attempted to suffocate them inside a brick enclosure.
- At the time of martyrdom, the ages of Zorawar Singh and Fateh Singh were 9 years and 6 years respectively. This sacrifice is seen as the bravest sacrifice for Dharma by any young boys in Indian history.

Guru Gobind Singh:

- He was the 10th Sikh guru. He was born at Patna, Bihar, India, on December 22, 1666. His birthday sometimes falls either in December or January or even both months in the Gregorian calendar. The annual celebration of the Guru's birthday is based on the N
- anakshahi calendar.

- He became the Sikh guru at the age of nine, following the demise of father, Guru Tegh Bahadur, the ninth Sikh Guru. He is known for his significant contributions to the Sikh religion, including the introduction of the turban to cover hair. He also founded the principles of Khalsa or the Five 'K's.
- He is also responsible for establishing the highest order in the Sikh community. He fought against the Mughals later in the battle of Muktsar in 1705. Guru Gobind Singh was killed by a Mughal assassin in 1708, a year after the death of Aurangzeb. He named Guru Granth Sahib, the religious text of the Khalsas and the Sikhs, as the next Guru of the two communities.

Guru Ravidas

News: The postponement of the Assembly elections in Punjab to February 20 underlines the importance of the Ravidassia community in the state.

Background:

- Several political parties had urged the Election Commission for a postponement as the earlier date of February 14 would have clashed with Guru Ravidas Jayanti, an annual occasion during which Ravidassias travel to Varanasi in large numbers. Many of them take a special train organised by the Dera Sachkhand Ballan in Jalandhar, the largest dera of the Ravidassias.
- The Ravidassias are a Dalit community of whom the bulk — nearly 12 lakh — live in the Doaba region. The Dera Sachkhand Ballan, their largest dera with 20 lakh followers worldwide, was founded in the early 20th century by Baba Sant Pipal Das.
- Once closely connected with Sikhism, the dera severed these decades-old ties in 2010, and announced they would follow the Ravidassia religion. The dera made the announcement on Guru Ravidas Jayanti in Varanasi.
- From 2010, the Dera Sachkhand Ballan started replacing the Guru Granth Sahib with its own Granth, Amritbani, carrying 200 hymns of Guru Ravidas, in Ravidassia temples and gurdwaras.

Guru Ravidas:

- Guru Ravidas was a North Indian mystic poet of the bhakti movement. While the exact year of his birth is not known, it is believed that the saint was born in 1377 C.E. Guru Ravidas Jayanti is celebrated on Magh Purnima, which is the full moon day in the Hindu calendar month of Magha.
- The Adi Granth of Sikhs, in addition to the Panchvani are the two of the oldest documented sources of the literary works of Guru Ravidas.
- Notably, he belonged to an untouchable caste and suffered a lot of atrocities as a result. However, the saint chose to focus on spiritual pursuits and also penned several devotional songs which made a huge impact in the Bhakti movement during the 14th to 16th century CE.
- He is believed to be a disciple of the bhakti saint-poet Ramananda and a contemporary of the bhakti saint-poet Kabir. One of his famous disciples was the saint, Mirabai.
- Among Ravidas's moral and intellectual achievements were the conception of "Begampura", a city that knows no sorrow; and a society where caste and class have ceased to matter. Guru Ravidas spoke against the caste divisions and spoke of removing them to promote unity. His teachings resonated with the people, leading to a religion being born called the Ravidassia religion, or Ravidassia Dharam based on his teachings.
- He taught about the omnipresence of God and said that a human soul is a particle of God and hence Ravidas rejected the idea that people considered lower caste cannot meet God. He said in his teachings that the only way to meet God was to free the mind from the duality.

Amar Jawan Jyot and National War Memorial

News: The iconic Amar Jawan Jyoti (AJJ) at India Gate was extinguished as a part of its merger with the flame at the National War Memorial (NWM). This has sparked a political controversy.

What is the Amar Jawan Jyoti?

- The eternal flame at the AJJ underneath India Gate in central Delhi was an iconic symbol of the nation's tributes to the soldiers who have died for the country in various wars and conflicts since Independence.

- Established in 1972, it was to mark India's victory over Pakistan in the 1971 War, which resulted in the creation of Bangladesh. The then PM Indira Gandhi had inaugurated it on Republic Day 1972, after India defeated Pakistan in December 1971. The key elements of the Amar Jawan Jyoti included a black marble plinth, a cenotaph, which acted as a tomb of the Unknown Soldier.
- The plinth had an inverted L1A1 self-loading rifle with a bayonet, on top of which was a soldier's war helmet. For 50 years the eternal flame had been burning underneath India Gate, without being extinguished.
- But on Friday, the flame was finally put off, as it was merged with another eternal flame at the National War Memorial. Since 1972, when it was inaugurated, it used to be kept alive with the help of cylinders of liquefied petroleum gas, or LPG. One cylinder could keep one burner alive for a day and a half.
- In 2006 that was changed. Though a project that cost around Rs 6 lakh the fuel for the flames was changed from LPG to piped natural gas, or PNG. It is through this piped gas that the flame marking the tribute to Indian soldiers had been kept alive eternally.
- The India Gate, All India War Memorial, as it was known earlier, was built by the British in 1931.
- It was erected as a memorial to around 90,000 Indian soldiers of the British Indian Army, who had died in several wars and campaigns till then. Names of more than 13,000 dead soldiers are mentioned on the memorial commemorating them. As it was a memorial for the Indian soldiers killed in wars, the Amar Jawan Jyoti was established underneath it by the government in 1972.

Reasons for its relocation

- The correct perspective is that the flame will not be extinguished, but just moved to be merged with the one at the National War Memorial. The flame which paid homage to the soldiers killed in the 1971 War, does not even mention their name, and the India Gate is a "symbol of our colonial past".
- The names of all Indian martyrs from all the wars, including 1971 and wars before and after it are housed at the National War Memorial. Hence it is a true tribute to have the flame paying tribute to martyrs there.
- Further, it can also be seen as part of the government's redevelopment of the entire Central Vista, of which India Gate, the AJJ and the National War Memorial are parts of.

National War Memorial:

- The National War Memorial, which is around 400 meters from India Gate was inaugurated in February 2019, in an area of around 40 acres.
- It was built to commemorate all the soldiers who have laid down their lives in the various battles, wars, operations and conflicts of Independent India.
- There are many independent memorials for such soldiers, but no memorial existed commemorating them all at the national level.
- Discussions to build such a memorial had been ongoing since 1961, but it did not come up.

The Four Chakras of the Armed Forces

The National War Memorial complex is dedicated to the sacrifices made by India's jawans post independence. It will host a retreat ceremony in the evening and also serve as a venue for ceremonies of the armed forces. Entry to the memorial is free of charge



VEERTA CHAKRA
Circle of Bravery: This section is a covered gallery that exhibits six bronze murals depicting the heroic actions of the armed forces



PARAM YODHA STHAL
A section dedicated to 21 Param Vir Chakra awardees is adjacent to the National War Memorial. Each of the brave soldiers has been honoured with a bronze bust in this park

40 acres
Total area of the war memorial



15m
Height of the obelisk in the Amar Chakra



AMAR CHAKRA
Circle of Immortality: This circle has the Obelisk, which houses the Eternal Flame. This flame symbolizes the immortality of the spirit of the fallen soldiers



TYAG CHAKRA
Circle of Sacrifice: The names of 25,942 martyrs have been engraved on this circular wall of honour. The wall symbolizes the formation of a Chakravayuh

₹176 crore
Cost of the project

600
Number of trees in the Rakshak Chakra

RAKSHAK CHAKRA
Circle of Protection: This circle is covered with rows of trees with each tree representing the soldiers who stand guard to protect the country

AMIT BANDRE

Its architecture

- The architecture of the memorial is based on four concentric circles. Largest is the Raksha Chakra or the Circle of Protection which is marked by a row of trees, each of which represent soldiers, who protect the country. The Tyag Chakra, the Circle of Sacrifice, has circular concentric walls of honour based on the Chakravayuh. The walls have independent granite tablets for each of the soldiers who have died for the country since Independence.
- As of today, there are 26,466 names of such soldiers on these granite tablets etched in golden letters.
- A tablet is added every time a soldier is killed in the line of duty.
- The final is the Amar Chakra, the Circle of Immortality, which has an obelisk, and the Eternal Flame.
- Busts of the 21 soldiers who have been conferred with the highest gallantry award of the country, Param Vir Chakra, are also installed at the memorial.

Netaji Subhash Chandra Bose

News: Recently, the government has decided to install a grand statue of Netaji Subhas Chandra Bose at India Gate to commemorate his 125th birth anniversary and as part of the year long celebrations. The Subhas Chandra Bose Aapda Prabandhan Puraskars, for the years 2019, 2020, 2021 and 2022 in the investiture ceremony will also be conferred.

Details:

- Subhas Chandra Bose was born on 23rd January 1897, in Cuttack, Orissa Division, Bengal Province, to Prabhavati Dutt Bose and Janakinath Bose. His Jayanti is celebrated as 'Parakram Diwas' on 23rd January.
- In 1919, he had cleared the Indian Civil Services (ICS) examination. Bose, however, resigned later.
- He was highly influenced by Vivekananda's teachings and considered him as his spiritual Guru. His political mentor was Chittaranjan Das.
- He worked as the editor for Das's newspaper-Forward, and later started his own newspaper, Swaraj.
- He stood for unqualified swaraj (independence), and opposed the Motilal Nehru Report which spoke for dominion status for India. He actively participated in the Salt Satyagraha of 1930 and vehemently opposed the suspension of Civil Disobedience Movement and signing of the Gandhi-Irwin Pact in 1931.
- In the 1930s, he was closely associated with left politics in Congress along with Jawaharlal Nehru and M.N. Roy. Bose won the congress presidential elections at Haripura in 1938.
- Again in 1939 at Tripuri, he won the presidential elections against Gandhi's candidate Pattabhi Sitarammayya. Due to ideological differences with Gandhi, Bose resigned and left congress. Rajendra Prasad was appointed in his place. He founded a new party, 'the Forward Bloc'. The purpose was to consolidate the political left and major support base in his home state Bengal.
- He reached Japanese-controlled Singapore from Germany in July 1943, issued from there his famous call, 'Delhi Chalo', and announced the formation of the Azad Hind Government and the Indian National Army on 21st October 1943.
- The INA was first formed under Mohan Singh and Japanese Major Iwaichi Fujiwara and comprised Indian prisoners of war of the British-Indian Army captured by Japan in the Malayan (present-day Malaysia) campaign and at Singapore. The INA included both the Indian prisoners of war from Singapore and Indian civilians in South-East Asia. It's strength grew to 50,000.
- The INA fought allied forces in 1944 inside the borders of India in Imphal and in Burma. In November 1945, a British move to put the INA men on trial immediately sparked massive demonstrations all over the country.

Padma Awards

News: The Padma awards are announced every year on the eve of Republic Day. As many as 128 people ranging from veteran politicians, businessmen, scientists and doctors to artists and ordinary people engaged in public service were announced to have been selected for conferment of Padma awards this year. While most accepted the awards gracefully, former West Bengal CM Buddhadeb Bhattacharjee refused to accept it.

What are Padma awards?

- They are the highest civilian honour of India after the Bharat Ratna. Instituted in 1954 along with Bharat Ratna. The awards are given in three categories: Padma Vibhushan (for exceptional and distinguished service), Padma Bhushan (distinguished service of higher order) and Padma Shri (distinguished service). The award seeks to recognise achievements in all fields of activities or disciplines where an element of public service is involved.
- The awardees do not get any cash reward but a certificate signed by the President apart from a medallion which they can wear at public and government functions. The awards are, however, not a conferment of title and the awardees are expected to not use them as prefix or suffix to their names.
- A Padma awardee can be given a higher award only after five years of the conferment of the earlier award.
- Not more than 120 awards can be given in a year but this does not include posthumous awards or awards given to NRIs and foreigners.

Eligibility:

- All persons without distinction of race, occupation, position or sex are eligible for these awards. However, government servants including those working with PSUs, except doctors and scientists, are not eligible for these awards.
- The award is given for “special services” and not just for “long service”. “It should not be merely excellence in a particular field, but the criteria has to be ‘excellence plus’. All nominations received for Padma awards are placed before the Padma Awards Committee, which is constituted by the Prime Minister every year.
- The Padma Awards Committee is headed by the Cabinet Secretary and includes Home Secretary, Secretary to the President and four to six eminent persons as members. The recommendations of the committee are submitted to the Prime Minister and the President of India for approval.
- There is no provision for seeking a written or formal consent of the recipient before announcement of the award. However, before the announcement, every recipient receives a call from the Ministry of Home Affairs informing him or her about the selection. In case the recipient expresses a desire to be excluded from the award list, the name is removed.

Tipu Sultan

News: Tipu Sultan is at the centre of controversy in Mumbai with the BJP claiming a Congress leader is planning to rename a playground in a Muslim dominated locality after the Mysore king.

Who was Tipu Sultan?

- He was a ruler of the Kingdom of Mysore and the eldest son of Sultan Hyder Ali of Mysore. In the wider national narrative, Tipu has so far been seen as a man of imagination and courage, a brilliant military strategist who, in a short reign of 17 years, mounted the most serious challenge the Company faced in India.
- Fought the first Anglo-Mysore War (1767-69) at the age of 17 and subsequently, against the Marathas and in the Second Anglo-Mysore War (1780-84). He fought Company forces four times during 1767-99 and was killed defending his capital Srirangapatnam in the Fourth Anglo Mysore War. Tipu reorganised his army along European lines, using new technology, including what is considered the first war rocket.
- Devised a land revenue system based on detailed surveys and classification, in which the tax was imposed directly on the peasant, and collected through salaried agents in cash, widening the state’s resource base.
- Modernised agriculture, gave tax breaks for developing wasteland, built irrigation infrastructure and repaired old dams, and promoted agricultural manufacturing and sericulture. Built a navy to support trade.
- Commissioned a “state commercial corporation” to set up factories.

Why are there so many controversies surrounding him?

- There are concerns raised against Tipu Sultan on nearly every historical figure, perspectives differ.
- Haider and Tipu had strong territorial ambitions, and invaded and annexed territories outside Mysore. In doing so, they burnt down entire towns and villages, razed hundreds of temples and churches, and forcibly converted Hindus. The historical record has Tipu boasting about having forced “infidels” to convert to Islam, and of having destroyed their places of worship.

- The disagreement then, is between those who see the “Tiger of Mysore” as a bulwark against colonialism and a great son of Karnataka, and those who point to his destruction of temples and forced conversions of Hindus and Christians to accuse him of tyranny and fanaticism.

Unsung Women Freedom Fighters

News: A pictorial book telling the stories of 20 unsung women freedom fighters was released by the Culture Ministry recently. The book was brought out in partnership with Amar Chitra Katha.

Following leaders are covered:

- **Rani Abbakka** who thwarted Portuguese attacks for several decades. Rani Abbakka Chowta was the first Tuluva Queen of Ullal who fought the Portuguese in the latter half of the 16th century. She belonged to the Chowta dynasty who ruled over parts of coastal Karnataka (Tulu Nadu), India. Their capital was Puttige.
- **Matangiri Hazra**, a freedom fighter from Bengal who laid down her life in the struggle. She participated in the Indian independence movement until she was shot dead by the British Indian police in front of the Tamluk Police Station (of erstwhile Midnapore District) on 29 September 1942. She was affectionately known as Gandhi buri, Bengali for old lady Gandhi. In 1930, she took part in the Civil Disobedience movement and was arrested for breaking the Salt Act.
- **Gulab Kaur**, who fought against the British rule after abandoning her own dreams of a life abroad. In Manila, Gulab Kaur joined Ghadar Party, an organization founded by Indian immigrants with the aim to liberate the Indian Subcontinent from British Rule.
- **Padmaja Naidu**, Sarojini Naidu’s daughter and a freedom fighter in her own right. She was also a politician who was the 5th Governor of West Bengal from 3 November 1956 to 1 June 1967. At the age of 21, she co-founded the Indian National Congress in the Nizam ruled princely state of Hyderabad. She was jailed for taking part in the “Quit India” movement in 1942. After Independence, she was elected to the Indian Parliament in 1950.
- **Velu Nachiyar**, the first Indian queen to wage war against the East India Company. She was a queen of Sivaganga estate from 1780–1790. She is known by Tamils as Veeramangai (“brave woman”). With the support of Haider Alis Army, feudal lords, marudhu brothers, Dalit commanders and thandavarayan pillai she fought the East India company.
- **Jhalkari Bai**, a soldier and adviser to the Rani of Jhansi. She was a woman soldier who played an important role in the Indian Rebellion of 1857. At the height of the Siege of Jhansi, she disguised herself as the queen and fought on her behalf, on the front, allowing the queen to escape safely out of the fort.

Marital Rape

News: The Delhi High Court has told the Centre that it will continue hearing the petitions challenging the legal exception to marital rape and not wait for the government's ongoing process of initiating reform in the criminal laws.

What is Marital Rape?

- Marital rape is the act of sexual intercourse with one's spouse without her consent. It is no different manifestation of domestic violence and sexual abuse. It is often a chronic form of violence for the victim which takes place within abusive relations. The reluctance to define non-consensual sex between married couples as a crime and to prosecute has been attributed to:
 - Traditional views of marriage
 - Interpretations of religious doctrines
 - Ideas about male and female sexuality
 - Cultural expectations of subordination of a wife to her husband
- It is widely held that a husband cannot be guilty of any sexual act committed by himself upon his lawful wife their on account of their mutual matrimonial consent.

Indian scenario:

- Historically considered as right of the spouses, this is now widely classified as rape by many societies around the world. In India, marital rape is not a criminal offense (as protected under IPC section 375). India is one of fifty countries that have not yet outlawed marital rape.
- Indian Penal Code criminalizes rape in most cases, although marital rape is not illegal when the woman is over the age of 18. However, until 2017, men married to those between 15 and 18 could not be convicted of rape. Marital rape of an adult wife, who is unofficially or officially separated, is a criminal offence punishable by 2 to 7 years in prison; it is not dealt by normal rape laws which stipulate the possibility of a death sentence.
- According to the Protection of Women from Domestic Violence Act (2005), other married women subject to such crime by their husband may demand for financial compensation. They also have the right to continue to live in their marital household if they wish, or may approach shelter or aid homes.
- However, marital rape is still not a criminal offence in this case and is only a misdemeanour.
- Marital rape is considered as the violation of FR guaranteed under Article 14 of the Indian constitution which guarantees the equal protection of laws to all persons.
- By depriving married women of an effective penal remedy against forced sexual intercourse, it violates their right to privacy and bodily integrity, aspects of the right to life and personal liberty under Article 21.

Arguments for criminalization

- Rape by a spouse, partner or ex-partner is more often associated with physical violence.
- There is research showing that marital rape can be more emotionally and physically damaging than rape by a stranger. Marital rape may occur as part of an abusive relationship.
- Furthermore, marital rape is rarely a one-time event, but a repeated if not frequent occurrence.
- In the case of marital rape the victim often has no choice but to continue living with their spouse.

Arguments against criminalization

- It is very subjective and intricate to determine whether consent was acquired or not.
- If marital rape is criminalized without adequate safeguards it could be misused like the current dowry law by the dissatisfied wives to harass and torture their Husbands.
- It will increase the burden of judiciary which otherwise may serve other more important causes.

Daughter's Rights of Inheritance

News: Recently, the Supreme Court (SC) has ruled that daughters will have equal rights to their father's property even prior to the enactment of the Hindu Succession Act (HSA) of 1956.

Background:

- The case involved a dispute over the property of a person who died in 1949 leaving behind a daughter who also died issueless in 1967.
- Earlier, the trial court held that since the person had died prior to the enforcement of HSA, 1956 therefore the petitioner and her other sisters were not the heirs as on the date of his death and was not entitled to partition of share in the suit properties. Later, the High Court, too, dismissed the appeal against the trial court.

Details:

- SC ruled that the property of a man who had died without executing a will and is survived only by a daughter will devolve upon the daughter and not others such as his brother.
- Earlier in 2020, the SC has already expanded the Hindu women's right to be the coparcener (joint legal heir) and inherit ancestral property on terms equal to male heirs. The SC referred to ancient texts (smritis), commentaries by various renowned learned persons and even judicial pronouncements which have recognised the rights of several female heirs, the wives and the daughter's being the foremost of them.
- Tracing the sources of customary Hindu law on inheritance, the SC discussed Mitakshara law.
- SC also looked into Vyavastha Chandrika, a digest of Hindu Law by Shyama Charan Sarkar Vidya Bhushan which quoted 'Vrihaspati' as saying 'the wife is pronounced successor to the wealth of her husband, in her default, the daughter. As a son, so does the daughter of a man proceed from his several limbs.
- The SC also noted that the book quoted Manu as saying "the son of a man is even as himself, and the daughter is equal to the son. How then can any other inherit his property, notwithstanding the survival of her, who is, as it were, himself".
- Right of a widow or daughter to inherit the self-acquired property or share received in partition of a coparcenary property of a Hindu male dying intestate is well recognised not only under the old customary Hindu Law. If a property of a male Hindu dying intestate is a self-acquired property or obtained in partition of a coparcenary or a family property, the same would devolve by inheritance and not by survivorship, and a daughter of such a male Hindu would be entitled to inherit such property in preference to other collaterals".
- The court also said that if a female Hindu dies intestate without leaving any issue, then the property inherited by her from her father or mother would go to the heirs of her father whereas the property inherited from her husband or father-in-law would go to the heirs of the husband.
- In case a female Hindu dies leaving behind her husband or any issue, then Section 15(1)(a) of the HSA 1956 will come into operation and the properties left behind including the properties which she inherited from her parents would devolve simultaneously upon her husband and her issues.

Women's Land Rights in India:

- Property in India is largely inclined to be passed on to male heirs. This in turn deprives women of agency, financial independence and entrepreneurship. According to the National Family Health Survey-5, 43% of women respondents reported owning house/land alone or jointly, but doubts remain about women's ability to actually access and control property.
- In fact, a 2020 University of Manchester working paper found barely 16% of women in rural landowning households own land. In deep patriarchal mores and rural-agrarian settings, property, which is seen as a primary source of wealth, is largely inclined to be passed on to male heirs.
- Inheritance laws for agricultural land remain a minefield with conflicting central personal laws and state laws. In this regard, states such as Punjab, Haryana, Uttar Pradesh (UP) and even Delhi have regressive inheritance provisions. In fact, Haryana twice tried to take away the progressive rights given to women through HSA1956, while in UP since 2016 married daughters aren't considered primary heirs.
- There is also a lot of ground-level resistance to registering land for women in several north Indian states. Thus, women's empowerment and property rights remain an unfinished project.

Conjugal Rights

News: A petition challenging the provision allowing restitution (recovery) of conjugal rights under Hindu personal laws (Hindu Marriage Act 1955) has been pending in the Supreme Court (SC) for months without a hearing. The petition, titled *Ojaswa Pathak vs Union of India*, was filed in the SC in February 2019. The case was last heard in July 2021.

Background:

- In the 1960s, the Punjab and Haryana High Court in the *Tirath Kaur* case, upheld restitution of conjugal rights, noting that “a wife’s first duty to her husband is to submit herself obediently to his authority and to remain under his roof and protection”.
- The courts, in a series of judgments in the 1980s, have supported the law, holding that the denial of marital and sexual life to the husband by the wife by refusing to permanently return to him is an act of both mental and physical cruelty.
- In 1984, the SC had upheld Section 9 of the Hindu Marriage Act in the case of *Saroj Rani v Sudarshan Kumar Chadha*, holding that the provision serves a social purpose as an aid to the prevention of break-up of marriage. In 1983, a single-judge bench of the Andhra Pradesh High Court had for the first time struck down the provision in the case of *T Sareetha v T Venkatasubbaiah* and declared it null and void.
- It cited the right to privacy among other reasons. The court also held that in “a matter so intimately concerned the wife or the husband the parties are better left alone without state interference”.
- The court had, most importantly, also recognised that compelling “sexual cohabitation” would be of “grave consequences for women”. However, in the same year, a single-judge Bench of the Delhi High Court took a diametrically opposite view of the law. In the case of *Harvinder Kaur v Harmander Singh Chaudhry*, the Delhi High Court upheld the provision.
- The Madhya Pradesh High Court in the *Vibha Shrivastava* case, noted this orthodox concept of wife (Dharmpatni, Ardhangini, Bharya or Anugamini) and expectations from her to subject herself to husband's wishes has undergone a revolutionary change with education and high literacy in women and with recognition of equal rights to women in the constitution and abolition of sex distinction in all walks of life. She is a partner in marriage with equal status and equal rights with the husband, and the marriage cannot be a tyranny.

Conjugal Rights:

- Conjugal rights are rights created by marriage, i.e. right of the husband or the wife to the society of the other spouse. The law recognises these rights— both in personal laws dealing with marriage, divorce etc, and in criminal law requiring payment of maintenance and alimony to a spouse.
- Section 9 of the Hindu Marriage Act 1955 and Section 22 of the Special Marriage Act 1954 empower a husband or a wife to move the local district court, complaining that the other partner has “withdrawn” from the marriage without a “reasonable cause”.
- The concept of restitution of conjugal rights is codified in Hindu personal law now, but has colonial origins.
- Originating from Jewish law, the provision for restitution of conjugal rights reached India and other common law countries through British Rule.
- The British law treated wives as their husband's personal possession hence they were not allowed to leave their husbands. Similar provisions exist in Muslim personal law as well as the Divorce Act, 1869, which governs Christian family law. Incidentally, in 1970, the U.K repealed the law on restitution of conjugal rights. Section 9 of the Hindu Marriage Act, 1955, which deals with restitution of conjugal rights, reads:
- When either the husband or the wife has, without reasonable excuse, withdrawn from the society of the other, the aggrieved party may apply, by petition to the district court.
- For restitution of conjugal rights and the court, on being satisfied of the truth of the statements made in such a petition and that there is no legal ground why the application should not be granted, may decree restitution of conjugal rights accordingly.

Challenges:

- The law is being challenged now on the main grounds that it violates the fundamental right to privacy.
- In 2017, a nine-judge Bench of the SC recognised the right to privacy as a fundamental right.

- The right to privacy is protected as an intrinsic part of the right to life and personal liberty under Article 21 and as a part of the freedoms guaranteed by Part III of the Constitution.
- The 2017 judgement has set the stage for potential challenges to several laws such as criminalisation of homosexuality, marital rape, restitution of conjugal rights, the two-finger test in rape investigations.
- The plea argues that a court-mandated restitution of conjugal rights amounted to a “coercive act” on the part of the state, which violates one’s sexual and decisional autonomy, and right to privacy and dignity.
- Although the law is gender-neutral since it allows both wife and husband to seek restitution of conjugal rights, the provision disproportionately affects women. Women are often called back to marital homes under the provision, and given that marital rape is not a crime, leaves them susceptible to such coerced cohabitation. It is also argued whether the state can have such a compelling interest in protecting the institution of marriage that it allows a legislation to enforce cohabitation of spouses.
- In the recent judgement of *Joseph Shine v Union of India 2019*, the SC has put great emphasis on the right to privacy and bodily autonomy of married women, stating that marriage does not take away their sexual freedom nor choice. If everybody is entitled to their bodily autonomy, choice, and right to privacy, how can a court mandate two adults to cohabit if one of them does not wish to do so.
- Another pertinent matter to take into consideration is the misuse of this provision as a shield against divorce proceedings and alimony payments. Often an aggrieved spouse files for divorce from their place of residence and their spouse retaliates by filing for a decree of restitution in their place of residence.

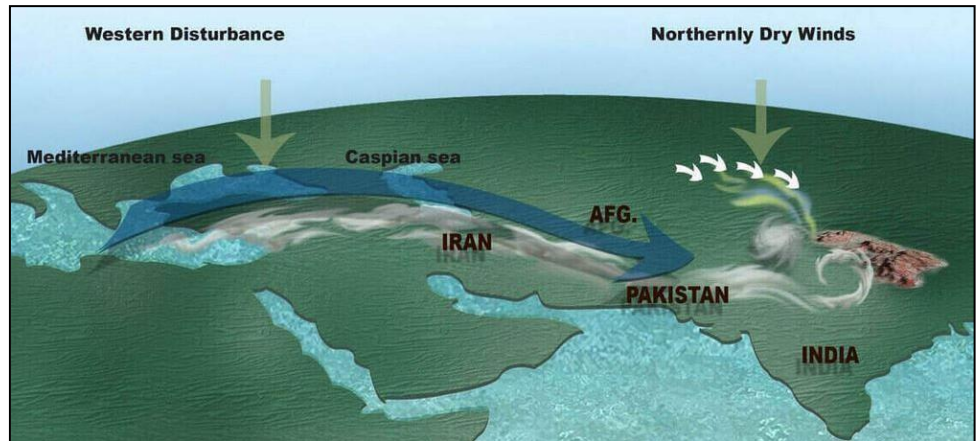
Geography

Western Disturbances

News: Under the influence of two consecutive western disturbances, New Delhi is in for a wet spell.

Western Disturbances

- A western disturbance is an extratropical storm originating in the Mediterranean region that brings sudden winter rain to the northwestern parts of the Indian subcontinent.
- It is a non-monsoonal precipitation pattern driven by the westerlies. The moisture in these storms usually originates over the



Mediterranean Sea, the Caspian Sea and the Black Sea. Extratropical storms are global phenomena with moisture usually carried in the upper atmosphere, unlike their tropical counterparts where the moisture is carried in the lower atmosphere. In the case of the Indian subcontinent, moisture is sometimes shed as rain when the storm system encounters the Himalayas.

- Western disturbances are more frequent and stronger in the winter season.
- Western disturbances, specifically the ones in winter, bring moderate to heavy rain in low-lying areas and heavy snow to mountainous areas of the Indian Subcontinent.
- They are the cause of most winter and pre-monsoon season rainfall across northwest India.
- An average of four to five western disturbances forms during the winter season.
- Precipitation during the winter season has great importance in agriculture, particularly for the rabi crops.
- Wheat among them is one of the most important crops, which helps to meet India's food security.

Rock Systems in India

News: The Ministry of Science & Technology has inaugurated India's first open rock museum displaying different types of rocks gathered from different States of ages ranging from 3.3 billion years to around 55 million years.

Rock System in India

- Based on this complex and varied geological history, the Geological Survey of India has classified rock systems of the country into 4 major divisions:
 - Archaean Rock System
 - Dravidian Rock System
 - Purana Rock System
 - Aryan Rock System

Archaean Rock System:

- The Archaean group of rocks consists of two systems-(a) Achaean granites and gneisses, and (b) Dharwarian sedimentary:
 - The Archean System (pre-2500 million years) contains the first formed rocks of the earth. The rocks are primarily gneisses and granites, having no marks of fossils. They often underlie the strata formed subsequently and the system is generally known as the basement complex or fundamental gneisses. The Archaean rocks cover two-thirds of peninsular India. They also occur in the roots of the mountain peaks all along the Greater Himalayas, trans-Himalayan ranges of Zaskar, Ladakh and Karakoram.
 - The weathering of the Archaean rocks yielded the earliest sediments and formed the oldest sedimentary strata, the Dharwar system (2500-1800 million years ago). These are found today in metamorphic forms and do not contain fossils. These rocks occur in scattered patches in parts of

Karnataka, Tamil Nadu, central and eastern parts of Chotanagpur plateau, Meghalaya plateau, Aravalis, Himalayan region etc

- They contain gneisses (which range from granite to gabbro) and schists (crystalline rocks such as mica, talc etc.). These rocks have metallic and non-metallic minerals like copper, tin, graphite, lead, zinc, etc.

Dravidian Rock System:

- This is also known as carboniferous rock system and formed during the Paleozoic era, i.e., from 600- 300 million years ago. They are not much abundant in India. They have plentiful fossils and beginning of coal formation can be seen in this period. The quality of carboniferous coal is high. They are found in extra-Peninsular regions of the Himalayas and the Gangetic plains. This type of rock system comprises of limestones, shale and quartzite and Mount Everest is formed of upper Carboniferous limestones. Most of the coal is not of the Carboniferous period, which is found in India. The meaning of Carboniferous in geology is coal-bearing.

Purana Rock System:

- The Purana rock system has two divisions: Cuddapah system and Vindhyan system. The word 'Purana' was used in place of a Proterozoic era in India.
 - Cuddapah Rock Systems are observed in Cuddapah districts of Andhra Pradesh. The non-fossiliferous clay, slates, sandstones and limestones were accumulated in the depression between two-fold mountains which is known as synclinal basins. They also have a large accumulation of building purpose cement grade limestones and quartzites. This type of rock contains ore of iron, cobalt, nickel, manganese etc.
 - Vindhya type of rock system is also ancient or old sedimentary rocks which are superimposed on the Archaean rock base and derived its name from Vindhya mountains. The recognition of fossils is negligible, only traces of few animal and plant life were found. This rock system has diamond-bearing regions from which Golconda and Panna diamond mined.

Aryan Rock System: The Aryan rock system in India has the following four subsystems:

- **Gondwana Rock System:** These are found mainly in Raniganj, Jharia regions of Jharkhand, Damodar valley, Pench valley in Chhattisgarh and Madhya Pradesh. They are called so after the name of Gondwana tribe (indigenous people especially residing in Telangana and Andhra Pradesh region). In this type of rock system, you found metallic minerals like iron, manganese, uranium etc. other than coal. They have low carbon content as it is much younger than Carboniferous coal. These rocks have nearly 98% of India's coal reserve.
- **Jurassic Rock System:** During the latter part of Jurassic when sea level rises as compared to land and shoreline moves towards ground or land which result in a flood. In geology, this phenomenon is called marine transgression. This gives rise to a thick series of shallow-water deposits in Rajasthan and Kutch. Between the Guntur and Rajamundry, another transgression in the east coast of Peninsula. In Kuchchh, coral limestone, shales and conglomerates are found.
- **Deccan traps:** These are formed by the flow of magma over the solidified rock system in layers. Deccan trap gets rise due to volcanic outburst over a major area of Peninsular India from the end of Cretaceous till the beginning of Eocene. The meaning of trap is "stair" or "step" in Swedish and called due to deposition of the volcanic outburst which has a flat top and steep sides. It is mainly found in parts of Kuchchh, Saurashtra, Maharashtra, the Malwa plateau and Northern Karnataka and presently cover near 5 lakh sq. Km. Regur, which is black soil, is formed due to the weathering of these rocks for a long time.
- **Tertiary rock system:** The formation of this type of rock system occurs from 60 to 7 million years ago. It is the most noteworthy period in India's geological history as the Himalayas were born and recent form came in this period.

Darvaza Gas Crater

News: Turkmenistan President has ordered experts to find a way to extinguish a fire in a huge natural gas crater, the Darvaza gas crater also known as the 'Gateway to Hell'.

Darvaza Gas Crater

- Located in the Karakum desert, 260 kilometres away from Turkmenistan's capital, Ashgabat, the crater has been burning for the last 50 years. The crater is 69 metres wide and 30 metres deep.
- While the details of the origin of the crater are contested but it has been said that the crater was created in 1971 during a Soviet drilling operation. In 1971, Soviet geologists were drilling for oil in the Karakum desert when they hit a pocket of natural gas by mistake, which caused the earth to collapse and ended up forming three huge sinkholes. This pocket of natural gas contained methane, hence to stop that methane from leaking into the atmosphere, the scientists lit it with fire, assuming the gas present in the pit would burn out within a few weeks.
- The scientists seemed to have misjudged the amount of gas present in the pit, because the crater has been on fire for five decades now. The crater has become a significant tourist attraction in Turkmenistan. In 2018, the country's president officially renamed it as the "Shining of Karakum".
- Calling it a human-made crater, it has negative effects on both environment and the health of the people living nearby. It also ends up losing valuable natural resources for which could fetch significant profits.
- Methane is the primary contributor to the formation of ground-level ozone, a hazardous air pollutant and greenhouse gas, exposure to which causes 1 million premature deaths every year.
- Methane is also a powerful greenhouse gas. Over a 20-year period, it is 80 times more potent at warming than carbon dioxide.

TAPI Gas Pipeline

- The Turkmenistan–Afghanistan–Pakistan–India (TAPI) Pipeline is a natural gas pipeline being developed with the participation of the Asian Development Bank.
- It will be a 1,814km trans-country natural gas pipeline running across four countries.
- It will transport natural gas from the Galkynysh Gas Field in Turkmenistan through Afghanistan into Pakistan and then to India.
- The plan for the TAPI project was originally conceived in the 1990s to generate revenue from Turkmenistan's gas reserves by exporting natural gas via Afghanistan to Pakistan and India.
- Construction on the project started in Turkmenistan on 13 December 2015, work on the Afghan section began in February 2018, and work on the Pakistani section was planned to commence in December 2018.
- Presently, the construction work has been stalled due to terror activities of Taliban in Afghanistan since few years.

Trans-Afghanistan pipeline

Route of the Turkmenistan-Afghanistan-Pakistan-India (TAPI) natural gas pipeline



Earth's Warming Trend

News: Recently, two American agencies have released data showing that 2021 was the world's sixth warmest year on record. And the last 10 years were the warmest since record-keeping began in 1880. The data was collected by the US. space agency NASA and the National Oceanic and Atmospheric Administration (NOAA).

Details:

- Earth in 2021 was about 1.1 degrees Celsius warmer than the late 19th century average, the start of the industrial revolution.
- The Northern Hemisphere land surface temperature was the third highest on record — 2016 (second) and 2020 (first) were warmer. The 2021 Southern Hemisphere surface temperature was the ninth highest on record.
- Record-high sea surface temperatures were observed across parts of the Atlantic and Pacific oceans. The upper ocean heat content was record high in 2021, surpassing the previous record set in 2020. The seven highest ocean heat content have all occurred in the last seven years (2015-2021).

- Antarctic sea ice extent during December 2021 was 3.55 million square miles. This value is 11.6% below average and was the third-smallest December extent on record. Only December of 2016 and 2018 had a smaller extent.
- Effects of La Niña kept world temperatures lower. La Niña is a weather pattern that happens in the Pacific Ocean but affects weather around the world. A La Niña event happens when ocean surface waters cool along the Pacific coast of the South American tropics. This takes place about every two to seven years.

Causes:

- This warming trend around the globe is due to human activities that have increased emissions of carbon dioxide and other greenhouse gases into the atmosphere.
- The planet is already seeing the effects of global warming like Arctic sea ice is declining, sea levels are rising, wildfires are becoming more severe and animal migration patterns are shifting.
- The Intergovernmental Panel on Climate Change (IPCC) released the first part of its Sixth Assessment Report (AR6) titled Climate Change 2021: The Physical Science Basis in August, 2021.

Indian scenario:

- Heatwaves and humid heat stress will be more intense and frequent during the 21st century over South Asia. Changes in monsoon precipitation are also expected, with both annual and summer monsoon precipitation projected to increase. The South West Monsoon has declined over the past few decades because of the increase of aerosols, but once this reduces, the country will experience heavy monsoon rainfall. The Indian Ocean, which includes the Arabian Sea and Bay of Bengal, has warmed faster than the global average. The sea surface temperature over the Indian ocean is likely to increase by 1 to 2 °C when there is 1.5°C to 2°C global warming.

Pacific Ring of Fire

News: The Hunga Tonga-Hunga Ha’apai volcano which massively erupted lies along the Pacific ‘Ring of fire’, and is just over 60 kilometers from the island nation of Tonga.

Recent Incident:

- In the case of Tonga, the Pacific Plate was pushed down below the Indo-Australian Plate and Tonga plate, causing the molten rock to rise above and form the chain of volcanoes. Subduction zones are also where most of the violent earthquakes on the planet occur. The December 26, 2004 earthquake occurred along the subduction zone where the Indian Plate was subducted beneath the Burma plate.

Details:

- The Pacific ‘Ring of Fire’ or Pacific rim, or the Circum-Pacific Belt, is an area along the Pacific Ocean that is characterized by active volcanoes and frequent earthquakes. Volcanic arcs and oceanic trenches partly encircling the Pacific Basin form the so-called Ring of Fire. It is home to about 75 per cent of the world’s volcanoes – more than 450 volcanoes. Also, about 90 per cent of the world’s earthquakes occur here.
- Its length is over 40,000 kilometres and traces from New Zealand clockwise in an almost circular arc covering Tonga, Kermadec Islands, Indonesia. It is moving up to the Philippines, Japan, and stretching eastward to the Aleutian Islands, then southward along the western coast of North America and South America.

Seismic activity of the region:

- The area is along several tectonic plates including the Pacific plate, Philippine Plate, Juan de Fuca plate, Cocos plate, Nazca plate, and North American plate. The movement of these plates or tectonic activity makes the area witness abundant earthquakes and tsunamis every year.
- Along much of the Ring, tectonic plates move towards each other creating subduction zones. One plate gets pushed down or is subducted by the other plate. This is a very slow process – a movement of just one or two inches per year. As this subduction happens, rocks melt, become magma and move to Earth’s surface and cause volcanic activity.



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

Electoral Bonds

News: The 19th phase of sale of Electoral Bonds will commence ahead of elections in some states.

What are 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 is 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.
- 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 lakh, 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 extant KYC norms and by making payment from a bank account
- The bonds will have a life of 15 days (15 days time has been prescribed for the bonds to ensure that they do not become a parallel currency)
- It aims to ensure that the funds being collected by the political parties is accounted money or clean money.
- The Electoral Bonds shall be encashed by an eligible Political Party only through a Bank account with the Authorized Bank.
- Only the Political Parties registered under Section 29A of the Representation of the People Act, 1951 (43 of 1951) and which secured not less than one per cent of the votes polled in the last General Election to the Lok Sabha or the State Legislative Assembly, shall be eligible to receive the Electoral Bonds.

Latest changes:

- Earlier, no foreign company could donate to any political party under the Companies Act
- A firm could donate a maximum of 7.5 per cent of its average three year net profit as political donations according to Section 182 of the Companies Act. As per the same section of the Act, companies had to disclose details of their political donations in their annual statement of accounts.
- The government moved an amendment in the Finance Bill to ensure that this proviso would not be applicable to companies in case of electoral bonds. Thus, Indian, foreign and even shell companies can now donate to political parties without having to inform anyone of the contribution.

Issues:

- While the identity of the donor is captured, it is not revealed to the party or public. So transparency is not enhanced for the voter. Also, income tax breaks may not be available for donations through electoral bonds. This pushes the donor to choose between remaining anonymous and saving on taxes.
- The privacy of the donor is compromised as the bank will know their identity. These bonds will help any party that is in power because the government can know who donated what money and to whom.

EWS Quota

News: A government committee report in the Supreme Court has said that "income" is a "feasible criterion" for defining the "Economically Weaker Sections" (EWS) in society, and the annual family income of ₹8 lakh is a "reasonable" threshold to determine EWS.

Issue:

- The income criterion for EWS was "more stringent" than the one for the OBC creamy layer. EWS's criteria relates to the financial year prior to the year of application. On the other side, income criterion for the creamy layer in OBC category is applicable to gross annual income for three consecutive years.

Background:

- The 10% reservation was introduced through the 103rd Constitution Amendment and enforced in January 2019.

- It added Clause (6) to Article 15 to empower the Government to introduce special provisions for the EWS among citizens except those in the classes that already enjoy reservation.
- It allows reservation in educational institutions, both public and private, whether aided or unaided, excluding those run by minority institutions, up to a maximum of 10%.
- It also added Clause (6) to Article 16 to facilitate reservation in employment.
- The new clauses make it clear that the EWS reservation will be in addition to the existing reservation.
- The Constitution initially allowed special provisions only for the socially and educationally backward classes. The Government introduced the concept of EWS for a new class of affirmative action program for those not covered by or eligible for the community-based quotas.

Conditions under EWS:

- The main criterion is that those above an annual income limit of ₹8 lakh are excluded. It accounts income from all sources such as salary, business, agriculture and profession for the financial year prior to the application of the family, applicants, their parents, siblings and minor children.
- Possession of any of these assets, too, can take a person outside the EWS pool:
 - Five or more acres of agricultural land
 - A residential flat of 1,000 sq.ft. and above
 - A residential plot of 100 square yards and above in notified municipalities, and
 - A residential plot of 200 square yards and above in other areas

Court's observations:

- The EWS quota remains a controversy as its critics say it reduces the size of the open category, besides breaching the 50% limit on the total reservation. The court has been intrigued by the income limit being fixed at ₹8 lakh per year. It is the same figure for excluding the 'creamy layer' from OBC reservation benefits. A crucial difference is that those in the general category, to whom the EWS quota is applicable, do not suffer from social or educational backwardness, unlike those classified as the OBC.
- There are other questions as to whether any exercise was undertaken to derive the exceptions such as why the flat criterion does not differentiate between metropolitan and non-metropolitan areas.
- The question the court has raised is that when the OBC category is socially and educationally backward and, therefore, has additional impediments to overcome.
- In line with the Supreme Court's known position that any reservation or norms for exclusion should be based on relevant data. There is a cap of 50% on the reservation as ruled in the Indira Sawhney Case. The principle of balancing equality ordains reservation.

Present scenario:

- The reservation for the EWS is being implemented by the Union Government for the second year now.
- Recruitment test results show that the category has a lower cut-off mark than the OBC, a point that has upset the traditional beneficiaries of reservation based on caste.
- The explanation is that only a small number of people are currently applying under the EWS category — one has to get an income certificate from the revenue authorities — and therefore the cut-off is low.
- However, when the number picks up over time, the cut-off marks are expected to rise.

Issues:

- The EWS quota will come in for judicial scrutiny soon. But it's not only a matter for the judiciary, India's Parliament should revisit the law too. This law was passed in haste. It was passed in both the houses within 48 hours, and got presidential approval the next day. It is widely argued that the law was passed to appease a certain section of upper-caste society and to suppress the demands for minority reservations.
- A constitutional amendment has been made with few hours of deliberation and without consultation of the targeted group. This is certainly against constitutional morality and propriety.
- This amendment is based on a wrong or unverified premise. This is at best a wild guess or a supposition because the government has not produced any data to back this point.
- The assertion is based on the fact that we have different data to prove the under-representation of SC, ST, OBCs. That implies that 'upper' castes are over-represented (with 100 minus reservation).
- There is one more problem in this regard. The SC and ST quota is based on their total population. But the rationale for the 10 per cent quota was never discussed. Economic backwardness is quite a fluid identity. It has nothing to do with historic wrongdoings and liabilities caused to the Backward Classes.

Language in Court

News: Recently, the Gujarat High Court has asked a journalist facing contempt of court proceedings to speak only in English as that was the language in the higher judiciary.

Background:

- The language used in Courts in India has seen a transition over centuries with the shift from Urdu to Persian and Farsi scripts during the Mughal period which continued in subordinate courts even during the British Rule. The British introduced a codified system of law in India with English as the official language.
- Post-independence, Article 343 of the Constitution of India provides that the official language of the Union shall be Hindi in the Devanagari script.
- However, it mandated that the English language will continue to be used for all official purposes of the Union for 15 years from the commencement of the Constitution of India.
- It further provides that the President may, during the said period, by order to authorise the use of the Hindi language for any official purpose of the Union, other than the English language.

About:

- Article 348(1)(a) states that unless Parliament by law provides otherwise, all proceedings before the Supreme Court and in every High Court shall be conducted in English.
- Article 348(2) provides further that notwithstanding the provisions of Article 348(1), the Governor of a state may, with the previous consent of the President, authorise the use of Hindi or any other language used for any official purpose, in proceedings in the High Court.
- States of Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh have already authorised the use of Hindi in proceedings before their respective high courts and taking a cue, Tamil Nadu is also working in that direction – to authorise the use of Tamil before its high court.
- A further provision states that nothing in this clause would apply to any judgement, decree, or order made by the High Court.
- Therefore, the Constitution recognizes English as the primary language of the Supreme Court and the High Courts, with the caveat that when some other language is used in the proceedings of High Courts, judgments of the High Courts must be delivered in English.

Significance of using English:

- Just like cases from all over the country come to the Supreme Court, judges and lawyers of the Supreme Court also come from all parts of India. Judges can hardly be expected to read documents and hear arguments in languages with which they are not familiar. Without the use of English, it would be impossible to discharge their duty. All judgments of the Supreme Court are also delivered in English.
- Though, in 2019, the Court introduced an initiative to translate its judgments into regional languages, it is rather a tall order given the sheer volumes of judgments which the Court delivers.
- At present the judicial system in India is well developed, integrated and uniform throughout the country.
- Lawyers as well as the judges have the benefit of easy access to the views of other high courts on similar legislations and other matters of law and constitution.
- Presently, the judges from one high court are transferred to other high courts seamlessly.
- This has given a unified structure to the Indian judicial system. The hallmark of any robust legal system is that the law should be certain, precise and predictable and we have nearly achieved that in India.
- To a very great extent, we owe it to the English language, which has served as a link language for India where we have about two dozen official state languages.

Official Languages Act 1963:

- It empowers the Governor of a state to, with previous consent of the President, authorise the use of Hindi/the official language of the state, in addition to English, for the purpose of any judgement, decree or order passed by the High Court of that state.
- It further provides that where any judgement/decreed/order is passed in any such language it shall be accompanied by a translation of the same in English. Read with the constitutional provisions, it is clear that primacy is given to English even by this Act. The Official Languages Act makes no mention of the Supreme Court, where English is the only language in which proceedings are conducted.

Expenditure Limit for Elections

News: Recently, the expenditure limit for candidates for Lok Sabha constituencies was increased from Rs 54 lakh-Rs 70 lakh (depending on states) to Rs 70 lakh-Rs 95 lakh, by the Election Commission of India (ECI). Further, the spending limit for Assembly constituencies was hiked from Rs 20 lakh-Rs 28 lakh to Rs 28 lakh- Rs 40 lakh (depending on states).

Details:

- In 2020, the ECI had formed a committee in 2020 to study the election spending limit.
- The enhanced amount of Rs 40 lakh would apply in Uttar Pradesh, Uttarakhand and Punjab and ₹28 lakh in Goa and Manipur. Apart from a 10% increase in 2020 due to the Covid-19 pandemic, the last major revision in spending limits for candidates was carried out in 2014. The committee found that there has been an increase in the number of electors and Cost Inflation Index since 2014 substantially.
- It is the amount an election candidate can legally spend for their election campaign and has to account for, which includes expenses on public meetings, rallies, advertisements, posters, banners, vehicles and advertisements.
- Under Section 77 of the Representation of the People Act (RPA), 1951, every candidate shall keep a separate and correct account of all expenditure incurred between the date on which they have been nominated and the date of declaration of the result.
- All candidates are required to submit their expenditure statement to the ECI within 30 days of the completion of the elections. An incorrect account or expenditure beyond the cap can lead to disqualification of the candidate by the ECI for up to three years, under Section 10A of RPA, 1951.
- The limit prescribed by the ECI is meant for legitimate expenditure because a lot of money in elections is spent for illegitimate purposes. It has often been argued that these limits are unrealistic as the actual expenditure incurred by the candidate is much higher. In December 2019, a private member's bill was introduced in the Parliament which intended to do away with the cap on election spending by candidates.
- The move was taken on the grounds that the ceiling on election expenses ends up being counterproductive by encouraging candidates to under-report their expenditure.
- There is no cap on a political party's expenditure, which is often exploited by candidates of the party.
- However, all registered political parties have to submit a statement of their election expenditure to the ECI within 90 days of the completion of the elections.

Uniform Civil Code

News: Recently, the Ministry of Law and Justice said in response to a PIL filed in 2019 that the implementation of the Uniform Civil Code (UCC), a directive principle under the Constitution (Article 44), is a matter of public policy and that no direction in this regard can be issued by the Court. The Centre has requested the Law Commission of India (21st) to undertake examination of various issues relating to UCC and to make recommendations thereof.

What is a Uniform Civil Code?

- A Uniform Civil Code is one that would provide for one law for the entire country, applicable to all religious communities in their personal matters such as marriage, divorce, inheritance, adoption etc.
- Article 44, one of the directive principles of the Constitution lays down that the state shall endeavour to secure a Uniform Civil Code for the citizens throughout the territory of India.
- These, as defined in Article 37, are not justiciable (not enforceable by any court) but the principles laid down therein are fundamental in governance. Indian laws do follow a uniform code in most civil matters such as Indian Contract Act 1872, Civil Procedure Code, Transfer of Property Act 1882, Partnership Act 1932, Evidence Act, 1872 etc. States, however, have made hundreds of amendments and, therefore, in certain matters, there is diversity even under these secular civil laws.
- Recently, several states refused to be governed by the uniform Motor Vehicles Act, 2019.

Background:

- The origin of the UCC dates back to colonial India when the British government submitted its report in 1835 stressing the need for uniformity in the codification of Indian law relating to crimes, evidence, and contracts, specifically recommending that personal laws of Hindus and Muslims be kept outside such

codification. Increase in legislation dealing with personal issues in the far end of British rule forced the government to form the B N Rau Committee to codify Hindu law in 1941.

- Based on these recommendations, a bill was then adopted in 1956 as the Hindu Succession Act to amend and codify the law relating to intestate or unwilled succession, among Hindus, Buddhists, Jains, and Sikhs.
- However, there were separate personal laws for muslim, christian and Parsis. In order to bring uniformity, the courts have often said in their judgements that the government should move towards a UCC.
- The judgement in the Shah Bano case (1985) is well known. Another case was the Sarla Mudgal Case (1995), which dealt with issue of bigamy and conflict between the personal laws existing on matters of marriage.
- By arguing that practices such as triple talaq and polygamy impact adversely the right of a woman to a life of dignity, the Centre has raised the question whether constitutional protection given to religious practices should extend even to those that are not in compliance with fundamental rights.

Implications and Challenges:

- The UCC aims to provide protection to vulnerable sections as envisaged by Ambedkar including women and religious minorities, while also promoting nationalistic fervour through unity.
- The code will simplify the complex laws around marriage ceremonies, inheritance, succession, adoptions making them one for all. The same civil law will then be applicable to all citizens irrespective of their faith.
- Secularism is the objective enshrined in the Preamble, a secular republic needs a common law for all citizens rather than differentiated rules based on religious practices.
- If a UCC is enacted, all personal laws will cease to exist. It will do away with gender biases in existing laws.
- There are four major exceptions in Central Family Laws:
 - The preliminary sections in all central family law Acts enacted by Parliament since Independence declare that they will apply to “the whole of India except the state of Jammu and Kashmir.”
 - A Second exception was added in 1968 in all these Acts, pronouncing that “nothing herein contained shall apply to the Renoncants in the Union Territory of Pondicherry.”
 - A third exception, none of these Acts applies in Goa, Daman and Diu.
 - A fourth exception, relating to the north-eastern states of Nagaland and Mizoram, emanates from Articles 371A and 371G of the Constitution, decreeing that no parliamentary legislation will replace the customary law and religion-based system for its administration.
- The demand for a uniform civil code has been framed in the context of communal politics. A large section of society sees it as majoritarianism under the garb of social reform.
- Article 25 of Indian constitution, that seeks to preserve the freedom to practise and propagate any religion gets into conflict with the concepts of equality enshrined under Article 14 of Indian Constitution.

Krishna Water Dispute

News: Recently, two judges of the Supreme Court have recused themselves from hearing a matter related to the distribution of Krishna water dispute between Andhra Pradesh, Telangana, Maharashtra and Karnataka. They cited the reason that they did not want to be the target of partiality since the dispute is related to their home states.

About:

- In 2021 Andhra Pradesh alleged that the Telangana government had deprived it of its legitimate share of water for drinking and irrigation purposes in an “unconstitutional and illegal” manner.
- The water of the Srisailem reservoir — which is the main storage for river water between the two states — has turned out to be a major warring point. Andhra Pradesh protested against Telangana’s use of the Srisailem reservoir water for power generation. The Srisailem reservoir is constructed across the Krishna River in Andhra Pradesh. It is located in the Nallamala hills.
- It further contended that Telangana was refusing to follow decisions taken in the apex council constituted under the Andhra Pradesh Reorganisation Act, 2014, directions of Krishna River Management Board (KRMB) constituted under this Act and directions of the Centre.

Background:

- In 1969, the Krishna Water Disputes Tribunal (KWDT) was set up under the Inter-State River Water Dispute Act, 1956, and presented its report in 1973.

- At the same time, it was stipulated that the KWDT order may be reviewed or revised by a competent authority or tribunal any time after 31st May, 2000.
- The second KWDT was instituted in 2004. It delivered its report in 2010, which made allocations of the Krishna water at 65 % dependability and for surplus flows as follows: 81 TMC for Maharashtra, 177 TMC for Karnataka, and 190 TMC for Andhra Pradesh.
- After the KWDT's 2010 report, Andhra Pradesh challenged it through a Special Leave Petition before the Supreme Court in 2011. In 2013, the KWDT issued a 'further report', which was again challenged by Andhra Pradesh in the Supreme Court in 2014.
- After the creation of Telangana, Andhra Pradesh has asked that Telangana be included as a separate party at the KWDT and that the allocation of Krishna waters be reworked among four states, instead of three.
- It is relying on Section 89 of The Andhra Pradesh State Reorganisation Act, 2014.
- For the purposes of this section, it is clarified that the project-specific awards already made by the Tribunal on or before the appointed day shall be binding on the successor States.

Constitutional Provisions:

- Article 262 of the Constitution provides for the adjudication of inter-state water disputes. Under this, 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. The Parliament has enacted the two laws, the River Boards Act (1956) and the Inter-State Water Disputes Act (1956).
- The River Boards Act provides for the establishment of river boards by the Central government for the regulation and development of inter-state river and river valleys. The Inter-State Water Disputes Act empowers the Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.
- Neither the Supreme Court nor any other court is to have jurisdiction in respect of any water dispute which may be referred to such a tribunal under this Act.

Recusal of Judges

- It is the act of abstaining from participation in an official action such as a legal proceeding due to a conflict of interest of the presiding court official or administrative officer. When there is a conflict of interest, a judge can withdraw from hearing a case to prevent creating a perception that he carried a bias while deciding the case. There are no formal rules governing recusals, although several SC judgments have dealt with the issue.
- In *Ranjit Thakur v Union of India* (1987), the SC held that the test of the likelihood of bias is the reasonableness of the apprehension in the mind of the party.
- The judge needs to look at the mind of the party before him, and decide that he is biased or not.

Registration of Political Parties

News: A petition has been filed in the Supreme Court seeking a direction to the Election Commission of India (ECI) to seize the election symbol or de-register a political party that promises or distributes "irrational freebies" from public funds before elections. It said there should be a total ban on such populist measures to gain undue political favours from the voters as they violate the Constitution and the ECI should take suitable deterrent measures.

Details:

- The plea urged the court to declare that the promise of irrational freebies from public funds before elections unduly influences the voters, disturbs the level playing field and vitiates the purity of the poll process. This unethical practice is just like giving bribes to the electorate at the cost of the exchequer to stay in power and must be avoided to preserve democratic principles and practices.

Registration of political parties:

- Registration of Political parties is governed by the provisions of Section 29A of the Representation of the People Act, 1951.
- A party seeking registration under the said Section with the Election Commission has to submit an application to the Commission within a period of 30 days following the date of its formation as per guidelines prescribed by the Election Commission of India in exercise of the powers conferred by Article 324 of the Commission of India and Section 29A of the Representation of the People Act, 1951.

National Political Party of India:

- It secures at least six percent of the valid votes polled in any four or more states, at a general election to the House of the People or, to the State Legislative Assembly.
- In addition, it wins at least four seats in the House of the People from any State or States.
- It wins at least two percent seats in the House of the People (i.e., 11 seats in the existing House having 543 members), and these members are elected from at least three different States.

State Political Party:

- It secures at least six percent of the valid votes polled in the State at a general election, either to the House of the People or to the Legislative Assembly of the State concerned.
- In addition, it wins at least two seats in the Legislative Assembly of the State concerned.
- It wins at least three percent (3%) of the total number of seats in the Legislative Assembly of the State, or at least three seats in the Assembly, whichever is more.

Benefits:

- If a party is recognised as a State Party, it is entitled for exclusive allotment of its reserved symbol to the candidates set up by it in the State in which it is so recognised, and if a party is recognised as a 'National Party' it is entitled for exclusive allotment of its reserved symbol to the candidates set up by it throughout India. Recognised 'State' and 'National' parties need only one proposer for filing the nomination and are also entitled for two sets of electoral rolls free of cost at the time of revision of rolls and their candidates get one copy of electoral roll free of cost during General Elections.
- They also get broadcast/telecast facilities over Akashvani/Doordarshan during general elections.
- The travel expenses of star campaigners are not to be accounted for in the election expense accounts of candidates of their party.

Election Freebies

News: Recently, a petition has been filed in the Supreme Court seeking a direction to the Election Commission of India (ECI) to seize the election symbol or deregister a political party that promises or distributes "irrational freebies" from public funds before elections.

Details:

- Political parties promise to offer free electricity/water supply, monthly allowance to unemployed, daily wage workers and women as well as gadgets like laptops, smartphones etc. in order to secure the vote of the people.
- The petition argued that the recent trend of political parties to influence voters by offering freebies with an eye on elections is not only the greatest threat to the survival of democratic values but also injures the spirit of the Constitution. Petitioner submits that arbitrary promises of irrational freebies violate the ECI's mandate for free and fair elections.
- Distributing private goods-services, which are not for public purposes, from public funds clearly violates Articles 14 (equality before law), 162 (executive power of a State), 266(3) (expenditure from Consolidated Fund of India) and 282 (Discretionary grants) of the Constitution.
- The petition also sought the Supreme Court to give a direction to the Union to enact a law in this regard.
- It sought a direction to the ECI to insert an additional condition in the relevant paragraphs of the Election Symbols (Reservation and Allotment) Order 1968.
- It deals with conditions for recognition as a state party, that a "political party shall not promise/distribute irrational freebies from the public fund before the election".

Arguments in Favor:

- **Essential for Fulfilling Expectations:** In a country like India where the states have (or don't have) a certain level of development, upon the emergence of the elections, there are expectations from the part of people which are met by such promises of freebies. Moreover, there are also comparative expectations when the people of the adjoining/other states (with different ruling parties) get freebies.

- Helps Lesser Developed States: With the states that have comparatively lower level of development with a larger share of the population suffering from poverty, such kind of freebies become need/demand-based and it becomes essential to offer the people such subsidies for their own upliftment.

Arguments Against:

- This places a huge economic burden on the exchequer of the state as well as centre.
- The promise of irrational freebies from public funds before elections unduly influences the voters, disturbs the level playing field and vitiates the purity of the poll process.
- It amounts to an unethical practice that is just like giving bribes to the electorate.
- Distribution of private goods or services, which are not for public purposes, from public funds before the election violates several articles of the Constitution, including Article 14 (equality before law).

SC Judgement:

- The Supreme Court in S Subramaniam Balaji vs Government of Tamil Nadu 2013 case held that unrealistic poll promises and freebies are a serious issue that disturbs the level-playing field in elections.
- The court also held that promises in the election manifesto cannot be construed as “corrupt practice” under the Representation of People Act or under any other prevailing law and hence, distribution of freebies can’t be stopped when the ruling party uses public funds for this purpose through passage of Appropriation Acts in state assembly.
- At the same time, the court noted that there is no enactment that directly governs the contents of the election manifesto, and directed ECI to frame guidelines for the same in consultation with all the recognised political parties.

Contingency Fund of India

News: The government has tweaked spending norms for Contingency Fund of India, allowing 40% of the total corpus to be placed at disposal of the Expenditure Secretary.

Details:

- Budget 2021-22 proposed to enhance the Contingency Fund of India from ₹500 crore to ₹30,000 crore through Finance Bill. An amount equivalent to 40 per cent of the Fund corpus shall be placed at the disposal of the Secretary, Ministry of Finance, Department of Expenditure.
- This would serve the purpose of meeting unforeseen expenditure.

What is Contingency Fund of India?

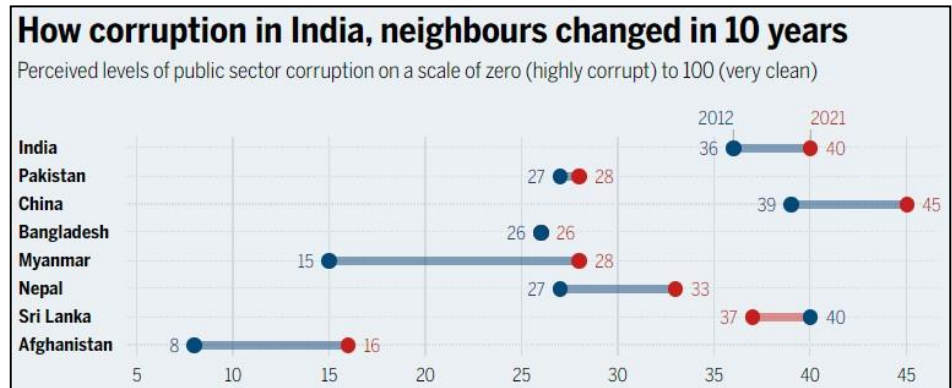
- Contingency is a negative event which may occur in future, like recession or pandemic. The Constitution has a provision for a contingency fund. Its corpus is always kept intact. Article 267 of the Constitution mandates formation of a corpus under Contingency Fund of India to deal with any emergency situation.
- It is placed at the disposal of the President of India. Government cannot withdraw funds from it without authorization of the Parliament. And the corpus has to be replenished with the same amount later.
- The fund is held by the Department of Economic Affairs on behalf of the President of India and it can be operated by executive action. The fund can be increased through a Finance Bill when Parliament is in the session. Or through Ordinance if the House is not in session and situation warrants.
- Withdrawal from the fund takes place with the approval of the Secretary of Department of Economic Affairs, in terms of the Contingency Fund of India Act, 1950.
- An amount equivalent to 40% of the corpus has now been placed at the disposal of the Expenditure Secretary.
- All further Contingency Fund releases beyond this limit will require the approval of the Expenditure Secretary in addition to the Economic Affairs Secretary’s approval.

Corruption Perception Index

News: Recently, the Corruption Perception Index (CPI) 2021 was released by Transparency International. Overall, the CPI shows that control of corruption has stagnated or worsened in 86% of countries over the last decade.

About:

- The Index ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and businesspeople. It relies on 13 independent data sources and uses a scale of zero to 100, where zero is highly corrupt and 100 is very clean.
- More than two-thirds of countries (68%) score below 50 and the average global score remains static at 43. Since 2012, 25 countries significantly improved their scores, but in the same period 23 countries significantly declined.
- This year, the top countries are Denmark, Finland and New Zealand, each with a score of 88. Norway (85), Singapore (85), Sweden (85), Switzerland (84), the Netherlands (82), Luxembourg (81) and Germany (80) complete the top 10.
- South Sudan (11), Syria (13) and Somalia (13) remain at the bottom of the index.
- Countries experiencing armed conflict or authoritarianism tend to earn the lowest scores, including Venezuela (14), Afghanistan (16), North Korea (16), Yemen (16), Equatorial Guinea (17), Libya (17) and Turkmenistan (19).



India's Performance:

- India ranked 85 among 180 countries in the current index (86 in 2020 and 80 in 2019). Transparency International gave India a CPI score of 40. Except Bhutan, all of India's neighbours are ranked below it. Pakistan dropped 16 spots in the index and was ranked at 140. The country's score has remained stagnant over the past decade, some of the mechanisms that could help reign in corruption are weakening.
- There are concerns over the country's democratic status, as fundamental freedoms and institutional checks and balances decay.
- Anyone that speaks up against the government has been targeted with security, defamation, sedition, hate speech and contempt-of-court charges, and with regulations on foreign funding.

Fall of Democracy:

- From the repression of opposition supporters in Belarus, to the closing of media outlets and civil society organisations in Nicaragua, the deadly violence against protesters in Sudan and the killing of human rights defenders in the Philippines, human rights and democracy are under threat around the world.
- Increasingly, rights and checks and balances are being undermined not only in countries with systemic corruption and weak institutions, but also among established democracies.
- Since 2012, 90% of countries have stagnated or declined in their civil liberties score on the Democracy Index. The global Covid-19 pandemic has also been used in many countries as an excuse to curtail basic freedoms and side-step important checks and balances.
- And despite the increasing international momentum to end the abuse of anonymous shell companies, many high-scoring countries with relatively "clean" public sectors continue to enable transnational corruption.
- The current wave of authoritarianism is not driven by coups and violence, but by gradual efforts to undermine democracy. This usually begins with attacks on civil and political rights, efforts to undermine the autonomy of oversight and election bodies, and control of the media.
- Such attacks allow corrupt regimes to evade accountability and criticism, allowing corruption to flourish.

Disruptions in Parliament

News: The Supreme Court in its recent judgment has observed some issues with the parliamentary proceedings.

SC's Observations:

- A nation aspiring to be a "world leader" should debate on the welfare of its citizens rather than make Parliament a stage to exchange jeers and launch personal attacks on one another. With the completion of

75 years of Independence and ambitions of becoming a world leader, elected members should at least know that they are expected to show statesmanship and not brinkmanship in the House.

- Legislature is the first place where justice is dispensed to the common man through a democratic process.

Background:

- The order dealt with the year-long suspension of 12 BJP MLAs from the Maharashtra Legislative Assembly for disorderly conduct.
- Disruption is replacing discussion as the foundation of our legislative functioning. A PRS (PRS Legislative Research) report says during the 15th Lok Sabha (2009-14), frequent disruptions of Parliamentary proceedings have resulted in the Lok Sabha working for 61% and Rajya Sabha for 66% of its scheduled time. Another PRS report said, the 16th Lok Sabha (2014-19) lost 16% of its scheduled time to disruptions, better than the 15th Lok Sabha (37%), but worse than the 14th Lok Sabha (13%).
- The Rajya Sabha lost 36% of its scheduled time. In the 15th and 14th Lok Sabhas, it had lost 32% and 14% of its scheduled time respectively.

Reasons for Disruption:

- Discussion on Matters of Controversy and Public Importance.
- Disruptions May Help Ruling Party Evade Responsibility.
- Lack of Dedicated Time for Unlisted Discussion.
- Scarce Resort to Disciplinary Powers.
- Party Politics.

Solutions:

- To curb disorder in Parliament there is a need for strict enforcement of code of conduct for MPs and MLAs.
- The Chairperson should suspend MPs not following such codes and obstructing the Houses' business.
- The government of the day needs to be more democratic and allow the opposition to put their ideas in free manner.
- A "Productivity Meter" could be created which would take into consideration the number of hours that were wasted on disruptions and adjournments and monitor the productivity of the day-to-day working of both Houses of Parliament.

Reservation in Promotions

News: Recently, the Supreme Court (SC) refused to lay down the "yardstick" for determining the inadequacy of representation for granting reservation in promotions for Scheduled Caste (SC)/Scheduled Tribe (ST) candidates in government jobs. The court's judgement came in a batch of petitions from across the country seeking further clarity on the modalities for granting reservation in promotion.

Background:

- The Central and the State Government since the 1950s have been following a policy of reserving seats in promotions in favours of SC and ST communities on the ground that they are not adequately represented at the decision making level of public services.

Indra Sawhney Case 1992:

- This policy was held to be unconstitutional and void by the SC in Indra Sawhney v. Union Of India 1992 case on the ground that under Article 16(4) the State is provided with the power to make reservations in favour of backward classes of citizens only at the entry level that is at the time of recruitment into public services but not subsequently. The Parliament responded by enacting the 77th Constitutional Amendment Act which introduced Article 16(4A).

M Nagaraj Case 2006:

- In this case applying the creamy layer concept in SC/ST reservation in promotions, the SC reversed its earlier stance in the Indra Sawhney case (1992), in which it had excluded the creamy layer concept on SCs/STs (that was applicable on OBCs). The SC had upheld the Constitutional amendments by which Articles 16 (4A) and 16 (4B) were inserted, saying they flow from Article 16 (4) and do not alter its structure.

- It also laid down three conditions for promotion of SCs and STs in public employment. The SC and ST community should be socially and educationally backward. The SC and ST communities are not adequately represented in Public employment. Such a reservation policy shall not affect the overall efficiency in the administration.
- The court held that the government cannot introduce a quota in promotion for its SC/ST employees unless it proves that the particular community was backward, inadequately represented and providing reservation in promotion would not affect the overall efficiency of public administration.
- The opinion of the government should be based on quantifiable data.

Jarnail Singh Case 2018:

- Later in 2018, in the Jarnail Singh case, SC modified the Nagaraj judgement to the extent that State need not produce quantifiable data to prove the “backwardness” of a Scheduled Caste/Scheduled Tribe community in order to provide quota in promotion in public employment.
- The court had given a huge fillip to the government’s efforts to provide “accelerated promotion with consequential seniority” for Scheduled Castes/ Scheduled Tribes (SC/ST) members in government services.

Constitutional Provisions for Reservation in Promotion:

- Article 16 (4): Provides that the State can make any provision for the reservation of appointments or posts in favour of any backward class of citizens who, in the opinion of the state, are not adequately represented in the services under the State.
- Article 16 (4A): Provides that the State can make any provision for reservation in matters of promotion in favour of the Scheduled Castes and the Scheduled Tribes if they are not adequately represented in the services under the State.
- Article 16(4B): Added by the 81st Constitutional Amendment Act, 2000 which enabled the unfilled SC/ST quota of a particular year to be carried forward to the next year.
- Article 335: It recognises that special measures need to be adopted for considering the claims of SCs and STs to services and posts, in order to bring them at par.
- 82nd Constitutional Amendment Act, 2000 inserted a condition at the end of Article 335 that enables the state to make any provision in favour of the members of the SC/STs for relaxation in qualifying marks in any examination.

SC’s latest Ruling:

- It held ‘cadre’ and not class, group or the entire service as the unit for the purpose of collection of quantifiable data for giving promotion quotas. It said otherwise the entire exercise of reservation in promotions would be rendered meaningless if data pertaining to the representation of SCs and STs was done with reference to the entire service.
- The question of adequate representation of an SC/ST community ought to be left to the respective States to determine and it cannot lay down any yardstick for determining the inadequacy of representation.
- With the recognition of ‘cadre’ as the unit for collection of quantifiable data, the court set aside its earlier judgement in the B.K. Pavithra case.
- SC held that the conclusion of this court approving the collection of data on the basis of groups and not cadres is contrary to the law laid down by the SC in Nagaraj and Jarnail Singh judgments.
- The court held that the Nagaraj judgement would have “prospective effect.”
- The SC ordered that a review had to be conducted regarding the data for the purpose of determining the inadequacy of representation in promotions. However, the court left it to the Union government to fix a “reasonable” time for the States to conduct the review.

Suspension of MLAs

News: Recently, the Supreme Court has set aside the one-year suspension of 12 BJP MLAs from the Maharashtra Legislative Assembly. The Supreme Court held that suspension for a year was ‘unconstitutional, substantively illegal and irrational’.

Details:

- The MLAs were suspended for misbehaviour in the Assembly pertaining to disclosure of data regarding OBCs. The challenge to suspension relies mainly on grounds of denial of the principles of natural justice, and of violation of laid-down procedure.
- The 12 MLAs have said they were not given an opportunity to present their case, and that the suspension violated their fundamental right to equality before the law under Article 14 of the Constitution.
- Rule 53 of Maharashtra Assembly: It states that the “Speaker may direct any member who refuses to obey his decision, or whose conduct is, in his opinion, grossly disorderly, to withdraw immediately from the Assembly”. The member must “absent himself during the remainder of the day’s meeting”.
- Should any member be ordered to withdraw for a second time in the same session, the Speaker may direct the member to absent himself “for any period not longer than the remainder of the Session”.

Arguments by Maharashtra Assembly:

- The House had acted within its legislative competence, under Article 212, and courts do not have jurisdiction to inquire into the proceedings of the legislature. Article 212 (1) states that “The validity of any proceedings in the Legislature of a State shall not be called in question on the ground of any alleged irregularity of procedure”.
- The state had also said that a seat does not automatically become vacant if the member does not attend the House for 60 days but it becomes vacant only if declared so by the House.
- It was submitted that the House is not obligated to declare such a seat vacant.
- The state has also referred to Article 194 on the powers and privileges of the House, and argued that any member who transgresses these privileges can be suspended through the inherent powers of the House.
- It has denied that the power to suspend a member can be exercised only through Rule 53 of the Assembly.

Arguments by the Supreme Court:

- Suspension of a member must be preferred as a short term or a temporary, disciplinary measure for restoring order in the Assembly. Anything in excess of that would be irrational suspension.
- It said that a thin majority coalition government could use such suspensions to manipulate the number of Opposition party members. Such Opposition will not be able to effectively participate in discussions/debates in the House fearing suspension of its members for a longer period.
- The basic structure of the Constitution would be hit if the constituencies of the suspended MLAs remained unrepresented in the Assembly for a full year.
- The bench referred to Article 190 (4) of the Constitution, which says, “If for a period of sixty days a member of a House of the Legislature of a State is without permission of the House absent from all meetings thereof, the House may declare his seat vacant.”
- Under Section 151 (A) of The Representation of the People Act, 1951, “a bye-election for filling any vacancy shall be held within a period of six months from the date of the occurrence of the vacancy”. This means that barring exceptions specified under this section, no constituency can remain without a representative for more than six months.
- The Supreme Court said that the one-year suspension was prima facie unconstitutional as it went beyond the six-month limit, and amounted to “not punishing the member but punishing the constituency as a whole”.
- The Supreme Court is expected to rule on the question of whether the judiciary can intervene in the proceedings of the House. Constitutional experts, however, say that the court has clarified in previous rulings that the judiciary can intervene in case of an unconstitutional act done by the House.

Social Justice

Prohibition Laws

News: Recently, the Bihar Government has decided to use Drones to monitor illegal liquor manufacturing. This has initiated the debate of the utility of using physical and financial resources to implement the provisions of the prohibition act.

Background:

- Prohibition is the act or practice of forbidding something by law, more particularly the term refers to the banning of the manufacture, storage (whether in barrels or in bottles), transportation, sale, possession, and consumption of alcoholic beverages. Article 47 of the Directive Principle in the Constitution of India states that “The state shall undertake rules to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health”.
- Alcohol is a subject in the State list under the seventh schedule of the Indian Constitution.

Other Prohibition Acts in India:

- The first hint at the prohibition of liquor was through the Bombay Abkari Act, 1878 (in the Province of Bombay). This Act dealt with levying of duties on intoxicants, among other things and aspects of prohibition via amendments made in 1939 and 1947.
- There were “many lacuna” in the Bombay Abkari Act, 1878, from the point of view of the government’s decision to enforce prohibition. This led to the birth of Bombay Prohibition Act, 1949. The Supreme Court (SC) upheld the Act broadly barring a few sections in 1951 in the judgment of State of Bombay and another versus FN Balsara.
- Gujarat adopted the prohibition policy in 1960 and subsequently chose to enforce it with greater rigidity, but also made processes easier for foreign tourists and visitors to get liquor permits. In 2011, the Act was renamed as Gujarat Prohibition Act. In 2017, the Gujarat Prohibition (Amendment) Act was passed with provision of up to ten years jail for manufacturing, purchase, sale and transportation of liquor in the dry state.
- The Bihar Prohibition and Excise Act was brought into effect in 2016. Over 3.5 lakh people have been arrested under the stringent prohibition law since 2016 leading to crowded jails and clogged courts.
- Alcohol prohibition in India is in force in the states of Mizoram, Nagaland as well as in the union territory of Lakshadweep

Arguments against Prohibition:

- Any invasion by the state in an individual’s right to choice of food and beverage amounts to an unreasonable restriction and destroys the individual’s decisional and bodily autonomy. Right to privacy has been held as a fundamental right by the Supreme Court in several judgments since 2017.
- Various research and studies have shown that alcohol tends to aggravate the sense of violence. Most of the domestic violence crimes against women and children are committed behind closed doors.
- Tax revenues from alcohol is a major part of any government’s revenues. These enable the government to finance several public welfare schemes. Absence of these revenues may severely impacts state’s ability to run public welfare programmes.
- Today, the Indian Made Foreign Liquors (IMFL) industry contributes over 1 lakh crore in taxes every year. It supports the livelihood of lakhs of farming families and provides direct and indirect employment to lakhs of workers employed in the industry.

Arguments in favour:

- Alcohol denudes family resources and reserves and leaves women and children as its most vulnerable victims. A social stigma at least as far as the family unit is concerned is still attached to the consumption of alcohol.
- Strict state regulation is imperative to discourage regular and excessive consumption of alcohol.
- As the prohibition is mentioned in the State List under Schedule Seven, it is the duty of the state to make provisions related to prohibition.

Universal Accessibility

News: Recently, the Central Public Works Department (CPWD) released the new Harmonised Guidelines and Standards for Universal Accessibility in India 2021.

Details:

- The new rules envisage changes from the design plan to the implementation. Apart from this, various aspects of the built environment have been covered under the new guidelines for universal accessibility.
- Earlier, in 2021 the Ministry of Information and Broadcasting had issued draft guidelines for new accessibility standards. The guidelines are a revision of the Harmonised Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons released in 2016.
- Earlier, the guidelines were for creating a barrier-free environment, but now we are focusing on universal accessibility. Universal Accessibility refers to the degree to which the environment, products, and services are accessible to people with disabilities. The term barrier-free design used to describe the effort of removing physical barriers from the "built environment" for people with disabilities.
- The guidelines are not just for Persons with Disabilities (PwD), but for those involved in planning projects, from the construction of government buildings to master-planning cities.
- Nodal Ministry: Ministry of Housing and Urban Affairs (MoHUA).

Constitutional and Legal Framework for Disabled People:

- Article 14: The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India. In this context, Persons with Disabilities should have similar and equal rights in the eyes of the Constitution.
- UN Convention the Right of Persons with Disabilities: India is a signatory to the United Nations Convention the Right of Persons with Disabilities, which came into force in 2007. The Convention recognizes accessibility as a human right and requires signatories to adopt appropriate measures to ensure access by persons with disabilities.
- Accessible India Campaign: The 'Accessible India Campaign' also known as the Sugamya Bharat Abhiyan to enable Persons with disabilities to gain universal access, equal opportunity for development.
- The campaign seeks to enhance accessibility by making significant changes to the infrastructure, information and communication systems.
- Rights of Persons with Disabilities Act, 2016: The Government of India enacted The Rights of Persons with Disabilities Act, 2016, which is the principal and comprehensive legislation concerning persons with disabilities. The Act defines the responsibilities of the Central and State governments with regard to the services for persons with disabilities. The Act also recommends creating a barrier-free environment by removing all types of discrimination against persons with disabilities where they can share the development benefits which a normal person enjoys.

International Relations

India-Australia FTA

News: India and Australia are expected to complete negotiations for an interim free trade agreement (FTA) soon, a move aimed at boosting economic ties between the two countries.

Details:

- The final agreement is officially dubbed as the CECA is expected to be completed by the end of 2022.
- The pact covers areas such as goods, services, investment, rules of origin, customs facilitation, legal and institutional issues. This new strategic economic agreement is expected to increase bilateral trade in goods to \$100 billion within five years.

What is a Free Trade Agreement (FTA)?

- An FTA is a pact between two or more nations to reduce barriers to imports and exports among them.
- Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.
- The concept of free trade is the opposite of trade protectionism or economic isolationism.

Benefits:

- For example, a country that normally charges a tariff of 12% of the value of the incoming product will rationalize or eliminate that tariff. Protection and enforcement of intellectual property rights in the FTA partner country is upheld. FTA enhances the ability for domestic exporters to participate in the development of product standards in the FTA partner country. FTA provides treatment as favorably as the FTA partner country gives equal treatment for investments from the partner country.
- With FTAs, global monopolies are eliminated due to increased competition.

India and FTAs:

- India has signed its first Free Trade Agreement (FTA) with Sri Lanka in 1998. Likewise, India had FTAs with: Nepal, Bhutan, Thailand, Singapore, ASEAN, Japan and Malaysia. India has signed Preferential Trade Agreements such as Asia Pacific Trade Agreement (APTA) with Bangladesh, China, India, Lao PDR, Republic of Korea, and Sri Lanka; Global System of Trade Preferences (GSTP) and India – MERCOSUR PTA etc. with South American countries

Other Types of Trade Agreements

Preferential Trade Agreement: In this type of agreement, two or more partners give preferential right of entry to certain products. This is done by reducing duties on an agreed number of tariff lines. Here a positive list is maintained i.e. the list of the products on which the two partners have agreed to provide preferential access. Tariff may even be reduced to zero for some products even in a PTA. India signed a PTA with Afghanistan.

Comprehensive Economic Partnership Agreement: Partnership agreement or cooperation agreement are more comprehensive than an FTA. CECA/CEPA also looks into the regulatory aspect of trade and encompasses an agreement covering the regulatory issues. CECA has the widest coverage. CEPA covers negotiation on the trade in services and investment, and other areas of economic partnership. It may even consider negotiation on areas such as trade facilitation and customs cooperation, competition, and IPR. India has signed CEPAs with South Korea and Japan.

Comprehensive Economic Cooperation Agreement: CECA generally cover negotiation on trade tariff and Tariff rate quotas (TRQs) rates only. It is not as comprehensive as CEPA. India has signed CECA with Malaysia.

Framework Agreement: Framework agreement primarily defines the scope and provisions of orientation of the potential agreement between the trading partners. It provides for some new area of discussions and set the period for future liberalisation. India has previously signed framework agreements with the ASEAN, Japan etc.

Early Harvest Scheme: An Early Harvest Scheme (EHS) is a precursor to an FTA/CECA/CEPA between two trading partners. For example, early harvest scheme of RCEP has been rolled out. At this stage, the negotiating countries identify certain products for tariff liberalization pending the conclusion of actual FTA negotiations. An Early Harvest Scheme is thus a step towards enhanced engagement and confidence building.

China's new land borders law

News: China's new law on land borders has come into effect from the new year. While some feel India should worry about its border areas, others note that China's actions have been aggressive even without it.

Details:

- It is called the law for the "protection and exploitation of the country's land border areas". Under the law, "the sovereignty and territorial integrity of China are sacred and inviolable". The state needs to "take measures to safeguard territorial integrity and land boundaries and guard against and combat any act that undermines these". The law encourages the development of villages for civilians in the border areas.
- The law also asks the state to follow the principles of "equality, mutual trust, and friendly consultation, handle land border related-affairs with neighbouring countries through negotiations to properly resolve disputes and longstanding border issues. The law lays down four conditions under which the state can impose emergency measures, including border shutdown.
- This law reflects Beijing's renewed concerns over the security of its land border. It also underscores the imperative for Beijing to exert greater control over its somewhat porous land border.
- The law "reflects Beijing's thinly-veiled worries about the stability of its hinterland bordering Central Asia" as the withdrawal of the US forces and Taliban takeover "aggravated Beijing's concerns that Afghanistan may become a hotbed for terrorism and extremism that could spread to Xinjiang".
- Domestic politics too may have been a contributing factor, bolstering President Xi Jinping's standing in the lead-up to the 20th Party Congress later this year when he would secure a third term.

Concerns:

- Although the law is not meant specifically for India, it is bound to have some impact.
- China and India share a disputed 3,488-km boundary, the third longest among China's 22,457-km land boundaries with 14 countries, after the borders with Mongolia and Russia.
- There is a growing suspicion that China may have been stalling further negotiations on the standoff in eastern Ladakh for this new law to come into force. The Corps Commanders last met in October.
- The new law also prohibits construction of permanent infrastructure close to the border without China's permission. Both, India and China have been building new roads, bridges and other facilities faster since the standoff began; in fact, China had objected to India's workers even before.
- Much depends on China's actions, regardless of the new law. Some experts feel the new law will make China dig its heels in, on the ongoing standoff as well as for resolution of the larger boundary issue.
- Others feel the new law is only a tool China government will use if it wants, as its actions have been aggressive even before this law. Overall, the new law is the "latest attempt by China to unilaterally delineate and demarcate territorial boundaries with India and Bhutan".
- The border standoff in eastern Ladakh remains unresolved. China has renamed several places in Arunachal Pradesh as part of its claim on the Indian state. The Chinese Embassy in Delhi has written to Indian MPs, including a minister, who had attended a dinner reception hosted by the Tibetan Parliament-in-exile.

India-Pakistan: Prohibition of Attacks on Nuclear Installations

News: Recently, India and Pakistan have exchanged a list of their nuclear installations. The exchange was in accordance with the Article-II of Agreement on Prohibition of Attacks against Nuclear Installations and Facilities between Pakistan and India. The two countries also exchanged lists of prisoners held in each other's prisons under the provisions of the Agreement on Consular Access signed in May 2008. Under this pact, the two countries should exchange comprehensive lists on 1st January and 1st July every year.

Details:

- According to this agreement, both countries have to inform each other of the nuclear facilities. The agreement was signed in 1988 and ratified in 1991. This was the 31st consecutive exchange of the list between the two neighboring countries.
- Nuclear power and research reactors, fuel fabrication, uranium enrichment, isotopes separation and reprocessing facilities, as well as any other installations with fresh or irradiated nuclear fuel and materials

in any form and establishments storing significant quantities of radioactive materials, are all included under the umbrella term “nuclear installations and facilities”.

Significance:

- The need for the agreement had been felt against the backdrop of Israel’s 1981 bombing of Iraq’s Osirak reactor near Baghdad. The strike, carried out by Israeli fighter jets over hostile airspace, had set Iraq’s nuclear weapons programme significantly. The agreement had also come at a time of deep anxiety for Pakistan.
- Islamabad had been rattled by the memory of the 1972 defeat which dismembered the country, and military developments in India, such as Operation Brasstacks in 1987, which was a wargame exercise to prepare for deep strike offensive capabilities. Pakistan had at the time responded by putting its nuclear installations and assets on ‘high alert’.

Trincomalee Oil Tank Deal

News: Recently, Sri Lanka announced that the Indian Oil Subsidiary Lanka IOC would be given 49% stake in the joint development of the Trincomalee Oil Tank farm, with Ceylon Petroleum Corporation keeping 51%.

Details:

- 35-year-old agreement: If it goes according to plan, India and Sri Lanka would have finally achieved the implementation of an agreement — contained in an exchange of letters between then Prime Minister Rajiv Gandhi and Sri Lankan President J R Jayewardene as part of the annexure to the India-Sri Lanka Accord of July 29, 1987 — that the tank farm would be developed jointly.
- The pre-WWII era oil storage facility has a capacity of nearly 1 million tonnes, which far outstrips the demand in Sri Lanka. Located inland from China Bay, the facility was meant to be serviced by the natural harbour at Trincomalee. In 2010-2011, officials had pitched for refurbishing the tank farm as an extension of Indian Oil storage on the Indian east coast, or for developing it as a refuelling facility to small ships. Trincomalee is the nearest port to Chennai.
- From India’s geostrategic viewpoint, Trincomalee is an important counterbalance to the southern Hambantota Port backed substantially by China. Therefore, India’s interest is to prevent a third country from entering the 850-acre facility.

Indo-Lanka Accord:

- It is popularly referred to as the Rajiv-Jayewardene Accord. It was signed in 1987 on the pretext of the Civil War in Sri Lanka (between Tamils and Sinhala community). The accord sought to balance India’s strategic interests, interest of people of Indian origin in Sri Lanka and Tamil minority rights in Sri Lanka.
- The accord saw the placement of the Indian Peace Keeping Force (IPKF) in Sri Lanka to resolve the Sri Lankan Civil War.
- The accord also resulted in enactment of the thirteenth Amendment to the Constitution of Sri Lanka and the Provincial Councils Act of 1987.



Non-Proliferation of Nuclear Weapons

News: Recently, the Five permanent United Nations Security Council members (China, France, Russia, the U.K. and US) pledged to prevent atomic weapons spreading and to avoid nuclear conflict.

Details:

- The pledge was made in a rare joint statement ahead of a review of the Non-Proliferation Treaty (NPT) 1970. The statement comes as tensions between Russia and the US have reached heights rarely seen since the Cold War over a troop build-up by Russia close to the Ukrainian border. The statement also comes as the world powers seek to reach agreement with Iran on reviving the Joint Comprehensive Plan of Action (JCPOA) 2015 over its controversial nuclear drive, which was rendered dying by the US walking out of the accord in 2018.

- The further spread of such weapons must be prevented. A nuclear war cannot be won and must never be fought. The avoidance of war between nuclear-weapon states and the reduction of strategic risks as our foremost responsibilities. Nuclear weapons — for as long as they continue to exist — should serve defensive purposes, deter aggression, and prevent war. They intend to maintain and further strengthen their national measures to prevent unauthorised or unintended use of nuclear weapons.
- China raised concerns that tensions with the US could lead to conflict, notably over the island of Taiwan. China considers Taiwan part of its territory and has vowed to one day seize it, by force if necessary.
- Russia welcomed the declaration by the atomic powers and expressed hope it would reduce global tensions.

Non-Proliferation Treaty

- The NPT is an international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology, to foster the peaceful uses of nuclear energy, and to further the goal of disarmament. The treaty was signed in 1968 and entered into force in 1970. Presently, it has 190 member states. India is not a member.
- It requires countries to give up any present or future plans to build nuclear weapons in return for access to peaceful uses of nuclear energy. It represents the only binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States.
- Nuclear-weapon states parties under the NPT are defined as those that manufactured and exploded a nuclear weapon or other nuclear explosive devices before 1st January, 1967.

India's Stand:

- India is one of the only five countries that either did not sign the NPT or signed but withdrew later, thus becoming part of a list that includes Pakistan, Israel, North Korea, and South Sudan.
- India always considered the NPT as discriminatory and had refused to sign it.
- India has opposed the international treaties aimed at non-proliferation since they were selectively applicable to the non-nuclear powers and legitimised the monopoly of the five nuclear weapons powers.

Issues:

- The NPT is largely seen as a Cold War era instrument that has failed to fulfil the objective of creating a pathway towards a credible disarmament process. Treaty proposes no tangible disarmament roadmap, no reference to test ban or to the freezing of production of either fissile materials or nuclear weapons, and omitted provisions for reductions and elimination. It instead allowed sustenance and expansion of arsenals by stipulating January, 1967 as the cut-off date to determine the NWS.
- Non-Nuclear Weapon states (NNWS) criticizes the treaty to be discriminatory as it focuses on preventing only horizontal proliferation while there is no limit for vertical proliferation. Vertical proliferation can be defined as the advancement or modernization of a nation-state's nuclear arsenal, whereas horizontal proliferation is the direct or indirect transfer of technologies from one nation-state to another, which ultimately leads to the more advanced development and proliferation of nuclear weapons.
- As there is no explicit obligation on part of NWS to reduce their arsenal, NWS have continued to expand their respective arsenals without any constraints.
- In this context, NNWS groupings demand that the Nuclear-Weapon States (NWS) should renounce their arsenals and further production in return for commitment of NNWS not to produce them.
- Due to this tussle, most of the quadrennial Review Conferences (RevCon), the forum that reviews the health and functioning of the treaty, has remained largely inconclusive since 1995.

Post-Cold War Scenario:

- The treaty's existential challenges began in the post-Cold War setting when the attempts by a few State Parties to break-out or gain nuclear latency led to numerous instances of non-compliance, violations and defiance. For example, the US alleges Iran of building nuclear Weapons of Mass Destruction.
- The NPT's indefinite extension in 1995, while invoking its irreplaceability, also underlined the inability of states to formulate a stand-alone instrument towards the objective of disarmament, as enshrined in the NPT.
- The emergence of non-state actors with declared intent to access weapons of mass destruction and the detection of a global nuclear black-market, has raised concerns on the limitations of the treaty to address the challenges thrown up by the new strategic milieu.

Asian Infrastructure Investment Bank

News: Recently, former Reserve Bank of India (RBI) governor Urjit Patel has been appointed vice-president of the Beijing-based Asian Infrastructure Investment Bank (AIIB). In October 2021, the Union Minister of Finance participated in the 6th Annual Meeting of the Board of Governors of AIIB.

About AIIB:

- It is a multilateral development bank with a mission to improve social and economic outcomes in Asia.
- It aims to connect people, services and markets that over time will impact the lives of billions and build a better future by investing in sustainable infrastructure and other productive sectors.
- It is established by the AIIB Articles of Agreement (entered into force December 2015) which is a multilateral treaty. It is headquartered in Beijing (China) and began its operations in January 2016.

Achievements of AIIB:

- AIIB began operations in 2016 with 57 founding Members (37 regional and 20 non regional). By the end of 2020, it had 103 approved Members representing approximately 79% of the global population and 65% of global GDP.
- Since 2017, AIIB has received AAA ratings with a stable outlook from the top credit rating agencies—Standard & Poor's, Moody's and Fitch. Industry recognition of its sound financial standing has enabled it to expand its presence in international capital markets.
- In 2018, AIIB was granted Permanent Observer status in the deliberations of both the United Nations General Assembly and the Economic and Social Council, the two development-focused principal organs of the global body.
- AIIB has created an effective environment for its Board of Directors to take a strategic approach to direct and oversee the work of an accountable management. The Bank's Accountability Framework is an innovative governance model that positions AIIB to embed a culture of accountability throughout the organization.
- Strategies for all major infrastructure sectors and for investing in equity, mobilizing private capital and financing operations in non regional members have all been approved and being implemented.

AIIB and India:

- The AIIB has approved more loans for India than any other member of the bank. China is its biggest shareholder and India is the second-largest. The AIIB has funded 28 projects in India amounting to USD6.7 billion. It has recently emphasised green projects and supporting public health initiatives during the Covid-19 pandemic, besides infrastructure.
- In October 2021, India applied for loans from the AIIB and Asian Development Bank (ADB) to procure 667 million doses of Covid-19 vaccines with the ADB expected to lend USD1.5 billion and the AIIB around USD500 million, under the ADB's Asia Pacific Vaccine Access Facility (APVAX) initiative.
- Last year (2021), the AIIB also approved a USD356.67 million loan to the Indian government to support the expansion of the Chennai metro rail system.

India-US Homeland Security Dialogue

News: Recently, a Homeland Security Dialogue was held between the officials of India and US. In October 2021 the Ministry of Defence signed a deal with the US Government for procurement of MK 54 Torpedo and Expendable (Chaff and Flares) for the Indian Navy, under Foreign Military Sale (FMS). In July 2021 the US Secretary of State visited India.

Details:

- The Indo-US homeland security dialogue was launched in 2010 as the mechanism to a sequel to the signing of the India-US counter-terrorism initiative. First Homeland Security Dialogue was held in May 2011.
- The latest virtual meeting came after in March 2021, the US President Joe Biden administration had announced the re-establishment of the Homeland Security Dialogue which was discontinued by former US President Donald Trump's administration. There are six sub-groups formed under the Indo-US homeland security dialogue which cover the areas of:

- Illicit finance, Financial fraud and counterfeiting.
- Cyber information.
- Megacity policing and sharing of information among federal, state and local partners.
- Global supply chain, transportation, port, border and maritime security.
- Capacity building.
- Technology upgradation.

India- US Relations:

- India-US bilateral relations have developed into a "global strategic partnership", based on shared democratic values and increasing convergence of interests on bilateral, regional and global issues. In 2015, both the countries issued a Delhi Declaration of Friendship and adopted a Joint Strategic Vision for Asia-Pacific and the Indian Ocean Region.
- The bilateral civil nuclear cooperation agreement was signed in October 2008.
- As a priority initiative under the PACE (Partnership to Advance Clean Energy), the US Department of Energy (DOE) and the Government of India have established the Joint Clean Energy Research and Development Centre (JCERDC) designed to promote clean energy innovations by teams of scientists from India and the United States. India-US Clean Energy Agenda 2030 Partnership was launched at the Leaders climate summit 2021.
- Defence relationship has emerged as a major pillar of India-US strategic partnership with the signing of 'New Framework for India-US Defence Relations' in 2005 which was further updated for 10 years in 2015.
- India and US inked important defence pacts in the last few years and also formalised the four nation alliance of QUAD (India, US, Japan and Australia). The alliance is seen as an important counter to China in the Indo-Pacific. The Malabar exercise in November 2020 portrayed a high point in Indo-US strategic ties, it was the first time in 13 years that all four countries of QUAD came together sending a strong message to China.
- India now has access to American bases from Djibouti in Africa to Guam in the Pacific. It can also access advanced communication technology used in US defence.
- India and US have four foundational defence agreements:
 - Basic Exchange and Cooperation Agreement for Geospatial Intelligence (BECA).
 - General Security of Military Information Agreement (GSOMIA).
 - Logistics Exchange Memorandum of Agreement (LEMOA).
 - Communication Compatibility and Security Agreement (COMCASA).
- India-US Counter-Terrorism Cooperation Initiative was signed in 2010 to expand collaboration on counter-terrorism, information sharing and capacity building. A tri-services exercise- Tiger Triumph- was conducted in November 2019. Bilateral and regional exercises include Yudh Abhyas (Army), Vajra Prahar (Special Forces), RIMPAC, Red Flag.
- The US is India's second largest trading partner and a major destination for India's exports of goods and services. The US replaced Mauritius as the second largest source of foreign direct investment into India during 2020-21. The previous US government ended India's special trade status (GSP withdrawal) and also imposed several bans, India also retaliated with bans on 28 US products.
- Current US government has allowed all the bans by the previous government to expire.
- Indian Space Research Organisation and National Aeronautics and Space Administration (NASA) are working together to realise a joint microwave remote sensing satellite for Earth observation, named NASA-ISRO Synthetic Aperture Radar (NISAR).
- There is a growing presence of Indian diaspora in all spheres in the US. For example the current Vice-President (Kamala Harris) of the US has a strong Indian connection.

India-UK FTA

News: Recently, India and the UK have launched the formal Free Trade Agreement (FTA) negotiations, that both countries envisage concluding by the end of 2022. Until then, both countries are contemplating an interim free trade area, which will result in reducing tariffs on most of the items.

Details:

- Both countries agreed to an early harvest scheme or a limited trade agreement to lower tariffs on a small set of goods apart from easing rules for select services.
- Further, they agreed to avoid “sensitive issues” and focus on areas where there is more complementarity.
- The agriculture and dairy sectors are considered sensitive sectors for India in trade talks.
- Also, a target of doubling the trade between India and the United Kingdom (UK) by 2030 has also been set.

Free Trade Agreement (FTA):

- It is a pact between two or more nations to reduce barriers to imports and exports among them.
- Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange. The concept of free trade is the opposite of trade protectionism or economic isolationism. FTAs can be categorised as Preferential Trade Agreement, Comprehensive Economic Cooperation Agreement, Comprehensive Economic Partnership Agreement (CEPA).

India-UK Trade Relations

- India and the UK are vibrant democracies, with a partnership built on our shared history and rich culture.
- The diverse Indian diaspora in the UK, which acts as a “Living Bridge”, adds further dynamism to the relations between the two countries. The UK is one of the largest investors in India, among the G20 countries.
- Trade deals with the UK could boost exports for large job-creating sectors such as textiles, leather goods, and footwear. India is also expected to register a quantum jump in the export of Marine Products through the recognition of 56 marine units of India.
- Mutual Recognition Agreements (MRAs) on Pharma could provide additional market access.
- The FTA is expected to provide certainty, predictability and transparency and will create a more liberal, facilitative and competitive services regime. There is also great potential for increasing exports in service sectors like IT/ITES, Nursing, education, healthcare, including AYUSH and audio-visual services.
- Visa restrictions have been a key issue for India to boost services trade.
- India opted out of the Regional Comprehensive Economic Partnership deal in November 2019.
- Therefore, there is a renewed focus on trade deals with the US, the European Union and the UK, which are key markets for Indian exporters and are keen to diversify their sourcing.
- The UK is a permanent member of the UN Security Council, and one of the strategic partners of India.
- Strengthening bonds with the trade would seek UKs support at global issues like standoff with China in the Ladakh sector of the Line of Actual Control (LAC) and claim for permanent seat at UNSC.

World Economic Forum

News: PM Modi has made a special address ahead of the theme-setting World Economic Forum (WEF) Agenda on the ‘State of the World’ at Davos.

About World Economic Forum (WEF)

- WEF is an international non-governmental and lobbying organisation based in Cologny, canton of Geneva, Switzerland. It was founded on 24 January 1971 by German engineer and economist Klaus Schwab.
- The foundation, which is mostly funded by its 1,000 member companies – typically global enterprises with more than five billion US dollars in turnover – as well as public subsidies. It aims at improving the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas.

Its significance:

- The WEF summit brings together the who’s-who of the political and corporate world, including heads of state, policymakers, top executives, industrialists, media personalities, and technocrats.
- Deliberations at the WEF influence public sector and corporate decision-making.
- It especially emphasizes on the issues of global importance such as poverty, social challenges, climate change, and global economic recovery.

- The heady mix of economic, corporate, and political leadership provides an ideal opportunity for finding solutions to global challenges that may emerge from time to time.

Latest meet:

- The WEF is mostly known for its annual meeting at the end of January in Davos, a mountain resort in the eastern Alps region of Switzerland. The meeting brings together some 3,000 paying members and selected participants – among which are investors, business leaders, political leaders, economists, celebrities and journalists.
- Agenda 2022 will see the launch of other WEF initiatives meant for:
 - Accelerating the mission to net-zero emissions
 - Economic opportunity of nature-positive solutions
 - Cyber resilience

Israel-Palestine Issue

News: India, at the UN Security Council open debate on the Middle East, has reiterated its firm and unwavering commitment to the peaceful resolution of the Palestine issue and supported a negotiated two-state solution. Resolution 2334 was adopted by this Council to reaffirm the international community’s firm commitment to preventing the erosion of the two-state solution.

Historical Background:

- The conflict has been ongoing for more than 100 years between Jews and Arabs over a piece of land between Jordan River and the Mediterranean Sea. It was between 1882 to 1948, when the Jews from around the world gathered in Palestine. This movement came to be known as
- Then in 1917, Ottoman Empire fell after World War 1 and the UK got control over Palestine.
- The land was inhabited by a Jewish minority and Arab majority.
- The Balfour Declaration was issued after Britain gained control with the aim of establishing a home for the Jews in Palestine. However during that period the Arabs were in majority in Palestine.
- Jews favored the idea while the Palestinians rejected it. Almost 6 million Jews lost their lives in the Holocaust which also ignited further demand of a separate Jewish state.
- Jews claimed Palestine to be their natural home while the Arabs too did not leave the land and claimed it.
- The international community supported the Jews. In 1947, the UN voted for Palestine to be split into separate Jewish and Arab states, with Jerusalem becoming an international city.
- That plan was accepted by Jewish leaders but rejected by the Arab side and never implemented.

The creation of Israel:

- It was in the year 1948 that Britain lifted its control over the area and Jews declared the creation of Israel. Although Palestinians objected, Jews did not back out which led to an armed conflict.
- The neighboring Arabs also invaded and were thrashed by the Israeli troops. This made thousands of Palestinians flee their homes. This was called Al-Nakba, or the “Catastrophe”. Israel had gained maximum control over the territory after this came to an end. Jordan then went on a war with Israel and seized control over a part of the land which was called the West Bank, and Egypt occupied Gaza.
- Jerusalem was divided between Israel in the West and Jordan in the East. However, no formal peace agreement was signed, each side continued to blame each other for the tension and the region saw more wars. Israeli forces captured East Jerusalem and the West Bank, various areas of Syrian Golan Heights, Gaza and the Egyptian Sinai Peninsula in the year 1967.



Present scenario:

- Israel still occupies the West Bank, and although it pulled out of Gaza the UN still regards that piece of land as part of occupied territory.

- Israel claims the whole of Jerusalem as its capital, while the Palestinians claim East Jerusalem as the capital of a future Palestinian state.
- Tensions escalated in recent month over Israel's actions concerning Al-Asqa mosque in East Jerusalem.
- West Bank is a landlocked territory near the Mediterranean coast of Western Asia, bordered by Jordan to the east and by the Green Line separating it and Israel on the south, west and north. The West Bank also contains a significant section of the western Dead Sea shore.
- The West Bank was captured by Jordan after the 1948 Arab-Israeli War. Israel snatched it back during the Six Day War of 1967, and has occupied it ever since. During this war, the country defeated the combined forces of Egypt, Syria, and Jordan.
- It has built some 130 formal settlements in the West Bank, and a similar number of smaller, informal settlements have mushroomed over the last 20-25 years. Over 4 lakh Israeli settlers — many of them religious Zionists who claim a Biblical birthright over this land — now live here, along with some 26 lakh Palestinians. The territory is still a point of contention due to a large number of Palestinians who live there and hope to see the land become a part of their future state. When Israel took control of the land in 1967 it allowed Jewish people to move in, but Palestinians consider the West Bank illegally occupied Palestinian land.
- The United Nations General Assembly, the UN Security Council, and the International Court of Justice have said that the West Bank settlements are violative of the Fourth Geneva Convention.
- Under the Fourth Geneva Convention (1949), an occupying power “shall not deport or transfer parts of its own civilian population into the territory it occupies”.
- Under the Rome Statute that set up the International Criminal Court in 1998, such transfers constitute war crimes, as does the “extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly”.

India-UK Collaboration on Food Security and Hunger

News: Recently, the Union Minister of Science & Technology addressed the joint India-UK meet on “Sustaining Food Production under Environmental Stress” and called for collaboration between the two nations on issues of mutual concern like achieving the goals of Food Security and Zero Hunger.

Details:

- India and the UK must invite global collaborations in various dimensions of science like agriculture, medicine, food, pharma, engineering or defence. India-UK joint collaboration may include programmes like student exchange, basic research, technology development, product development as well as product/process demonstration and their implementation in joint collaboration.
- Dwelling on the issue of Sustainable Food Production, the South Asian region is facing the shrinking arable land, besides the problem of Global Climate Change that needs to be addressed. Arable land in South Asia was reported at 43.18% in 2018 which has been stagnant since the early 1970s and recently declining. Growth yields and more intensive use of land will account for all of the growth in crop production and will also compensate for losses in the arable land area.
- NABI (National Agri-Food Biotechnology Institute) could provide an impetus to the nations need for addressing nutritional security even under the climatic changes happening around the world. NABI is a premier institute that works at the interface of Agri-Food and Nutrition Biotechnology.
- Underlining that the global pattern of food production and distribution may need to shift significantly as climate change progresses. Need of joint funding to develop a coherent and stakeholder-relevant R&D (Research and Development) program that will address this challenge.

India-UK Partnership

- India and the UK are vibrant democracies, with a partnership built on our shared history and rich culture.
- The diverse Indian diaspora in the UK, which acts as a “Living Bridge”, adds further dynamism to the relations between the two countries. The UK is one of the largest investors in India, among the G20 countries.
- Recently, both countries have announced their intent to negotiate a comprehensive Free Trade Agreement (FTA), including consideration of an interim trade agreement to deliver early gains.

- As part of the UK's tilt towards the Indo-Pacific region, the UK Carrier Strike Group (CSG) is conducting engagements with Singapore, the Republic of Korea, Japan and India.
- For elevating bilateral ties to a "Comprehensive Strategic Partnership" both Countries adopted Roadmap 2030 in 2021. It provides a framework for UK-India relations across health, climate, trade, education, science and technology, and defense.
- Includes invitation to the UK to join India's Information Fusion Centre in Gurgaon and an ambitious exercise programme which includes joint trilateral exercises.
- UK supported India's indigenous development of the Light Combat Aircraft Mark 2.
- Bilateral exercises between two countries include:
 - Air Force Exercise 'Indradhanush'.
 - Navy Exercise Konkan.
 - Army Exercise 'Ajeya Warrior'
- India and the UK jointly launched a new flagship international initiative at the COP26 World Leaders' Summit in Glasgow, backed by over 80 countries, to dramatically accelerate the global transition to a clean powered world.
- The new initiative, called 'Green Grids Initiative – One Sun One World One Grid' (GGI-OSOWOG), is aimed at accelerating the development and deployment of interconnected electricity grids across continents, countries and communities, and improve energy access of the poorest through mini-grids and off-grid solutions.

America's COMPETES Act

News: The U.S. House of Representatives has introduced the ambitious 2022 Act to create opportunities for America's manufacturing, preeminence in technology, and economic strength, or America COMPETES Act of 2022. It proposes to open new perspectives for talented people from around the world with a new home visa.

Details:

- To strengthen supply chains and revitalize the engine of innovation in the country's economy to surpass China and the rest of the world for decades to come.
- \$ 52 billion to further encourage semiconductor production in the U.S. \$ 45 billion for grants and loans to improve supply chain resilience and manufacturing, among other programs.
- Funding to address social and economic inequality, climate change and immigration. For example, it offers an exemption for STEM PhDs from the green card limit and creates a new green card for entrepreneurs.
- The bill authorizes \$ 600 million a year to build manufacturing facilities to make the United States less dependent on solar components manufactured in Xinjiang, China.
- It creates a new "W" classification of nonimmigrants for employers with a stake in a newly created entity, essential employees of a newly created entity, and their spouses and children.

Impact on India:

- It would mean more opportunities in the US for Indian talent and skilled workers. Every year, Indians and Indian companies corner the lion's share of H-1B work permits issued that year. With this new category, Indian professionals will probably have a better chance of opportunities than the law is likely to offer.
- There are 2.7 million Indian immigrants residing in the United States as of 2019, and the country is the second most popular destination for Indians living abroad, after the United Arab Emirates (3.4 million).
- The IT revolution, arrival of internet and low-cost computers in developing nations like India has given rise to the number of people who are willing to work at relatively low costs in the USA which is a win-win situation for both the employer and the employee.
- The USA administration issues a certain number of visas each year to fill a vacuum of highly-skilled low-cost employees in IT and other related domains.
- These visas allow companies from outside the USA to send employees to work on client sites.

India-Central Asia Summit

News: Recently, the Prime Minister of India hosted the first India-Central Asia Summit in virtual format.

Details:

- It was attended by Presidents of the Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan, Turkmenistan and Republic of Uzbekistan. This first India-Central Asia coincided with the 30th anniversary of establishment of diplomatic relations between India and Central Asian countries.
- The summit came two days after a similar China-Central Asia Conference was held where China offered USD 500 million in assistance and pledged to ramp up trade to USD 70 billion from the present levels of about USD 40 billion a year.
- Discussed the next steps in taking India-Central Asia relations to new heights. In a historic decision, the Leaders agreed to institutionalise the Summit mechanism by deciding to hold it every 2 years.
- They also agreed on regular meetings of Foreign Ministers, Trade Ministers, Culture Ministers and Secretaries of the Security Council to prepare the groundwork for the Summit meetings.
- An India-Central Asia Secretariat in New Delhi would be set up to support the new mechanism.
- The Leaders discussed far-reaching proposals to further cooperation in areas of trade and connectivity, development cooperation, defence and security and, in particular, on cultural and people to people contacts. These included:
 - Round-Table on Energy and Connectivity.
 - Joint Working Groups at senior official level on Afghanistan and use of Chabahar Port.
 - Showcasing of Buddhist exhibitions in Central Asian countries and commissioning of an India-Central Asia dictionary of common words.
 - Joint counter-terrorism exercises.
 - Visit of 100 member youth delegation annually from Central Asian countries to India and special courses for Central Asian diplomats.
- A comprehensive Joint Declaration was adopted by the leaders that enumerates their common vision for an enduring and comprehensive India-Central Asia partnership.
- The leaders reiterated their strong support for a peaceful, secure and stable Afghanistan with a truly representative and inclusive government.
- India conveyed its continued commitment to provide humanitarian assistance to the Afghan people.

India's Stand on:

- Kazakhstan: It has become a vital partner for India's energy security. India also expressed condolences for the recent loss of life and property in Kazakhstan.
- Uzbekistan: India's state governments are also active partners in its growing cooperation with Uzbekistan.
- Tajikistan: Both the countries have a longstanding cooperation in the field of security.
- Turkmenistan: It is an important part of Indian vision in the field of regional connectivity, which is evident from participation in the Ashgabat Agreement.
- Regional connectivity in Central Asia is a key arm of the 2018 Ashgabat Agreement.

Significance for India

- The summit is symbolic of the importance attached by the leaders of India and the Central Asian countries to a comprehensive and enduring India-Central Asia partnership. It is being held at a critical juncture when tensions between the West and Russia and the United States (US) and China are rising. India too has faced geopolitical setbacks: Border tensions with China and the Taliban takeover of Afghanistan.
- It follows President Vladimir Putin's visit to India, which may have allowed India to push Russia to moderately balance China in Eurasia and to contain the threats from Afghanistan. The recent unrest in Kazakhstan also showed that "new actors" are vying for influence in the region though their motives are still not clear.
- India has always maintained excellent diplomatic ties with all the five Central Asian states, Indian PMs including Prime Minister Narendra Modi in 2015, have visited them. Yet, India's trade with them has been only at USD 1.4 billion in 2019. In 2017, India joined the Shanghai Cooperation Organisation (SCO) to engage with the region. But SCO is only a sluice gate to regulate the Russian and Chinese subliminal rivalry to prevent either power from dominating the region.
- Russia tends to use SCO for regulating India-China tensions. The summit is a massive stride for India's diplomacy. Since the region is a critical lynchpin to India's security policy, the summit will have a waterfall impact to facilitate India's multifaceted approach towards the region.

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

Cropland Expansion

News: According to a new study, cropland area across the world increased 9% and cropland Net Primary Production (NPP) by 25% from 2003-2019. The growth was primarily due to agricultural expansion in Africa and South America.

Details:

- The largest cropland expansion was observed in Africa. In Africa, cropland expansion accelerated from 2004-2007 to 2016-2019, with a more than two-fold increase in annual expansion rates.
- The largest proportions of natural vegetation conversion to croplands (excluding dryland irrigation) were found in Africa, southeast Asia and South America.
- Global per capita cropland area decreased 10% during the period due to population growth but the per capita annual cropland NPP increased by 3.5% as a result of intensified agricultural land use.
- The agricultural expansion is often explained as a direct consequence of the global increase in food and energy requirements due to continuing population growth. The global population increased by 21% from 2003-2019.

Issues:

- Cropland expansion is a major factor in forest loss, which comes in conflict with Sustainable Development Goal 15 (SDG 15) which aims to stop deforestation and degradation of natural habitats. But 49% of the new cropland area replaced natural vegetation and tree covers, indicating a conflict with the sustainability goal of protecting terrestrial ecosystems. It is one of the biggest threats to the planet's ecological health. Cropland expansion mostly affects biodiversity hotspots in Central and South America, while cropland intensification threatens biodiversity especially in Sub-Saharan Africa, India and China. Agricultural intensification can be technically defined as an increase in agricultural production per unit of inputs.
- Agricultural expansion continues to be the main driver of deforestation and forest fragmentation.
- According to the Food and Agriculture Organization (FAO), if current trends hold, by 2050 the world's arable land will increase by some 70 million hectares, and much of the new farmland will be in areas that are currently forested.

Indian scenario:

- Agricultural land in India was reported at 60.43% in 2018. Agricultural land refers to the share of land area that is arable, under permanent crops, and under permanent pastures. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow.

Cropland Area

- Cropland is defined as 'land used for annual and perennial herbaceous crops for human consumption, forage (including hay) and biofuel'. Perennial woody crops, permanent pastures and shifting cultivation are excluded from the definition. Herbaceous energy crops are perennials that are harvested annually.

Cropland Net Primary Production

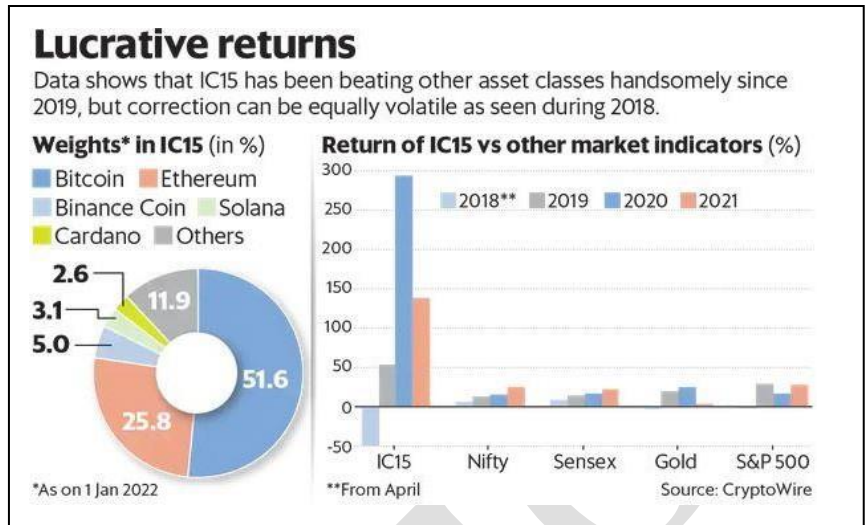
- Net Primary Production (NPP) is defined as the difference between the energy fixed by autotrophs and their respiration, and it is most commonly equated to increments in biomass per unit of land surface and time. An autotroph is an organism that can produce its own food using light, water, carbon dioxide, or other chemicals.
- Respiration is a chemical reaction which occurs in all living cells, releasing energy from glucose.

IC15 Survey on Cryptocurrencies

News: Superapp CryptoWire recently launched India's first cryptocurrency index, IC15, which will measure the performance of the 15 most widely traded cryptocurrencies listed on leading crypto exchanges by market capitalization.

What is IC15?

- CryptoWire constituted an Index Committee of domain experts, industry practitioners, and academicians that will select cryptocurrencies from the top 400 coins in terms of market capitalization.
- The eligible cryptocurrency should have traded on at least 90% of the days during the review period and be among the 100 most liquid cryptocurrencies in terms of trading value.
- Also, the cryptocurrency should be in the top 50 in terms of the circulating market capitalization.
- The committee will then select the top 15 cryptocurrencies. The index will be reviewed quarterly.
- IC15 can be replicated for creating index-linked products such as index funds or exchange-traded funds (ETFs). Usually, the performance of a mutual fund scheme is assessed with reference to a benchmark, which could be a total return index of the Nifty or the Sensex. IC15 is the first index in India that can act as a benchmark of the underlying cryptocurrency market and the performance benchmark for fund managers.
- Moreover, robo-advisors, which provide financial advice with moderate to minimal human intervention, can use this index to create investment products at lower costs.
- IC15's base value as on 1 April 2018 was 10,000.
- It would mean that the index has gained 615% in absolute terms to 71,475.48 till 31 December 2021.
- Index investing can be an effective way to diversify against risks as a fund invests in a basket of assets against a few limited coins. However, index-based investing may not fully remove risks associated with investing in crypto assets.
- IC15 saw a 50% plunge in 2018, whereas other asset classes have seen a maximum drop in the range of 3-4%. Further, bitcoin and ethereum have a combined weightage of 77% in the index, making it highly vulnerable to any volatility in these two coins.



Cryptocurrencies and India:

- SEBI has recently asked mutual fund houses not to launch crypto-based funds until the Centre comes out with clear regulations. This means asset management companies for now won't be able to launch crypto funds based on IC15. However, in the absence of any regulations, crypto platforms can offer products based on the index. Global crypto investment platform Mudrex last year launched Coin Sets—crypto funds based on themes such as decentralized finance or marketcap.

Situation of Indian Dams

News: According to a new Comptroller and Auditor General of India (CAG) report, Gandhi Sagar Dam on Chambal River (Madhya Pradesh) is in need of immediate repair. Absence of regular checks, non-functional instruments and choked drains are the major problems plaguing the dam for years.

About:

- India is ranked third in the world in terms of building large dams. Of the over 5,200 large dams built so far, about 1,100 large dams have already reached 50 years of age and some are older than 120 years.
- The number of such dams will increase to 4,400 by 2050. This means that 80% of the nation's large dams face the prospect of becoming obsolete as they will be 50 years to over 150 years old.
- The situation with hundreds of thousands of medium and minor dams is even more dangerous as their shelf life is even lower than that of large dams.
- Krishna Raja Sagar dam was built in 1931 and is now 90 years old. Similarly, Mettur dam was constructed in 1934 and is now 87 years old. Both these reservoirs are located in the water scarce Cauvery river basin.

Issues India's Dams:

- Indian dams are very old and built according to the rainfall pattern of the past decades. Erratic rainfall in recent years has left them vulnerable. But the government is equipping the dams with information systems like rainfall alerts, flood alerts, and preparing emergency action plans to avoid all sorts of mishaps.
- As dams age, soil replaces the water in the reservoirs. Therefore, the storage capacity cannot be claimed to be the same as it was in the 1900s and 1950s. The storage space in Indian reservoirs is receding at a rate faster than anticipated. Studies show that the design of many of India's reservoirs is flawed. Indian reservoirs are designed with a poor understanding of sedimentation science. The designs underestimate the rate of siltation and overestimate live storage capacity created.
- It refers both to the increased concentration of suspended sediments and to the increased accumulation (temporary or permanent) of fine sediments on bottoms where they are undesirable.

Consequences:

- When soil replaces the water in reservoirs, supply gets choked. In this case, the cropped area may begin receiving less and less water as time progresses.
- As a result, the net sown water area either shrink in size or depends on rains or groundwater, which is over-exploited. As crop yield may get affected severely, it would disrupt the farmer's income.
- Moreover, water is a crucial factor for crop yield and credit, crop insurance, and investment.
- The flawed siltation rates reinforce the argument that the designed flood cushion within several reservoirs across many river basins may have already depleted substantially, due to which floods have become more frequent downstream of dams.

Way forward:

- Ageing dams can serve as a cause of concern for people living in the areas nearby. Safety of dams is also important for safeguarding the huge public investment in this critical physical infrastructure, as also, for ensuring continuity of benefits derived from the dam projects and national water security.
- Safety of dams is also important in the emerging scenario of India's water crisis, linked with its growing population, as also the climate change.

Scheduled Banks

News: The Reserve Bank of India (RBI) has informed that Airtel Payments Bank Ltd. has been categorized as a Scheduled Bank. With this, the bank can now pitch for government-issued Requests for Proposals (RFP) and primary auctions. It can undertake both Central and State Government businesses participating in government-operated welfare schemes.

What are Scheduled Banks?

- Scheduled Banks refer to those banks which have been included in the Second Schedule of Reserve Bank of India Act, 1934. Reserve Bank of India (RBI) in turn includes only those banks in this Schedule which satisfy the criteria laid down vide section 42(6)(a) of the said Act.
- Every Scheduled bank enjoys two types of principal facilities: it becomes eligible for debts/loans at the bank rate from the RBI; and, it automatically acquires the membership of clearing house.
- Banks not under this Schedule are called Non-Scheduled Banks

Types of Scheduled Banks

- There are two main categories of commercial banks in India namely:
 - Scheduled Commercial banks
 - Scheduled Co-operative banks
- Scheduled commercial Banks are further divided into 5 types as below:
 - Nationalised Banks
 - Foreign Banks
 - Development Banks
 - Private sector Banks
 - Regional Rural Banks
- Payment bank (currently four banks Airtel Payments Bank, Fino Payments Bank, India Post Payments Bank, Paytm Payments Bank have been granted Scheduled bank status).
- Scheduled Co-operative banks are further divided into 2 types namely:
 - Scheduled State Co-operative banks
 - Scheduled Urban Co-operative banks

New Rules for Consumer Protection

News: In exercise of its powers under provisions of the Consumer Protection Act, 2019, the Central Government has notified the Consumer Protection (Jurisdiction of the District Commission, the State Commission and the National Commission) Rules, 2021. The new rules revised pecuniary jurisdiction for entertaining consumer complaints.

Background:

- Currently, the Consumer Protection Act, 2019 promulgates a three-tier quasi-judicial mechanism for redressal of consumer disputes namely district commissions, state commissions and national commission.
- The Act also stipulates the pecuniary jurisdiction of each tier of consumer commission.
- The Consumer Protection Act, 2019 provides consumers the option of filing complaint electronically. To facilitate consumers in filing their complaint online, the Central Government has set up the E-Daakhil Portal. To provide a faster and amicable mode of settling consumer disputes, the Act also includes reference of consumer disputes to Mediation, with the consent of both parties.
- The Consumer Protection Act, 2019 stipulates that “every complaint shall be disposed of as expeditiously as possible and endeavour shall be made to decide the complaint within a period of three months from the date of receipt of notice by opposite party where the complaint does not require analysis or testing of commodities and within 5 months if it requires analysis or testing of commodities.”

Latest Rules:

- Food and Public Distribution, district commissions will have jurisdiction to entertain complaints where the value of the goods or services paid does not exceed ₹50 lakh.
- The State commissions can look onto complaints in the range of ₹50 lakh- ₹two crores.
- The District Commissions will have jurisdiction to entertain complaints where value of the goods or services paid as consideration does not exceed 50 lakh rupees.
- State Commissions shall have jurisdiction to entertain complaints where value of the goods or services paid as consideration exceeds 50 lakh rupees but does not exceed two crore rupees, it notified.
- National Commission will have jurisdiction to entertain complaints where value of the goods or services paid as consideration exceeds two crore rupees.

China's Status as Developing Country

News: China's status as a 'developing country' at the World Trade Organization (WTO) has become a contentious issue with a number of countries raising concerns over the upper middle-income nation deriving benefits reserved for developing countries under WTO norms. Moreover, concerns have been raised over the 'least developed country' (LDC) status, with Bangladesh potentially losing this tag after surpassing India in terms of GDP per capita.

Details:

- There are no WTO definitions of “developed” and “developing” countries.
- Members announce for themselves whether they are “developed” or “developing” countries.
- However, other members can challenge the decision of a member to make use of provisions available to developing countries.
- Developing country status in the WTO brings certain rights. Developing country status ensures special and differential treatment (S&DT) or provisions which allow them more time to implement agreements and commitments, include measures to increase trading opportunities, safeguard their trade interests, and support to build capacity to handle disputes and implement technical standards.

Matter of choice

WTO allows member countries to classify themselves as “developed” or “developing”. However, other members can challenge the decision of a country to be classified as “developing”. Only the “least-developed countries” status is designated by the UN. Countries in the three lists:

Developing	Developed	Least-developed countries
India	U.S.	Afghanistan
China	European Union	Bangladesh
Russia	Japan	Bhutan
Brazil	Canada	Myanmar
South Africa	Australia	Nepal
South Korea	New Zealand	South Sudan

What determines Developing, Developed and Least Developed Status?

- Under the WTO system, generally, countries are designated as developed, developing, and least developed countries (LDCs). The uneven level of development between developed and developing countries in the WTO is a well-recognised fact.
- Article XVIII of the General Agreement on Tariffs and Trade (GATT) recognises that attaining the objectives of this agreement would require facilitating the progressive development of those countries that can only support low levels of development and are at the early stages of development.
- Accordingly, countries self-designate themselves as 'developing country' to take advantage of provisions like Article XVIII of GATT and other special and differential treatment (S&DT) provisions in the WTO agreements. These provisions are aimed at increasing trade opportunities for developing countries, ensuring longer transitional periods to comply with WTO obligations, and affording technical assistance to countries, among other things.

Special and Differential Provisions:

- Longer time periods for implementing Agreements and commitments. Measures to increase trading opportunities for developing countries. Provisions requiring all WTO members to safeguard the trade interests of developing countries. Support to help developing countries build the capacity to carry out WTO work, handle disputes, and implement technical standards.
- The concept of non-reciprocal preferential treatment for developing countries that when developed countries grant trade concessions to developing countries, they should not expect the developing countries to make matching offers in return.

Developed countries' stand:

- For some time now, developed countries, mainly the US, have been asking the WTO to end the benefits being given to developing countries.
- Nearly two-thirds of the members of the World Trade Organization (WTO) have been able to avail themselves of special treatment and to take on weaker commitments under the WTO framework by designating themselves as developing countries.

Pradhan Mantri Jan Dhan Yojana

News: The finance ministry data has revealed that deposits in bank accounts opened under the Pradhan Mantri Jan-Dhan Yojana (PMJDY) have crossed the Rs 1.5 lakh crore mark.

Performance of the scheme (as of 2021):

- The number of total PMJDY accounts stand at more than 44 crore. 54 crore Jan Dhan accounts were held in rural and semi-urban bank branches. Nearly 24.61 crore account holders were women as of December 29, 2021. Benefits like scholarships, subsidies, pensions, and COVID relief funds are credited to the bank accounts, including Jan Dhan Accounts, through Direct Benefit Transfer (DBT).

About PMJDY:

- Announced on 15th August 2014, PMJDY is National Mission for Financial Inclusion to ensure access to financial services, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner. It aims to ensure access of financial products & services at an affordable cost and use of technology to lower cost & widen reach.

Components:

- Banking the unbanked – Opening of basic savings bank deposit (BSBD) account with minimal paperwork, relaxed KYC, e-KYC, account opening in camp mode, zero balance & zero charges.
- Securing the unsecured – Issuance of Indigenous Debit cards for cash withdrawals & payments at merchant locations, with free accident insurance coverage of Rs. 2 lakhs.
- Funding the unfunded – Other financial products like micro-insurance, overdraft for consumption, micro-pension & micro-credit.

6 pillars of scheme:

- Universal access to banking services – Branch and Banking Correspondents.

- Basic savings bank accounts with overdraft facility (OD) of Rs. 10,000/- to every household.
- Financial Literacy Program– Promoting savings, use of ATMs, getting ready for credit, availing insurance and pensions, using basic mobile phones for banking.
- Creation of Credit Guarantee Fund – To provide banks some guarantee against defaults.
- Insurance – Accident cover up to Rs. 1,00,000 and life cover of Rs. 30,000 on account opened between 15 Aug 2014 to 31 January 2015.
- Pension scheme for Unorganized sector.

New features:

- Focus shift from Every Household to Every Unbanked Adult.
- RuPay Card Insurance – Free accidental insurance cover on RuPay cards increased from Rs. 1 lakh to Rs. 2 lakhs for PMJDY accounts opened after 28.8.2018.
- Enhancement in overdraft facilities – OD limit doubled from Rs 5,000 to Rs 10,000; OD upto Rs 2,000 (without conditions). Increase in upper age limit for OD from 60 to 65 years.

India's aid to Sri Lanka

News: India has confirmed a \$400 million currency swap with Sri Lanka while deferring another \$500 million due for settlement to the Asian Clearing Union (ACU).

Background:

- Sri Lanka is facing a severe dollar crunch that economists say might lead to a default on external debt and create a food shortage in the imports-reliant island nation.
- In this regard, the Reserve Bank of India has extended currency swap facilities of \$900 million to Sri Lanka.

What are Currency Swaps?

- A currency swap, also known as a cross-currency swap, is an off-balance sheet transaction in which two parties exchange principal and interest in different currencies. Currency swaps are used to obtain foreign currency loans at a better interest rate than could be got by borrowing directly in a foreign market.
- In a swap arrangement, RBI would provide dollars to a Lankan central bank, which, at the same time, provides the equivalent funds in its currency to the RBI, based on the market exchange rate at the time of the transaction.
- The parties agree to swap back these quantities of their two currencies at a specified date in the future, which could be the next day or even three months later, using the same exchange rate as in the first transaction. These swap operations carry no exchange rate or other market risks, as transaction terms are set in advance.

Need for currency swaps:

- FPIs investors look for safer investments but the current global uncertainty over COVID outbreak has led to a shortfall everywhere in the global markets. This has pulled down foreign exchange reserves of many small and developing countries. This means that the government and the RBI cannot lower their guard on the management of the economy and the external account.

Benefits:

- The absence of an exchange rate risk is the major benefit of such a facility. This facility provides the flexibility to use these reserves at any time in order to maintain an appropriate level of balance of payments or short-term liquidity. Swaps agreements between governments also have supplementary objectives like the promotion of bilateral trade, maintaining the value of foreign exchange reserves with the central bank and ensuring financial stability (protecting the health of the banking system).

Solar Waste

News: According to a report by the National Solar Energy Federation of India (NSEFI), India could generate over 34,600 tonnes of cumulative solar waste in India by 2030. India does not have a solar waste management policy, but it does have ambitious solar power installation targets.

Details:

- Solar wastes are the electronic waste generated by discarded solar panels. They are sold as scrap in the country. It can increase by at least four-five-fold by the next decade. India should focus its attention on drafting comprehensive rules to deal with solar waste.
- It is likely that India will be faced with solar waste problems by the end of this decade, and solar waste will end up being the most prevalent form of waste in landfills soon.
- Solar panels have a life of 20-25 years, so the problem of waste seems distant.
- While photovoltaics generate only about 3 % of global electricity, they consume 40 % of the world's tellurium, 15 % of the world's silver, a substantial chunk of semiconductor-grade quartz and lesser but still significant amounts of indium, zinc, tin and gallium.
- The market value of raw materials recovered from solar panels could reach USD 450 million by 2030.
- The value of recoverable materials might surpass USD 15 billion by 2050, which would be enough to power 630 GW with two billion solar panels. Globally, it is expected that End-of-Life (EoL) of solar panels will drive the solar panel recycling business in the next 10-20 years.

Global examples:

- The Waste Electrical and Electronic Equipment (WEEE) Directive of the EU (European Union) imposes responsibility for the disposal of waste on the manufacturers or distributors who introduce or install such equipment for the first time. PV (Photovoltaic) manufacturers are solely responsible for the collection, handling and treatment of modules at the end of their lifecycle, according to the WEEE Directive.
- The UK also has an industry-managed "take-back and recycling scheme", where all PV producers will need to register and submit data related to products used for the residential solar market (Business-to-Consumer) and non-residential market.
- While there are no federal statutes or regulations in the US that talk about recycling, there are some states who have proactively defined policies to address end-of-life PV module management. Washington and California have come up with Extended Producer Responsibility (EPR) regulations. Washington now requires PV module manufacturers to finance the take-back and reuse or recycling of PV modules sold within or into the state at no cost to the end-user.
- The federal government in Australia has acknowledged the concern and announced a USD 2 million grant as part of the National Product Stewardship Investment Fund to develop and implement an industry-led product stewardship scheme for PV systems.
- Countries such as Japan and South Korea have already indicated their resolve to come up with dedicated legislation to address the PV waste problem.

Recommendations for India:

- EPR for the manufacturer and developers to take responsibility for end-of-life the solar panel.
- PV modules were the first to be included in the EU's WEEE regulations. It includes options for financing waste management.
- To bring down the cost of recycling infrastructure investment is required, coordination between the energy and waste sector to efficiently handle the renewable energy waste and build more recycling plants to avoid solar panels ending up in landfills.
- Environmental disposal and recycling of solar waste could be part of the power purchase agreement SECI / DISCOMS / government signs with project developers.
- Solar panel waste is harmful to the environment as it contains toxic metals and minerals that may seep in the ground. New business models, incentives or issues of green certificates to be provided to encourage the recycling industry to participate more.
- Innovation in design may have an impact on the type of waste they generate; technology advancements will be significant in reducing the impact of renewable energy waste. New panels, for example, use less silicon and produce less waste during the manufacturing process.

World Employment and Social Outlook

News: Global unemployment is projected to stand at 207 million in 2022 (21 million more than in 2019 before the COVID-19 pandemic began) says ILO World Employment and Social Outlook – Trends 2022.

Background:

- The report examines the impacts of the crisis on global and regional trends in employment, unemployment and labour force participation, as well as on job quality, informal employment and working poverty. It also offers an extensive analysis of trends in temporary employment both before and during the COVID-19 crisis.

Details:

- It is estimated that in 2022 around 40 million people will no longer be participating in the global labour force. The downgrade in the 2022 forecast reflects the impact of ever new variants of COVID-19 on the world of work. Global working hours in 2022 will be almost two per cent below their pre-pandemic level. This is equivalent to the loss of 52 million full-time jobs.
- The pandemic has pushed millions of children into poverty. It is estimated that in 2020, an additional 30 million adults fell into extreme poverty (living on less than \$1.90 per day in purchasing power parity) while being out of paid work. The number of extreme working poor — workers who do not earn enough through their work to keep themselves and their families above the poverty line — rose by eight million.
- Women have been worse hit by the labour market crisis than men and this is likely to continue. The closing of education and training institutions will have long-term implications for young people, particularly those without internet access.

Suggestions:

- There is the need for a broad-based labour market recovery — the recovery must be human-centred, inclusive, sustainable and resilient. The recovery must be based on the principles of decent work — including health and safety, equity, social protection and social dialogue.

International Labour Organization (ILO)

- The ILO is a UN agency whose mandate is to advance social and economic justice through setting international labour standards.
- Founded in 1919 under the League of Nations, it is the first and oldest specialised agency of the UN.
- The ILO has 187 member states: 186 out of 193 UN member states plus the Cook Islands.
- The ILO's international labour standards are broadly aimed at ensuring accessible, productive, and sustainable work worldwide in conditions of freedom, equity, security and dignity.
- The Governing body is the apex executive body of the ILO which decides policies, programmes, agenda, budget and elects the Director-General.

IEA's Electricity Market Report

News: The early 2022 edition of the Agency's bi-annual Electricity Market Report has been published.

Details:

- Nations are largely turning to fossil fuels to meet the increase in electricity demand as Covid-19 lockdown restrictions are lifting. The global electricity demand rose 6% year-on-year in 2021 – the steepest year-on-year increase recorded by the IEA since the financial crash of 2008 onwards.
- Global energy intensity fell 1.9% year-on-year – a drop only half as steep as the level needed to lay the foundation for net-zero by 2050.
- While electricity generation from renewables was up 6% year-on-year in 2021, generation from coal was up by 9%, led by markets including China and India, with coal serving more than half of the increase in demand. This, coupled with a 2% increase in gas-fired generation, caused a 7% year-on-year increase in emissions from the power sector.
- After two years of decline, this means that emissions from the power sector are now at a record high
- The IEA is voicing concerns that, despite the growing net-zero movement, nations are still failing to decouple increased electricity demands from increased emissions.
- It is forecasting that power sector emissions will likely remain “around the same level” for the next three years. In contrast, the IEA's net-zero by 2050 scenario entails a 55% decrease in sectoral emissions by 2030, against a 2019 baseline. The report also charts increases in wholesale gas and electricity prices, globally, to “unprecedented” levels, as well as “volatile” coal prices.

About IEA:

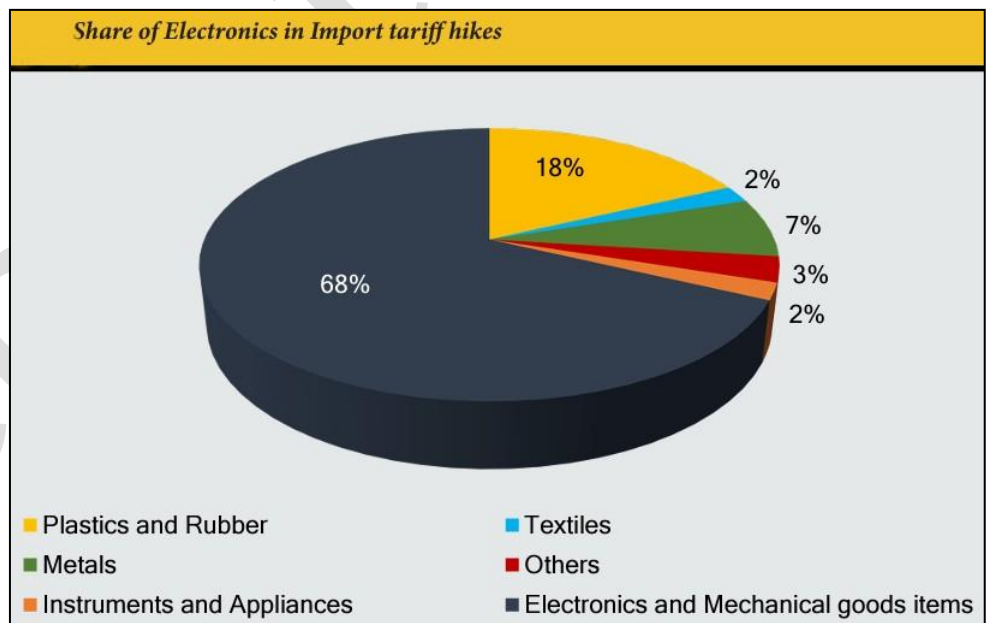
- IEA was established in 1974 as per the framework of the OECD, IEA is an autonomous intergovernmental organisation. In March 2017, India became an associate member of IEA.
- Its mission is guided by four main areas of focus: energy security, economic development, environmental awareness and engagement worldwide.
- Established in the wake of the 1973-1974 oil crisis, to help its members respond to major oil supply disruptions, a role it continues to fulfil today.
- IEA's mandate has expanded over time to include tracking and analyzing global key energy trends, promoting sound energy policy, and fostering multinational energy technology cooperation.
- It has 30 members at present. IEA family also includes eight association countries. A candidate country must be a member country of the OECD. But all OECD members are not IEA members.
- To become member a candidate country must demonstrate that it has:
- Crude oil and/or product reserves equivalent to 90 days of the previous year's net imports, to which the government has immediate access (even if it does not own them directly) and could be used to address disruptions to global oil supply.
- A demand restraint programme to reduce national oil consumption by up to 10%. Legislation and organisation to operate the Co-ordinated Emergency Response Measures (CERM) on a national basis.
- Legislation and measures to ensure that all oil companies under its jurisdiction report information upon request. Measures in place to ensure the capability of contributing its share of an IEA collective action.

High Tariffs on Electronic Components

News: Recently, a report by the Indian Cellular and Electronics Association (ICEA) has said that India's policy of adopting high tariffs on the import of electronics components may prove to be counterproductive.

Details:

- India has adopted high tariffs on the import of electronics components to reduce risks from global competition and save domestic companies.
- However, it may prove to be counterproductive to its schemes aimed at increasing domestic production of electronic products.
- All the countries have tried to encourage the domestic production of electronic goods in their geographies by adopting almost similar strategies such as attracting Foreign Direct Investment (FDI), improving domestic capabilities and competitiveness, increasing exports and then linking their markets with global value chains.
- Since 1980 China has improved its ranking in terms of office and telecom equipment export from 35 to 1, while Vietnam, which did not export any such electronic products up until 1990s has climbed the ladder to become the eight largest export in just 20 years.
- Similarly, Mexico, which was 37th in terms of electronics product export in the 1980s has steadily risen through the ranks to gain 11th place, a position it has maintained over the last two decades.
- Thailand ranked 45 in 1980, has also consolidated its position in the top 15 electronic product exporters, according to the report. On the other hand, India, which started at 40th position in the 1980s has gained and lost positions to reach 28th position by 2019.



Impact on India:

- Though all the countries followed nearly the same policy to boost domestic electronics manufacturing, one major difference between India and the rest of the countries was heavy reliance on tariffs.
- It is due to such high tariffs that investors and electronic component makers from global markets shy away from India as a market since the participation of the country in global value chains has remained low.
- Further, despite the size of the Indian economy, its participation in exports and international trade has remained low. Even for the domestic markets, the assumption that it will be beneficial to most companies since it is large and growing is wrong.
- For example, in the case of mobile phones, where one of the largest PLI schemes is currently operational, the size of the domestic market is expected to increase to USD 55 billion by 2025-26, whereas the global market is expected to reach USD 625 billion by the same time.
- Thus, at present, the Indian domestic market is about 6.5% of the global market, with a possibility of growing to 8.8%, if the growth forecasts are reasonably robust.
- At present, India's market share is not attractive enough for FDI to choose India as a location primarily on the basis of its domestic market per se, especially if India's policies result in cost inefficiencies which create obstacles to accessing a much larger global market.

PLI Factor:

- One of the major reasons why the report concluded that a high tariff on the import of electronic components may end up undoing the gains of Production Linked Incentive (PLI) schemes is that companies which have extensive global value chains are reluctant to enter India when tariffs for components are high.
- While the large electronics markets of India may look attractive, they are very small in global terms. Moreover, India does not produce about 50% of the components on which tariff has been increased. Hence the impact of tariffs is likely to be adverse on India's competitiveness.
- Although globally companies such as the US are increasing tariffs on the import of electronic components, India must keep its tariff at a bare minimum to ensure it remains competitive among its peers in the Asian neighbourhood.

Rooftop Solar Scheme

News: The Ministry of New & Renewable Energy has allowed households to get rooftop solar panels installed by themselves or by any vendor of their choice and a photograph of the installed system for distribution utility is sufficient to avail benefits or subsidy under the Rooftop solar scheme. Earlier under the rooftop solar scheme, the households were required to get that from the listed vendors only to avail the benefits and subsidy under the scheme.

Details:

- The scheme is implemented by the Ministry of New and Renewable Energy. Presently under implementation is the Grid-Connected Rooftop Solar Scheme (Phase II): It aims to achieve a cumulative capacity of 40,000 MW from Rooftop Solar Projects by the year 2022.
- This scheme is being implemented in the state by distribution companies (DISCOMs).
- Under this scheme the Ministry is providing a 40% subsidy for the first 3 kW and 20% subsidy beyond 3 kW and upto 10 kW of solar panel capacity. The residential consumer has to pay the cost of rooftop solar plant by reducing the subsidy amount given by the Ministry as per the prescribed rate to the vendor.

Objectives:

- To promote the grid-connected SPV rooftop and small SPV power generating plants among the residential, community, institutional, industrial and commercial establishments.
- To mitigate the dependence on fossil fuel based electricity generation and encourage environment-friendly Solar electricity generation and to create an enabling environment for investment in the solar energy sector by the private sector, state government and the individuals.
- To create an enabling environment for the supply of solar power from rooftop and small plants to the grid.

Benefits:

- An alternative source of electricity to that provided by the grid.

- Environmental benefits: It reduces the dependence on fossil-fuel generated electricity.
- Ability to provide electricity to those areas that are not yet connected to the grid — remote locations and areas where the terrain makes it difficult to set up power stations and lay power lines.

Challenges:

- Variability in supply because of variations in efficiency of the solar panels and sunlight.
- Additional cost for storage facilities.
- Residential areas also come with the associated issues of use restrictions of the roof — if the roof is being used for solar generation, then it cannot be used for anything else. The subsidised tariffs charged to residential customers undermine the economic viability of installing rooftop solar panels.

Regulation of Drones in Agriculture

News: Recently, the Ministry of Agriculture and Farmers Welfare has issued revised guidelines of the “Sub-Mission on Agricultural Mechanization” (SMAM) scheme in a move aimed at making drones more accessible to the farmers.

Details:

- The funding guidelines will make this technology affordable by assisting in purchase, hiring and demonstrations of agriculture drones. The financial aid and grants shall be applicable till 31st March 2023.
- SMAM scheme was launched in 2014-15 with the objectives of increasing the reach of farm mechanization to small and marginal farmers and to the regions & difficult areas where farm power availability is low.
- A grant up to 100% of the cost of agriculture drone or Rs.10 lakhs, whichever is less, as a grant for the purchase of drones will be provided.
- But, this 100% grant will be limited to only Farm Machinery Training and Testing Institutes, Indian Council of Agricultural Research (ICAR) institutes, Krishi Vigyan Kendras and State Agriculture Universities.
- Agriculture graduates establishing Custom Hiring Centers (CHCs) will be eligible to receive 50% of the basic cost of a drone and its attachments or up to Rs. 5 lakh in grant for drone purchases.
- Existing CHCs or new ones, already or to be set up by cooperative society of farmers, Farmer Producers Organizations (FPOs) and rural entrepreneurs are entitled to receive 4% (maximum Rs. 4 lakh) as grant on the basic cost of drone. CHCs are the main agencies at grassroots to popularize farm mechanization and unless they are given the incentives, drone use will not gather momentum.
- Rural entrepreneurs are defined as those who have passed the class tenth examination from a recognised Board and have a remote pilot license from an institute recognized by the Director-General of Civil Aviation (DGCA). The FPOs would be eligible to receive a subsidy of 75% of the cost of the drone if used only for demonstration purposes. Additionally, Rs. 6,000/hectare would be given to these implementing agencies that hire drones from CHCs, Hi-tech Hubs, drone manufacturers and start-ups for demonstrations.
- But, they would receive Rs 3,000/hectare if they purchase the drones for demonstrations.

Significance:

- The subsidized purchase of agriculture drones for CHCs/Hi-tech Hubs will make the technology affordable, resulting in their widespread adoption.
- This would make drones more accessible to the common man in India and will also significantly encourage domestic drone production.

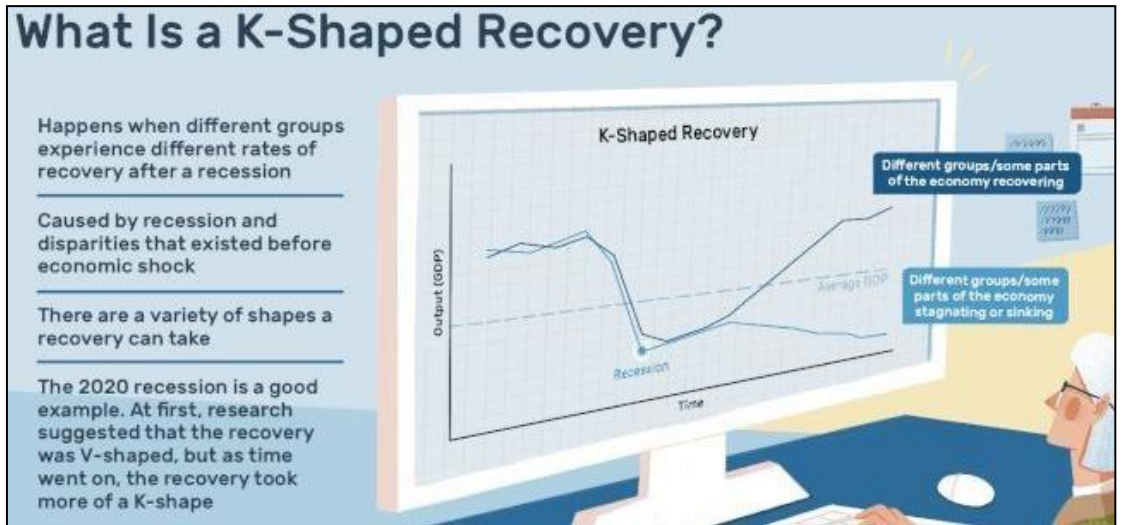
K-Shaped Recovery

News: Former RBI Governor Raghuram Rajan has said that the government needed to do more to prevent a K-shaped recovery of the economy hit by the coronavirus pandemic.

K-Shaped Recovery

- A K-shaped recovery occurs when, following a recession, different parts of the economy recover at different rates, times, or magnitudes.
- This is in contrast to an even, uniform recovery across sectors, industries, or groups of people.

- A K-shaped recovery leads to changes in the structure of the economy or the broader society as economic outcomes and relations are fundamentally changed before and after the recession.



- This type of recovery is called K-shaped because the path of different parts of the economy when charted together may diverge, resembling the two arms of the Roman letter “K.”
- Households at the bottom have experienced a permanent loss of income in the forms of jobs and wage cuts; this will be a recurring drag on demand, if the labour market does not heal faster.
- To the extent that Covid has triggered an effective income transfer from the poor to the rich, this will be demand-impeding because the poor tend to spend-instead of saving. If Covid-19 reduces competition or increases the inequality of incomes and opportunities, it could impinge on trend growth in developing economies by hurting productivity and tightening political economy constraints.

India’s Electronics Manufacturing Sector

News: India is likely to achieve electronics production of USD300 billion by 2026, lower than the target of USD400 billion by 2025 set as per the National Policy on Electronics (NPE) 2019.

Background:

- Electronics manufacturing had grown from USD37.1 billion in 2015-16 to USD67.3 billion in 2020-21.
- However, Covid-19 related disruptions impacted the growth trajectory in 2020-21 and led to a decline in the manufacturing output to USD67.3 billion. According to the document, there has been a complete shift in strategy which goes beyond the vision of import substitution to "Make in India for the World".
- This fresh outlook is aimed at transforming India's manufacturing prowess by focusing on competitiveness, scale and exports. Furthermore, continuing on the path of import substitution, India's domestic electronics market is estimated to reach at best USD150-180 billion from the current USD65 billion over the next 4-5 years. Thus, exports of USD120-140 billion are critical to reach the USD300 billion mark for electronics manufacturing. This, in turn, is key for the USD5 trillion economy, USD1 trillion digital economy, and the USD1 trillion export target envisaged by MeitY (Ministry of Electronics and Information Technology) and the Ministry of Commerce and Industry, respectively.
- The increasing labour costs in China, the geo-political trade and security environment, and the Covid-19 outbreak are compelling many global electronics majors to look at alternative manufacturing destinations and diversifying their supply chains.
- India is one of the leading contenders for alternate solutions for global electronics companies.
- The electronics sector has the potential to become one of the top exports of India in the next 3-5 years. Electronics exports may account for significant contributions to the Indian economy in terms of foreign exchange earnings and employment generation.

Details:

- The given estimate is according to a 5-year roadmap and vision document titled “USD300 bn Sustainable Electronics Manufacturing & Exports by 2026” released by the Ministry of Electronics and IT (MeitY) in association with the India Cellular & Electronics Association (ICEA).

- This roadmap is the second volume of a two-part vision document – the first of which titled “Increasing India’s Electronics Exports and Share in Global Value Chain (GVCs)” was released in November 2021.
- According to the document, the reduced target still aims for a 400% increase from the current level.
- Mobile manufacturing that is expected to cross USD100 billion annual production - up from the current USD30 billion - is expected to constitute nearly 40% of this ambitious growth.
- Amongst the key products that are expected to lead India’s growth in electronics manufacturing include Mobile Phones, IT Hardware (laptops, tablets), Consumer electronics (TV and audio), Industrial electronics, Auto electronics, Electronic components, LED Lighting, Strategic electronics, PCBA (Printed Circuit Board Assembly), Wearables and hearables, and Telecom equipment.
- There are various challenges being faced by the industry across qualitative (non-tariff, infrastructure related) and quantitative (tariff, free trade agreements etc.) aspects.

Suggestions:


- For achieving the target of USD300 billion in electronics manufacturing by 2025-26, primary focus must be building of scale through incentives and removal of cost disabilities.
- The documents also called for ‘swift changes’ in respect of existing policies within the next 1,000 days, including stability in import tariffs, decrease in import tariffs for components with no manufacturing base in India, development of skill sets and encouraging major foreign manufacturers to set up components ecosystems in India.
- It makes a strong recommendation on the need to focus on aggregate domestic value addition in the electronics sector, as India transforms from its current state to one that is gearing to compete with the likes of China and Vietnam.
- It also details the importance of the key role Indian champions will play in addition to global companies – both of whom are already part of the Production-Linked Incentive (PLI) Schemes.
- The USD300 billion electronics manufacturing comes on the back of the USD10 billion PLI Scheme announced by the government to propel forward the Semiconductor and Display ecosystem. The government has committed nearly USD17 billion over the next 6 years across four PLI Schemes – Semiconductor and Design, Smartphones, IT Hardware and Components.

Banking Frauds

News: India saw more banking frauds in the first half of 2021-22 than in the same year-ago period.

Banking Sector Frauds in India

- Banking fraud is an attempt to siphon or take funds or other assets from a financial or banking institution.
- This may vary from data theft, cybercrime, and simple manipulation of books of accounts, to fraudulent documentation.
- They can be classified under various categories such as:
 - Criminal breach of trust and misappropriation of funds
 - Encashment done fraudulently through forged instruments
 - Manipulation of books of accounts
 - Irregularities in foreign exchange transactions
 - Unauthorized credit facilities extended for illegal gratification, cheating and forgery
 - Negligence and cash shortages
- Banking fraud cases rose to 4,071 in April–September FY22 from 3,499 in the year-ago period, according to the RBI’s Trend and Progress of Banking in India, 2020-21, report. The amount involved in the frauds declined from ₹64,621 crore to ₹36,342 crore, according to the RBI’s Trend and Progress of Banking in India report.

MONEY LOST		FY19	FY20	FY21
 <p>Amount involved (₹ cr)</p>	PSBs	64,207 (3,704)	1,48,224 (4,410)	81,901 (2,903)
	Private banks	5,809 (2,149)	34,211 (3,065)	46,335 (3,710)
	Foreign banks	955 (762)	972 (1,026)	3,315 (521)
	FIs	553 (28)	2,048 (15)	6,839 (25)
	Total*	71,534 (6,798)	1,85,468 (8,703)	1,38,422 (7,363)

In brackets No. of frauds; PSBs: Public sector banks; FIs: Financial institutions; * Total includes frauds reported at small finance banks, payments banks, and local area banks Source: RBI

- Rise in frauds is because of remote working models, customers increasingly using non-branch banking channels, and limited use of forensic tools. Banks are unable to consistently monitor loans given to small and medium businesses. Retail banking is a major contributor to fraud occurrences.

Impact:

- Frauds erode customer confidence and pose challenges for the financial system in terms of reputational risk, operational risk, and business risk.
- Loans granted rightly belong to depositors, irrespective of norms or vested interests.
- It can lead to the collapse of banks or weaken their balance sheets, resulting in bad banks having to be merged with stronger banks.
- Productive activities would be deprived of credit support, which is the backbone of any business.

Way forward

- The only way out for state-run banks is functional autonomy, with little scope for bureaucratic or political interference. Strict adherence to kyc norms (know-your-customer), as well as accountability among the banking officials concerned is the need of the hour.
- Banks must also be vigilant and should consistently monitor all accounts.
- People with business interests should ideally be barred from getting onto the boards of banks.

Implementation of Bad Bank

News: The Reserve Bank of India's (RBI's) approval for the implementation of the proposal for setting up a 'Bad Bank' is still pending. In September 2021, the Union Cabinet approved the Rs. 30,600 crore guarantee to back Security Receipts issued by National Asset Reconstruction Company Limited (NARCL) for acquiring stressed loan assets.

Bad Bank

About:

- The bad bank is an ARC or an Asset Management Company (AMC) that takes over the bad loans of commercial banks, manages them and finally recovers the money over a period of time. The bad bank is not involved in lending and taking deposits, but helps commercial banks clean up their balance sheets and resolve bad loans.
- The takeover of bad loans is normally below the book value of the loan and the bad bank tries to recover as much as possible subsequently.

Effect of Bad Bank:

- Commercial banks are saddled with high NPA (Non-Performing Assets/loans) levels, setting up of the Bad bank will help. That's because such a bank will get rid of all its toxic assets, which were reducing its profits, in one quick move. When the recovery money is paid back, it will further improve the bank's position. Meanwhile, it can start lending again.
- Whether it is recapitalising PSBs laden with bad loans or giving guarantees for security receipts, the money is coming from the taxpayers' pocket. While recapitalisation and such guarantees are often designated as "reforms", they are band aids at best. The only sustainable solution is to improve the lending operation in PSBs. The plan of bailing out commercial banks will collapse if the bad bank is unable to sell such impaired assets in the market. The burden indeed will fall upon the taxpayer.

NARCL & IDRCL:

- The NARCL has been set up and issued a license by the RBI to conduct business as an Asset Reconstruction Company (ARC). NARCL will acquire stressed assets worth about Rs 2 lakh crore from various commercial banks in different phases. Public Sector Banks (PSBs) will maintain 51% ownership in NARCL.
- Simultaneously, a separate company has been set up to function as an Asset Management Company, named India Debt Resolution Company Limited (IDRCL), which will provide management and resolution of assets and also help in the operational aspects, relating to price discovery and aim at evolving the best possible recovery and the resolution process.

- PSBs and Public Financial Institutes (FIs) will hold a maximum of 49% stake in IDRCL. The remaining 51% stake will be with private-sector lenders. The NARCL is majorly owned by public sector banks with 51% ownership but in the case of the IDRCL, 51% shares are in private hands.

Functioning:

- The NARCL will first purchase bad loans from banks. It will pay 15% of the agreed price in cash and the remaining 85% will be in the form of “Security Receipts”.
- When the assets are sold, with the help of IDRCL, the commercial banks will be paid back the rest.
- If the bad bank is unable to sell the bad loan, or has to sell it at a loss, then the government guarantee will be invoked. The difference between what the commercial bank was supposed to get and what the bad bank was able to raise will be paid from the Rs 30,600 crore that has been provided by the government. This guarantee is extended for a period of five years.

Response from Banks:

- Normally, a single entity to be held accountable as owner, and for recovery of the assets, is the practice followed across geographies.
- Possibly a ‘Principal and Agent mechanism’ or similar arrangement may evolve to resolve this issue.
- The Indian Banks’ Association is learnt to have wanted a dual structure, with the AMC as a privately held entity, to be out of the purview of the regulatory entities.

RBI’s stand:

- RBI is not inclined to permit a dual structure in which one entity acquires non-performing loans and another reaches a resolution. It has now indicated that both the acquisition and resolution should be housed under the same legal entity.
- The impediments include issues arising from the ownership structure and operational mechanism, with the proposed setting up of two separate entities — the NARCL and the IDRCL.

Anti-Dumping

News: India has initiated an anti-dumping probe against imports of a certain type of tiles, used for covering the floors in residential and commercial buildings, from China, Taiwan and Vietnam following a complaint by domestic players.

Background:

- Countries start anti-dumping probes to determine whether their domestic industries have been hurt because of a surge in cheap imports. The dumping has caused material injury to the domestic players. If established, the Directorate General of Trade Remedies (DGTR) would recommend an anti-dumping duty on these imports. As a countermeasure, they India would impose these duties under the multilateral regime of the World Trade Organisation (WTO).

What is Dumping?

- Dumping is a process wherein a company exports a product at a price that is significantly lower than the price it normally charges in its home (or its domestic) market.
- This is an unfair trade practice which can have a distortive effect on international trade. Anti dumping is a measure to rectify the situation arising out of the dumping of goods and its trade distortive effect.

What is Anti-Dumping Duty?

- An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value. In order to protect their respective economy, many countries impose duties on products they believe are being dumped in their national market.
- In fact, anti-dumping is an instrument for ensuring fair trade and is not a measure of protection per se for the domestic industry. Such ‘dumped’ products have the potential to undercut local businesses and the local economy. Anti-dumping duties provide relief to the domestic industry against the injury caused by dumping. The Department of Commerce recommends the anti-dumping duty, provisional or final.
- The Department of Revenue in Finance Ministry acts upon the recommendation within three months and imposes such duties.

WTO and Anti-Dumping Duties

- The WTO operates a set of international trade rules, including the international regulation of anti-dumping measures. It does NOT intervene in the activities of companies engaged in dumping.
- Instead, it focuses on how governments can—or cannot—react to the practice of dumping.
- In general, the WTO agreement permits governments to act against dumping if it causes or threatens material injury to an established domestic industry.
- Anti-dumping duties have the potential to distort the market. In a free market, governments cannot normally determine what constitutes a fair market price for any good or service.

Gain of Function Research

News: The term 'gain of function research' has recently cropped up in the debate about the origins of the Covid-19 pandemic.

What is Gain-of-function Research?

- 'Gain of function' is a field of research focused on growing generations of microorganisms, under conditions that cause mutations in a virus. These experiments are termed 'gain of function' because they involve manipulating pathogens in a way that they gain an advantage in or through a function, such as increased transmissibility. Such experiments allow scientists to better predict emerging infectious diseases, and to develop vaccines and therapeutics.
- Gain of function research may use genetic engineering or serial passaging. Genetic engineering involves 'editing' the genetic code to modify the virus in a way predetermined by the scientists. Serial passaging involves allowing the pathogen to grow under different circumstances and then observing the changes.

Issues:

- Gain-of-function research involves manipulations that make certain pathogenic microbes more deadly or more transmissible. There is also 'loss-of-function' research, which involves inactivating mutations, resulting in a significant loss of original function, or no function to the pathogen.
- Gain-of-function research reportedly carries inherent biosafety and biosecurity risks and is thus referred to as 'dual-use research of concern' (DURC). Serial passaging involves allowing the pathogen to grow under different circumstances and then observing the changes.

Covid-19 pandemic:

- The discussion around gain of function research came back to focus recently, after a report argued that the possibility of the virus accidentally leaking out of the Wuhan Institute of Virology could not be entirely dismissed.
- While scientists had earlier ruled out the possibility of the virus being 'genetically engineered', a recent report said serial passaging may have led to the evolution of the virus during an ongoing gain of function research project in the Chinese city.

Indian scenario:

- All activities related to genetically engineered organisms or cells and hazardous microorganisms and products are regulated as per the "Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms/Genetically Engineered Organisms or Cells Rules, 1989".
- In 2020, the Department of Biotechnology issued guidelines for the establishment of containment facilities, called 'Biosafety labs'.
- The notification provides operational guidance on the containment of biohazards and levels of biosafety that all institutions involved in research, development and handling of these microorganisms must comply with.

Science & Technology

Quantum Entanglement

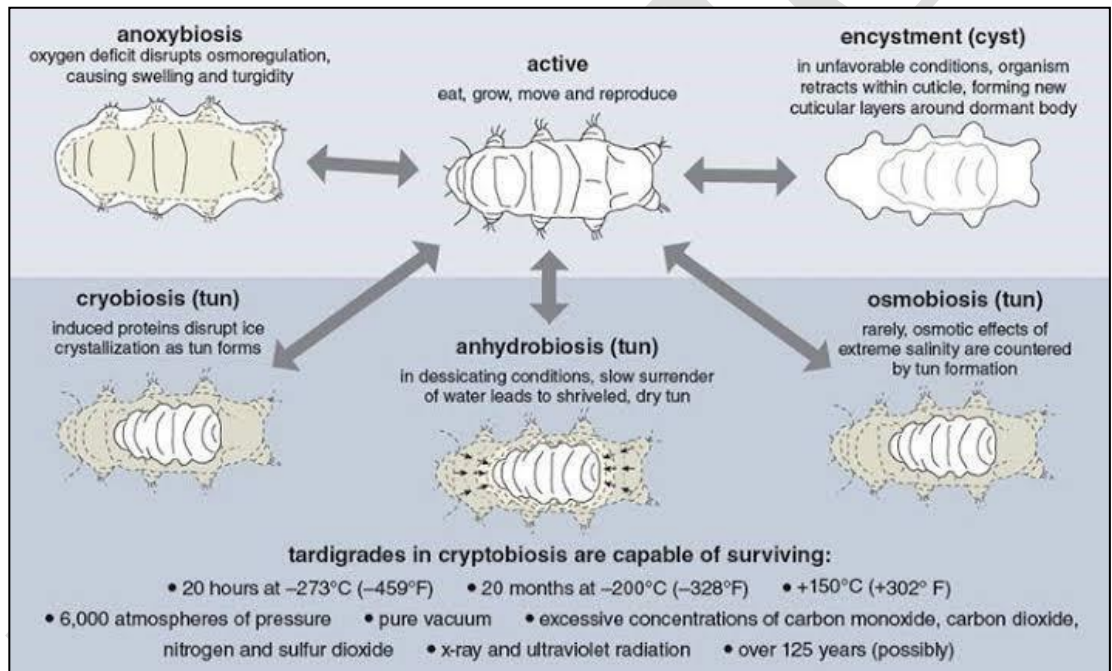
News: Scientists have identified the first “quantum entangled” animal in history-frozen tardigrade, in a recent study. Frozen tardigrade are microscopic multicellular organisms known to tolerate extreme physiochemical conditions through a latent state of life known as cryptobiosis.

Cryptobiosis:

- Also known as anabiosis, it is a metabolic state of life entered by an organism in response to adverse environmental conditions such as desiccation, freezing, and oxygen deficiency. In the cryptobiotic state, all measurable metabolic processes stop, preventing reproduction, development, and repair.
- When environmental conditions return to being hospitable, the organism will return to its metabolic state of life as it was prior to the cryptobiosis.

Details:

- The researchers managed the feat by placing frozen tardigrades between two capacitor plates of a superconductor circuit to form a qubit, the quantum equivalent of a bit.
- Upon contact, they say, the tardigrade changed the qubit's frequency.
- They then placed this circuit in the vicinity of a second superconductor circuit. Lo and behold, the team observed that the frequency of both qubits and the tardigrade changed in tandem.



Quantum Entanglement:

- It is the physical phenomenon that occurs when a pair or group of particles is generated and they interact in such a way that the quantum state of each particle of the pair or group cannot be described independently of the state of the others.
- In this quantum mechanical phenomenon, the quantum states of two or more objects have to be described with reference to each other, even though the individual objects may be spatially separated.
- This leads to correlations between observable physical properties of the systems.
- Albert Einstein dismissed this idea as a ‘spooky action’.
- Quantum entanglement is one of the peculiarities of quantum mechanics, which makes phenomena such as quantum teleportation and super-dense coding possible.

Quantum Computing Library set up by Indian Army

News: The Indian Army has set up a Quantum Computing Laboratory and a centre for Artificial Intelligence in Mhow, Madhya Pradesh.

Objective:

- The two Centres will carry out extensive research in developing the transformative technologies for use by the armed forces. The Centres will also facilitate the research and training in the developing field of Quantum and artificial intelligence.
- It will help it facilitate the next generation of communication and transform the current system of cryptography to post-quantum cryptography. The key thrust areas of Quantum Technology are Quantum Key Distribution, quantum computing and quantum communication.
- QKD, also called Quantum Cryptography, is a mechanism to develop secure communication.

Quantum Technology:

- Quantum Technology is based on the principles of Quantum mechanics that was developed in the early 20th century to describe nature at the scale of atoms and elementary particles.
- Using quantum superposition, a set of unbreakable codes or super-speedy information processing, quantum computers are able to mimic several classical computers working in parallel.
- Quantum computers compute in 'qubits' (or quantum bits). They exploit the properties of quantum mechanics, the science that governs how matter behaves on the atomic scale.
- The first phase of this revolutionary technology has provided the foundations of our understanding of the physical world, including the interaction of light and matter, and led to popular inventions such as lasers and semiconductor transistors.

Applications:

- China recently demonstrated secure quantum communication links between terrestrial stations and satellites. This area is significant to satellites, military and cyber security among others as it promises unimaginably fast computing and safe, unhackable satellite communication to its users.
- It can help in solving some of the fundamental questions in physics related to gravity, black holes etc. Similarly, the quantum initiative could give a big boost to the Genome India project.
- Tsunamis, drought, earthquakes and floods may become more predictable with quantum applications. The collection of data regarding climate change can be streamlined in a better way through quantum technology.
- Quantum computing could reduce the time frame of the discovery of new molecules and related processes to a few days from the present 10-year slog that scientists put in.
- Quantum computing is an integral part of Industrial revolution 4.0. Success in it will help in Strategic initiatives aimed at leveraging other Industrial revolution 4.0 technologies like the Internet-of-Things, machine learning, robotics, and artificial intelligence across sectors will further help in laying the foundation of the Knowledge economy.

Solid-State batteries

News: After Twitter CEO Parag Agrawal, now another Indian origin is in the headline is Jagdeep Singh, CEO and founder of a US battery startup. The reason for his recent buzz for his breakthrough battery technology.

What are Solid-state batteries?

- A solid-state battery is a battery technology that uses solid electrodes and a solid electrolyte, instead of the liquid or polymer gel electrolytes found in lithium-ion or lithium polymer batteries.
- Such batteries can provide potential solutions for many problems of liquid Li-ion battery, such as flammability, limited voltage, unstable solid-electrolyte interphase formation, poor cycling performance and strength.

What are Li-ion Batteries?

- Lithium-ion batteries use aqueous electrolyte solutions, where ions transfer to and fro between the anode (negative electrode generally made of graphite) and cathode (positive electrode made of lithium), triggering the recharge and discharge of electrons.
- The energy density of lithium-ion cells used in today's mobile phones and electric vehicles is nearly four times higher than that of older-generation nickel-cadmium batteries.

Significance:

- QuantumScape claims to prevent dendrites formation. It uses a solid-state separator technology that eliminates the side reaction between the liquid electrolyte and the carbon/graphite in the anode of conventional lithium-ion cells.
- The replacement of the separator enables the use of a lithium-metal anode in place of the traditional
- The lithium metal anode is more energy-dense than conventional anodes, which allows the battery to store more energy in the same volume, according to the company.

Limitations:

- Despite improvements in technology over the last decade, issues such as long charging times and weak energy density persist. While lithium-ion batteries are seen as sufficiently efficient for phones and laptops, they still lack the range that would make EVs a viable alternative.
- One major problem is that lithium metal is extremely reactive.
- The main form of lithium corrosion is dendrites (branched lithium structures) that grow out from the electrode and can potentially pierce the separator short-circuiting the cell. In current lithium-ion batteries, in which the electrolyte is a flammable liquid, dendrite formation can trigger a fire.

Advantages:

- The advantages of the solid-state battery technology include higher cell energy density (by eliminating the carbon anode), lower charge time (by eliminating the need to have lithium diffuse into the carbon particles in conventional lithium-ion cells).
- It has the ability to undertake more charging cycles and thereby a longer life, and improved safety.
- Lower cost could be a game-changer, given that at 30 per cent of the total cost, battery expenses are a key driver of the vehicle costs.

Indian scenario:

- The centre is working on a blueprint for a project of around 4,000 MWh of grid-scale battery storage system at the regional load dispatch centres that control the country's power grid, primarily to balance the vagaries of renewable generation.
- Reliance Industries Ltd has announced plans to set up an Energy Storage Giga factory; state-owned NTPC Ltd has floated a global tender for a grid-scale battery storage project.
- The Ministry of Heavy Industries issued a request for proposal for setting up manufacturing facilities for Advanced Chemistry Cell (ACC) battery storage in India.

ISRO Mission in 2022

News: After a rather muted 2021 in terms of satellite launches, Indian Space Research Organization (ISRO) is gearing up for a number of missions in 2022 including the launch of the first unmanned mission of Gaganyaan.

Gaganyaan Mission

- Gaganyaan is crewed orbital spacecraft intended to be the formative spacecraft of the Indian Human Spaceflight Programme (IHSP). The IHSP was initiated in 2007 by ISRO to develop the technology needed to launch crewed orbital spacecraft into low Earth orbit. The first uncrewed flight, named Gaganyaan 1, is scheduled to launch no earlier than June 2022 on a GSLV Mark III rocket.
- ISRO had been working on related technologies and it performed a Crew Module Atmospheric Re-entry Experiment and a Pad Abort Test for the mission. If completed in meantime, India will become the fourth nation to conduct independent human spaceflight after the Russia, US and China.
- The spacecraft is being designed to carry three people, and a planned upgraded version will be equipped with rendezvous and docking capability. In its maiden crewed mission, this capsule will orbit the Earth at 400 km altitude for up to seven days with a two or three-person crew on board.
- This Hindustan Aeronautics Limited (HAL) manufactured crew module had its first un-crewed experimental flight in 2014. DRDO will provide support for critical human-centric systems and technologies like space-grade food, crew healthcare, radiation measurement and protection, parachutes for the safe recovery of the crew module and fire suppression system.

Other missions this year

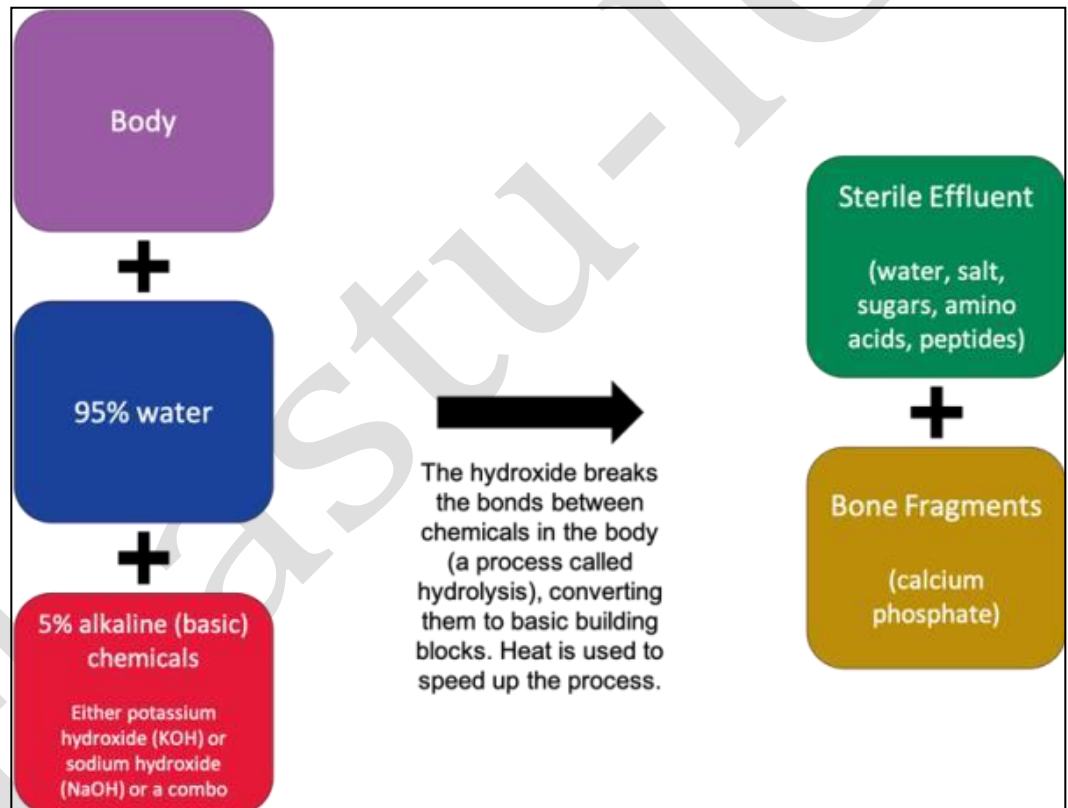
- Earth Observation Satellites: EOS-4 & EOS-6
- Flights for Crew Escape System of Gaganyaan
- Chandrayaan-03
- Aditya L1
- XpoSat
- Venus mission
- DISHA –a twin aeronomy satellite mission
- TRISHNA, an ISRO-CNES [Centre national d'études spatiales] mission

Aquamation

News: Recently, the Nobel Peace Prize winner Anglican archbishop and anti-apartheid campaigner Desmond Tutu died. He was very passionate about protecting the environment and taking necessary actions. In concurrence of his passion to save the environment, his body underwent aquamation, a green alternative to traditional cremation methods. The process of aquamation uses energy which is five times less than fire. It also reduces by about 35% the amount of greenhouse gases that are emitted during cremation.

Aquamation:

- It is a process in which the body of the deceased is immersed for a few hours in a mixture of water and a strong alkali in a pressurized metal cylinder and heated to around 150 degree centigrade.
- The combination of gentle water flow, temperature and alkalinity accentuate the breakdown of the organic materials. The process leaves behind bone fragments and a neutral liquid called effluent.



- The effluent is sterile, and contains salts, sugars, amino acids and peptides.
- There is no tissue and no DNA left after the process completes.
- The process was developed and patented in 1888 by Amos Herbert Hanson, a farmer who was trying to develop an ingenious way to make fertilizer from animal carcasses.
- The first commercial system was installed at Albany Medical College in 1993.
- Thereafter, the process continued to be in use by hospitals and universities with donated body programmes. This process is referred to as alkaline hydrolysis or as Cremation Association of North America (CANA) (an international non-profit organisation) calls it flameless cremation.
- The process is also known as water cremation, green cremation or chemical cremation.

Bioenergy Crops

News: A new study has found that converting annual crops to perennial bioenergy crops can induce a cooling effect on the areas where they are cultivated.

Details:

- The researchers simulated the biophysical climate impact of a range of future bioenergy crop cultivation scenarios. Eucalyptus, poplar, willow, miscanthus and switchgrass were the bioenergy crops used in the study.
- The study also demonstrated the importance of the crop type choice, the original land use type upon which bioenergy crops are expanded, the total cultivation area and its spatial distribution patterns.
- Cultivation area under bioenergy crops occupies $3.8\% \pm 0.5\%$ of the global total land area, but they exert strong regional biophysical effects, leading to a global net change in air temperature of $-0.08 \sim +0.05$ degrees Celsius.
- Global air temperature will decrease by $0.03 \sim 0.08$ °C, with strong regional contrasts and inter-annual variability, after 50 years of large-scale bioenergy crop cultivation.
- Large-scale bioenergy crop cultivation with carbon capture and storage (BECCS) has been identified as a major negative emission technology (NET) for removing CO₂ from the atmosphere.
- Large-scale bioenergy crop cultivation induces a biophysical cooling effect at the global scale, but the air temperature change has strong spatial variations and inter-annual variability. Temperature changes in the bioenergy crop scenarios may have very large spatial variations and important climate teleconnections to other areas of the globe.
- Strong cooling effects in Eurasia, between 60°N and 80°N, may protect permafrost from thawing or reduce methane emissions from wetlands. Permafrost is any ground that remains completely frozen—32°F (0°C) or colder—for at least two years straight.
- Cultivating eucalypt shows generally cooling effects that are more robust than if switchgrass is used as the main bioenergy crop, implying that eucalypt is superior to switchgrass in cooling the lands biophysically.
- Cooling effects are more for eucalypt and the greatest warming effects are seen for switchgrass.
- Replacing forests with switchgrass not only results in biophysical warming effects but could also release more carbon through deforestation than converting other short vegetation to bioenergy crops.

Bioenergy Crops

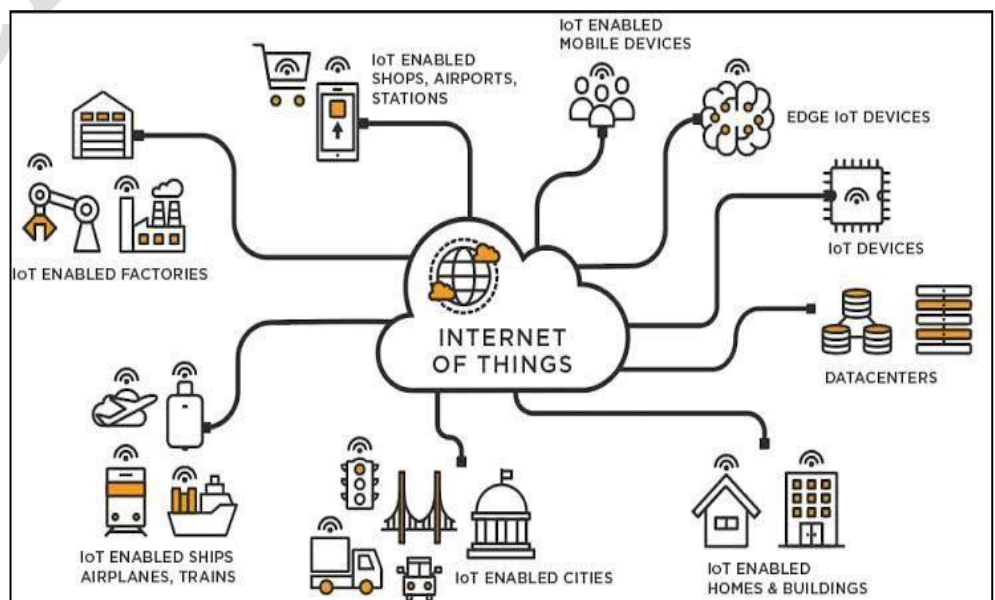
- Crops from which Biofuels are produced or manufactured are called Biofuel crops or Bioenergy Crops. “Energy crops” is a term used to describe biofuel crops.
- Wheat, corn, main edible oilseeds/edible oils, sugarcane, and other crops are among them.
- Biofuels have a number of advantages over fossil fuels, including the ability to burn cleaner and emit fewer pollutants and greenhouse gases, such as carbon dioxide, into the sky. They're also environmentally friendly, and energy corporations frequently mix Biofuels with gasoline.

Internet of Things

News: Recently, in order to secure Consumer Internet of Things (IoT) devices, Telecommunication Engineering Centre (TEC), under Department of Telecommunications, Ministry of Communications, has released a report “Code of Practice for Securing Consumer Internet of Things (IoT)”. These guidelines will help in securing consumer IoT devices & ecosystem as well as managing vulnerabilities.

Internet of Things:

- It is a computing concept that describes the



idea of everyday physical objects being connected to the internet and being able to identify themselves to other devices. It is one of the fastest emerging technologies across the globe, providing enormous beneficial opportunities for society, industry, and consumers. It is being used to create smart infrastructure in various verticals such as Power, Automotive, Safety & Surveillance, Remote Health Management, Agriculture, Smart Homes and Smart Cities etc, using connected devices.

- A smart device is a context-aware electronic device capable of performing autonomous computing and connecting to other devices wire or wirelessly for data exchange.
- IoT is benefitted by recent advances in several technologies such as sensors, communication technologies (Cellular and non-cellular), Artificial intelligence/ Machine Learning, Cloud / Edge computing etc.
- It has been projected that there would be around 11.4 billion consumer IoT devices and 13.3 billion enterprise IoT devices globally by 2025 i.e. consumer IoT devices would account for nearly 45% of all the IoT devices. According to a market research report published by Markets and Markets, the global IoT security market size is expected to grow from USD 8.2 billion in 2018 to USD 35.2 billion by 2023.

Latest guidelines:

- All IoT device default passwords shall be unique per device and/or require the user to choose a password that follows best practises, during device provisioning. IoT developers should provide a dedicated public point of contact as part of a vulnerability disclosure policy.
- Software components in IoT devices should be securely updateable.
- IoT devices may need to store security parameters such as keys & credentials, certificates, device identity etc. which are critical for the secure operation of the device.
- Security-sensitive data, including any remote management and control, should be encrypted in transit, appropriate to the properties of the technology and usage of the device.
- Devices and services should operate on the 'principle of least privilege'.
- The Principle of Least Privilege states that a subject should be given only those privileges needed for it to complete its task.
- In case the device collects or transmits personal data, such data should be securely stored.
- Resilience should be built into IoT devices and services where required by their usage or by other relying systems.

Significance:

- In view of the anticipated growth of IoT devices, it is important to ensure that the IoT endpoints comply with the safety and security standards. The hacking of the devices/networks being used in daily life would harm companies, organisations, nations and more importantly people.
- Therefore, securing the IoT ecosystem end-to-end i.e. from devices to the applications is very important.
- Ensuring end to end security for connected IoT devices is key to success in this market -without security, IoT will cease to exist. There is in this data-driven future, a growing concern about the potential for increased government surveillance and the resulting encroachment of civil rights, and the suppression of dissent or of marginalised communities
- Consequences of Cyber Security Attack: Possible consequences of such attacks could include:
 - Discontinuity and interruption to critical services/infrastructure.
 - Infringement of privacy.
 - Loss of life, money, time, property, health, relationships, etc.
 - Disruptions of national scale including civil unrest.

Use of Drones

News: The Ministry of Civil Aviation (MoCA) has sent a note on use of drones across various sectors to different ministries at the centre.

Background:

- Drones offered tremendous benefits to almost every sector of the economy, including but not limited to, national defence, agriculture, law enforcement, and mapping, among others.
- The Union government had on September 15 approved a production-linked incentive (PLI) scheme for drones and drone components with an allocation of Rs 120 crore spread over three financial years.

- The ministry had on August 25 notified the Drone Rules, 2021 that eased the regulation of drone operations in India by reducing the number of forms that need to be filled to operate them from 25 to five and decreasing the types of fees charged from the operator from 72 to four.
- Recently, Drones were used for the first time to drop explosive devices, triggering blasts inside the Air Force Station's technical area in Jammu. Over the past two years, drones have been deployed regularly by Pakistan-based outfits to smuggle arms, ammunition and drugs into Indian territory.
- According to government figures, 167 drone sightings were recorded along the border with Pakistan in 2019, and in 2020, there were 77 such sightings.
- With the rapid proliferation of drone technology and exponential growth of its global market in recent years, the possibility of a drone attack cannot be ruled out even in the safest cities in the world.
- Drones are becoming security threats particularly in conflict zones where non-state actors are active and have easy access to the technology.

Usage of Drones for different ministries:

- Ministry of Home Affairs: For surveillance, situational analysis, crime control, VVIP security, disaster management, etc.
- Ministry of Defence: Drones for combat, communication in remote areas, counter-drone solutions, etc.
- Ministry of Health and Family Welfare: Delivery of medicines, collection of samples from remote or epidemic/pandemic-affected areas.
- The Petroleum and Natural Gas, and Power Ministries: For real-time surveillance of assets and transmission lines, theft prevention, visual inspection/maintenance, construction planning and management, etc.
- Environment, Forests and Climate Change Ministry: Anti-poaching actions, monitoring of forests and wildlife, pollution assessment, and evidence gathering.
- Ministry of Information and Broadcasting: For high-quality videography of events and difficult-to-reach places at a fraction of the cost and approvals required. This move would also facilitate low altitude shooting without noise, and prevent dust pollution and risk of accidents.
- Other areas: To undertake disaster management, incidence response, inspection/maintenance works and project monitoring.

India as 2nd Largest Economy of Asia

News: According to the Information Handling Services (IHS) Markit report, India is likely to overtake Japan as Asia's second-largest economy by 2030. Currently, India is the sixth-largest economy in the world, behind the U.S., China, Japan, Germany and the U.K.

Details:

- In terms of value, the size of the Indian economy stood at USD 2.7 trillion in 2021, which is projected to grow to USD 8.4 trillion by 2030. This boom is enough to overtake Japan, making India the second largest economy in the Asia-Pacific region by 2030.
- India's growth rate is projected to be 8.2% in 2021-22, compared to a decline of 7.3% in the previous fiscal. However, the momentum of the current financial year(FY) will continue in 2022-23 as well and India will achieve 6.7% growth.
- The manufacturing, infrastructure and services sector along with the e-commerce sector have a big role to play in boosting India's growth rate. Not only this, due to increasing digitization, the e-commerce market will become bigger in the coming times. According to a report, 1.1 billion Indians will have internet by 2030, in 2020 this number was 500 million.
- Overall, the future of the Indian economy looks strong and stable, making it the fastest growing country in the country for the next decade. In the long term also, technological developments like infrastructure sector and startups will play a big role in sustaining India's rapid growth rate.
- Being one of the world's fastest-growing economies will make India one of the most important long-term growth markets for multinationals in a wide range of industries, including manufacturing industries such as autos, electronics and chemicals, and services industries such as banking, insurance, asset management, healthcare and information technology.

- India gets the most help from its vast middle class, which is its main consumer force. Indian consumer spending will also double in the next decade. This could increase from USD1.5 trillion in 2020 to USD3 trillion in 2030.
- The large increase in Foreign Direct Investment (FDI) inflows to India that has been evident over the past five years is also continuing with strong momentum in 2020 and 2021. It is being boosted by large inflows of investments from global technology Multinational Companies (MNCs) such as Google and Facebook that are attracted to India's large domestic consumer market.
- India's GDP at current prices stood at USD 694.93 billion in the first quarter of FY22, as per the provisional estimates of gross domestic product for the first quarter of 2021-22. India is the fourth-largest unicorn base in the world with over 21 unicorns collectively valued at USD 73.2 billion.

Coal-based Power Plants

News: According to the analysis by the Centre for Science and Environment (CSE), a Delhi-based non-profit, 61% of the coal-based power plants located near million-plus population cities, which have to meet their emission standards by December 2022, will miss their deadlines.

Details:

- The Ministry of Environment, Forest and Climate Change (MoEF&CC) had in 2015 set new emission norms and fixed a deadline to meet it.
- India initially had set a 2017 deadline for thermal power plants to comply with emissions standards for installing Flue Gas Desulphurization (FGD) units that cut emissions of toxic sulphur dioxide.
- This was later changed to varying deadlines for different regions, ending in 2022.

Categorisation of Power Plants:

Category A:

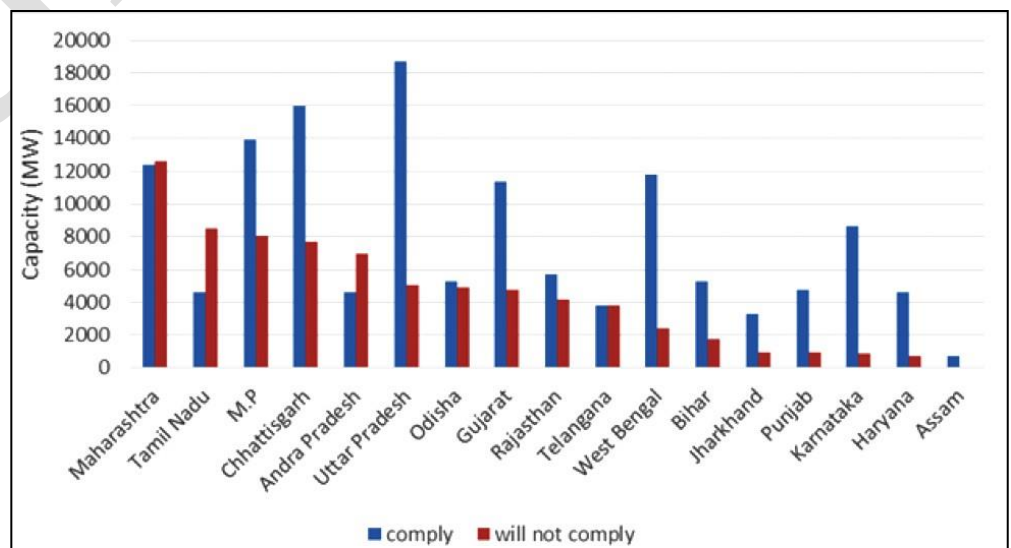
- The power plants which have to meet the December 2022 target are those which are located within 10 km radius of the National Capital Region (NCR) or cities having million-plus population.
- There are 79 coal-based power plants in this category as per a categorisation list of a task force, constituted by the Central Pollution Control Board (CPCB).

Category B and C:

- 68 power plants have been put in Category B (compliance deadline of December 2023) and 449 in Category C (compliance deadline of December 2024).
- The power plants which are located within 10 km radius of critically polluted areas or non-attainment cities fall under category B while the rest others (75% of total) fall in category C.

Latest analysis:

- Major Defaulters include Maharashtra, Tamil Nadu, Madhya Pradesh, Chhattisgarh and Andhra Pradesh.
- These defaulting stations are run largely by the respective state governments. At least 17 Indian states have coal-based thermal power stations. A state-wise comparison highlighted the following:
- Except for Assam (AS), none of the other states among these 17 will 100% comply with the stipulated deadlines. This state has a 750-megawatt power station that makes it an insignificant per cent of total coal capacity.



- A majority of the coal thermal power capacity that is likely to meet the norms belongs to the central sector followed by the private sector. Among the plants belonging to the state sector, some have floated the tender or at various stages of a feasibility study or simply have not framed any action plan to date.
- The penalty imposed on non-compliant units will be more feasible to pay rather than bearing the legalised cost of retrofit of pollution control equipment (FGD) to meet the new norms.
- The April 2021 notification also introduced a penalty mechanism or environmental compensation for plants that will not meet the respective deadlines, in addition to revising the deadlines. The environmental compensation that will be levied too will fail to act as deterrence for this expected non-compliance as it is too meagre as compared to the cost of effective emission control by a coal thermal power plant.

Sulfur Dioxide Pollution

- The largest source of SO₂ in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities. Smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore, natural sources such as volcanoes, and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content.
- Short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO₂.
- SO₂ emissions that lead to high concentrations of SO₂ in the air generally also lead to the formation of other sulfur oxides (SO_x). SO_x can react with other compounds in the atmosphere to form small particles. These particles contribute to Particulate Matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantities can contribute to health problems.
- India's sulphur dioxide (SO₂) emissions recorded a significant decline of approximately 6% in 2019 compared to 2018, the steepest drop in four years, according to a report from Greenpeace India and the Centre for Research on Energy and Clean Air (CREA). However, India remained the largest emitter of SO₂.
- Air Quality sub-index has been evolved for eight pollutants (PM₁₀, PM_{2.5}, NO₂, SO₂, CO, O₃, NH₃, and Pb) for which short-term (upto 24-hours) National Ambient Air Quality Standards are prescribed.

Connection to Nerve Cells

News: Recent work by researchers at the National Centre of Biological Sciences, Bengaluru, has thrown light on what stimulates the synapses (connection of nerve cells) to form.

What are Synapses?

- Neurons, or nerve cells, in the brain connect by means of junctions known as synapses through which they transmit signals. There are two types of synapses – chemical and electrical:

Chemical Synapse

- In this, there is a space of about 20 nanometres between two neurons, and the way they communicate is this: One neuron converts electrical signal into chemical signals. This chemical is released into the synaptic space and the receiving neuron converts the chemical signal back into an electrical signal.

Electrical synapse

- In these synapses, the two neurons have a physical connection and the conversion of electrical to chemical need not occur, and they communicate directly.
- Electrical synapses are like a physical wire, communication is faster but they are also fewer in number.

Latest Research:

- Researchers from TIFR-National Centre of Biological Sciences, Bengaluru, have chosen Zebrafish as a model organism to study this process. Zebrafish are transparent and neuron development in larval zebrafish can be observed from day to day by injecting a dye or by engineering the fish to express fluorescent proteins.
- It was observed that electrical synapses are formed before chemical synapses, they are like a blueprint in which neurons make a handshake. This results in the making of chemical synapses. Research on organisms such as leeches showed that if you remove electrical synapses, the chemical synapses do not form.
- However, the mechanism of how it happens in higher organisms such as vertebrates was not known.

- The group observed that knocking out a particular protein known as the gap junction delta 2b (gjd2b) in the cerebellum of zebrafish affected levels of the enzyme CaMKII.
- Levels of CaMKII were seen to increase in the Purkinje neurons in the cerebellum.
- These neurons and the cerebellum itself control coordination of movements in the organism.

Significance:

- In humans for example, excess abuse of alcohol leads to damage of these cells, which results in lack of coordination in movement.
- The cerebellum shows an evolutionary continuity in all vertebrates, so, too, the Purkinje neurons.
- Even though fish and humans diverged from a common ancestor about 500 million years ago, the cerebellum has been evolutionarily conserved.
- While zebrafish have about 300-400 Purkinje neurons, humans have thousands of these.

NISAR Mission

News: The NISAR mission is scheduled for launch in 2023. ISRO has already delivered the S-band SAR payload to NASA for NISAR [NASA-ISRO SAR] mission.

About NISAR:

- It is optimised for studying hazards and global environmental change and can help manage natural resources better and provide information to scientists to better understand the effects and pace of climate change.
- It will scan the globe every 12 days over the course of its three-year mission of imaging the Earth's land, ice sheets and sea ice to give an "unprecedented" view of the planet. It will detect movements of the planet's surface as small as 0.4 inches over areas about half the size of a tennis court.
- NASA will provide one of the radars for the satellite, a high-rate communication subsystem for science data, GPS receivers and a payload data subsystem. ISRO will provide the spacecraft bus, the second type of radar (called the S-band radar), the launch vehicle and associated launch services.
- NISAR will be equipped with the largest reflector antenna ever launched by NASA and its primary goals include tracking subtle changes in the Earth's surface, spotting warning signs of imminent volcanic eruptions, helping to monitor groundwater supplies and tracking the rate at which ice sheets are melting.
- The name NISAR is short for NASA-ISRO-SAR. SAR here refers to the synthetic aperture radar that NASA will use to measure changes in the surface of the Earth.
- Essentially, SAR refers to a technique for producing high-resolution images. Because of the precision, the radar can penetrate clouds and darkness, which means that it can collect data day and night in any weather.

Chairman of ISRO

News: Recently, S. Somanath, an eminent rocket scientist has been appointed as the Chairman of the Indian Space Research Organisation (ISRO) and the Space Secretary.

Contribution of Dr. Somanath

- He has played a major role in the development of the Polar Satellite Launch Vehicle (PSLV) and the Geosynchronous Satellite Launch Vehicle Mk-III (GSLV Mk-III). He joined the GSLV Mk-III project in 2003, and served as Project Director from 2010 to 2014. He is an expert in the area of system engineering of launch vehicles. Later on, he contributed to the development of the indigenous cryogenic stages for the GSLV.

ISRO:

- It is the pioneer space exploration agency of India, headquartered at Bengaluru. ISRO was formed in 1969 with a vision to develop and harness space technology in national development, while pursuing planetary exploration and space science research. ISRO replaced its predecessor, INCOSPAR (Indian National Committee for Space Research), established in 1962 by India's first Prime Minister Pt. Jawaharlal Nehru and scientist Vikram Sarabhai, considered amongst the founding fathers of the Indian space program.

- The first Indian satellite, Aryabhata, was built by the ISRO and launched with the help of the Soviet Union on 19th April 1975. The year 1980 marked the launch of Rohini, which was the first satellite to be successfully placed in orbit by SLV-3, an Indian made launch vehicle.
- Subsequently with more efforts, two other rockets were developed by ISRO: the PSLV (Polar Satellite Launch Vehicle) for placing satellites into polar orbits and the GSLV (Geosynchronous Satellite Launch Vehicle) for placing satellites into geostationary orbits. Both the rockets have successfully launched several earth observation and communication satellites for India as well as other countries.
- Indigenous satellite navigation systems like IRNSS and GAGAN have also been deployed.
- Indian Regional Navigation Satellite System is designed to provide accurate position information service to assist in the navigation of ships in the Indian Ocean waters.
- GAGAN is India's first satellite-based global positioning system that relies on ISRO's GSAT satellites.
- In January 2014, ISRO used an indigenously built cryogenic engine for a GSLV-D5 launch of the GSAT-14 satellite making it one of the only six countries in the world to develop a cryogenic technology.
- Some remarkable space probes of ISRO include Chandrayaan-1 lunar orbiter, Mars Orbiter Mission (Mangalyaan-1) and ASTROSAT space observatory. The success of the Mars Orbiter Mission made India only the fourth country in the world to reach Martian orbit.
- India launched Chandrayaan-2, its second lunar exploration mission after Chandrayaan-1 on 22nd July 2019.

Semiconductors

News: The Ministry of Electronics and Information (MeitY) is seeking applications from 100 domestic semiconductor chip design firms, companies, start-ups and Micro, Small and Medium Enterprises (MSMEs) under its Design Linked Incentive (DLI) Scheme. The DLI scheme is part of the MeitY's comprehensive Program for the Development of Semiconductors and Display Manufacturing Ecosystems in the country.

Semiconductors

- Any of a class of crystalline solids intermediate in electrical conductivity between a conductor and an insulator. Semiconductors are employed in the manufacture of various kinds of electronic devices, including diodes, transistors, and integrated circuits. Such devices have found wide application because of their compactness, reliability, power efficiency, and low cost. As discrete components, they have found use in power devices, optical sensors, and light emitters, including solid-state lasers.

DLI Scheme:

- Under the DLI Scheme financial incentives and design infrastructure support will be extended to domestic companies, startups and MSMEs. The incentives will be provided across various stages of development and deployment of semiconductor design for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores and semiconductor linked design for over a period of 5 years.
- The approved applicants that claim incentives under the scheme will be encouraged to retain their domestic status (i.e., more than 50% of the capital in it is beneficially owned by resident Indian citizens and/ or Indian companies, which are ultimately owned and controlled by resident Indian citizens) for a period of three years after claiming incentives under the scheme. An applicant must meet the Threshold and Ceiling Limits to be eligible for disbursement of incentives under the Scheme. A dedicated portal has also been made available.
- It aims to nurture at least 20 domestic companies involved in semiconductor design and facilitate them to achieve turnover of more than Rs.1500 Crore in the next 5 years.
- The DLI Scheme will also take a graded and pre-emptive approach to Identify the Products of national priorities and implement strategies for their complete or near complete indigenisation & deployment thereby taking steps towards the import substitution & value addition in strategic & societal sectors.
- C-DAC (Centre for Development of Advanced Computing), a scientific society operating under MeitY, will serve as the nodal agency for implementation of the DLI scheme.
- The scheme has three components – Chip Design infrastructure support, Product Design Linked Incentive and Deployment Linked Incentive:

- Under this, C-DAC will set up the India Chip Centre to host the state-of-the-art design infrastructure (viz. EDA Tools, IP Cores and support for MPW (Multi Project Wafer fabrication) & post-silicon validation) and facilitate its access to supported companies.
- Under this, a reimbursement of up to 50% of the eligible expenditure subject to a ceiling of Rs.15 Crore per application will be provided as fiscal support to the approved applicants who are engaged in semiconductor design. Under this, an incentive of 6% to 4% of net sales turnover over 5 years subject to a ceiling of Rs.30 Crore per application will be provided to approved applicants whose semiconductor design for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores and semiconductor linked design are deployed in electronic products.

Rare Earth Metals

News: Recently, the US has proposed a law aiming to end China's alleged "chokehold" on rare-earth metal supplies.

Background:

- The Bill aims to "protect the US from the threat of rare-earth element supply disruptions, encourage domestic production of those elements, and reduce its reliance on China. The law would require the creation of a "strategic reserve" of rare earth minerals by 2025. That reserve would be tasked with responding to the needs of the army, the tech sector and other essential infrastructure "for one year in the event of a supply disruption".

What are Rare Earth Metals?

- They are a set of seventeen metallic elements. These include the fifteen lanthanides on the periodic table in addition to scandium and yttrium that show similar physical and chemical properties to the lanthanides.
- The 17 Rare Earths are cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), praseodymium (Pr), promethium (Pm), samarium (Sm), scandium (Sc), terbium (Tb), thulium (Tm), ytterbium (Yb), and yttrium (Y).
- These minerals have unique magnetic, luminescent, and electrochemical properties and thus are used in many modern technologies, including consumer electronics, computers and networks, communications, health care, national defense, etc.
- Even futuristic technologies need these REEs (For example high-temperature superconductivity, safe storage and transport of hydrogen for a post-hydrocarbon economy, environmental global warming and energy efficiency issues). They are called 'rare earth' because earlier it was difficult to extract them from their oxides forms technologically.
- They occur in many minerals but typically in low concentrations to be refined in an economical manner.

Indian scenario:

- Exploration in India has been conducted by the Bureau of Mines and the Department of Atomic Energy. Mining and processing has been performed by some minor private players in the past, but is today concentrated in the hands of IREL (India) Limited (formerly Indian Rare Earths Limited), a Public Sector Undertaking under the Department of Atomic Energy.
- India has granted government corporations such as IREL a monopoly over the primary mineral that contains REEs: monazite beach sand, found in many coastal states.
- IREL produces rare earth oxides (low-cost, low-reward "upstream processes"), selling these to foreign firms that extract the metals and manufacture end products (high-cost, high-reward "downstream processes") elsewhere.
- IREL's focus is to provide thorium — extracted from monazite — to the Department of Atomic Energy.
- India has the world's fifth-largest reserves of rare earth elements, nearly twice as much as Australia, but it imports most of its rare earth needs in finished form from China. In 2019, the US imported 80% of its rare earth minerals from China while the European Union gets 98% of its supply from China.

Chinese monopoly over Rare Earth Metals:

- China has over time acquired global domination of rare earths, even at one point, it produced 90% of the rare earths the world needs. Today, however, it has come down to 60% and the remaining is produced by other countries, including the Quad (Australia, India, Japan and United States).

- Since 2010, when China curbed shipments of Rare Earths to Japan, the US, and Europe, production units have come up in Australia, and the US along with smaller units in Asia, Africa, and Latin America.
- Even so, the dominant share of processed Rare Earths lies with China.

5G and concerns with Airlines

News: Recently, the US Federal Aviation Administration (FAA) has warned that the new 5G technology could interfere with sensitive navigation equipment such as altimeters, which could lead to "catastrophic disruptions." Airlines across the world, including India, are adjusting their scheduled flights to the US due to the rollout of 5G by telecom companies near American airports.

5G Technology

- 5G is the 5th generation mobile network. It is a new global wireless standard after 1G, 2G, 3G, and 4G networks. It enables a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices.
- Internet speeds in the high-band spectrum of 5G has been tested to be as high as 20 Gbps (gigabits per second), while, in most cases, the maximum internet data speed in 4G has been recorded at 1 Gbps.
- In India, Satcom Industry Association-India (SIA) has voiced concerns over the Government's plan to include the Millimetre Wave (mm Wave) bands in the 5G spectrum auction.

Latest issue:

- The higher the frequency in the spectrum, the faster the service. So in order to get full value from 5G, operators want to operate at higher frequencies.
- Some of the C band (a radio frequency band between 3.7 and 4.2 GHz) spectrum auctioned had been used for satellite radio but the transition to 5G means there will be much more traffic.
- The new C band 5G service could render a significant number of aircraft unusable, causing chaos for US flights and potentially stranding tens of thousands of Americans overseas.
- The United States auctioned mid-range 5G bandwidth to mobile phone companies in early 2021 in the C band, for about USD 80 billion.
- FAA warned that the functioning of Altimeters, which measure how far above the ground an aeroplane is travelling, operating in the 4.2-4.4 GHz range which sits too close to the frequency of C range, may get hampered. In addition to altitude, altimeter readouts are also used to facilitate automated landings and to help detect dangerous currents called wind shear.
- Companies have argued that C band 5G has been deployed in about 40 other countries without aviation interference issues. They have agreed to buffer zones around 50 airports in the United States, similar to those used in France, for six months to reduce interference risks.

Antimicrobial Resistance

News: A comprehensive estimate of the global impact of antimicrobial resistance (AMR), covering 204 countries and territories, was published recently in The Lancet. The report is titled- Global Research on Antimicrobial Resistance (GRAM) report.

Details:

- 27 million people died in 2019 as a direct result of AMR. AMR is now a leading cause of death worldwide, higher than HIV/AIDS or malaria. Besides, another 49.5 lakh deaths were indirectly caused by AMR (a drug-resistant infection was implicated, but resistance itself may or may not have been the direct cause of death).
- Of the 23 pathogens studied, drug resistance in six (E coli, S aureus, K pneumoniae, S pneumoniae, A baumannii, and P aeruginosa) led directly to 9.29 lakh deaths and was associated with 3.57 million. One pathogen-drug combination – methicillin-resistant S aureus, or MRSA – directly caused more than 1 lakh deaths.

AMR-RELATED DEATHS		
	Direct	Associated
INFECTION		
Lower respiratory	4 lakh	15 lakh
Bloodstream	3.7 lakh	15 lakh
Inter-abdominal	2.1 lakh	8 lakh
REGION		
Sub-Saharan Africa	2.55 lakh	10 lakh
South Asia	3.89 lakh	13.9 lakh

- Resistance to two classes of antibiotics often considered the first line of defence against severe infections – fluoroquinolones and beta-lactam antibiotics – accounted for more than 70% of deaths caused by AMR.

What is Antibiotic resistance?

- It is the ability of a microorganism (like bacteria, viruses, and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others.
- Antibiotics have saved millions of lives till date. Unfortunately, they are now becoming ineffective as many infectious diseases have ceased to respond to antibiotics.
- Even though antimicrobial resistance is a natural process, the misuse of antibiotics in humans and animals is accelerating the process.
- A large number of infections such as tuberculosis, pneumonia and gonorrhoea are becoming very difficult to treat since the antibiotics used for their treatment are becoming less effective.
- Globally, use of antibiotics in animals is expected to increase by 67% by 2030 from 2010 levels. The resistance to antibiotics in germs is a man-made disaster.
- Irresponsible use of antibiotics is rampant in human health, animal health, fisheries, and agriculture.
- Complex surgeries such as organ transplantation and cardiac bypass might become difficult to undertake because of untreatable infectious complications that may result post-surgery.



Space Debris

News: Russia blew up one of its old satellites in November in a missile test that sparked international anger because of the space debris it scattered around the Earth's orbit. Recently, a Chinese satellite (Tsinghua Science Satellite) had a near collision with one of the many chunks of debris left by the fallout of this Russian anti-satellite missile test.

Background:

- With more countries venturing into space with every passing decade, the problem is simply ballooning out of control and recent events, like the anti-satellite weapons test by Russia, are only exacerbating the problem.
- The debris is now adding to the space junk problem and posing a major risk to the International Space Station (ISS) and the satellites in geostationary orbit. The debris also poses a potential threat to the lives of the US, Russian, and Chinese astronauts and cosmonauts currently in space.

What is Space Debris?

- Space debris poses a global threat to the continued use of space-based technologies that support critical functions like communication, transport, weather and climate monitoring, remote sensing.
- Predicting collision probability from these space objects is crucial from the national security perspective as well as for the protection of public and private space assets of Indian origin.
- The real amount of space debris is said to be between 500,000 and one million pieces as current sensor technology cannot detect smaller objects. They all travel at speeds of up to 17,500 mph (28,162 kmph) fast enough for a relatively small piece of orbital debris to damage a satellite or a spacecraft.
- Outcome of this project will directly support the Indian space sector, valued at \$7 billion (Rs 51,334 crore) by providing an operationally flexible, scalable, transparent and indigenous collision probability solution.

Solutions:

- Moving an object out of the way by altering its orbit is one method of diverting a potential crash, but the sheer amount of debris requires constant observation and prediction – by any means necessary.
- Nasa's Space Debris Sensor orbits the Earth on the International Space Station. The sensor was attached to the outside of the space station's European Columbus module in December 2017. It will detect millimetre-sized pieces of debris for at least two years, providing information on whatever hits it such as size, density, velocity, orbit and will determine whether the impacting object is from space or a man-made piece of space debris.
- REMOVEdebris, satellite contain two cubesats that will release simulated space debris so that it can then demonstrate several ways of retrieving them.
- Deorbit mission: There are two emerging technologies being developed under what's known as the e.Deorbit mission to grasp the wayward space junk, or to catch it.
- Other technologies include moving objects with a powerful laser beam. It is important to start doing that soon, current scientific estimates predict that without active debris removal, certain orbits will become unusable over the coming decades.

Netra:

- To safeguard its space assets from space debris, Isro had set up a dedicated Space Situational Awareness (SSA) Control Centre named "Netra" in Bengaluru last December. Netra's key objective is to monitor, track and protect the national space assets and function as a hub of all SSA activities. Only the US, Russia and Europe have similar facilities in place to track space objects and share collision warnings.

India's Anti-Satellite (ASAT) missile:

- Mission Shakti is a joint programme of the Defence Research and Development Organisation (DRDO) and the Indian Space Research Organisation (ISRO). As part of the mission, an anti-satellite (A-SAT) weapon was launched and targeted an Indian satellite which had been decommissioned. Mission Shakti was carried out from DRDO's testing range in Odisha's Balasore.
- India is only the 4th country to acquire such a specialised and modern capability, and Entire effort is indigenous. Till now, only the US, Russia and China had the capability to hit a live target in space.

Proposed Changes in Wildlife Protection Act

News: In December 2021, the Union environment ministry announced a plan to amend the Wildlife Act. The Act has been amended several times, in 1982, 1986, 1991, 1993, 2002, 2006 and 2013.

Changes proposed:

- The proposed amendment is likely the most expansive so far in scope: it covers more areas of legislation, from trade in wild species to permitting filmmaking in protected areas and controlling the spread of invasive species.
- The Bill increases penalties for wildlife crimes. For example, offences that attracted a fine of Rs 25,000 now attract Rs 1 lakh. There's a new and separate chapter on regulating species involved in international trade according to the CITES treaty.
- The Bill prohibits possessing, trading and breeding species without prior permissions from CITES authorities. The Bill also recognises threats that invasive alien species pose.

Issues:

- The Bill doesn't include regional invasive species – some of which may be native to the country but invasive in some parts. The amendment Bill has no separate Schedule for species the Act classifies as 'vermin', so the Centre can directly notify such species and open them up to be hunted – including some of the species currently in Schedule II.
- The Bill also proposes changes to the Schedules. Foremost, it reduces the number of Schedules from six to four, to "rationalise" the lists. But the two main substitute Schedules that will specify the protected species are incomplete.

- The Bill will render the existing 'State Boards for Wildlife' defunct by replacing it with set up a 'Standing Committee' of the State Board of Wildlife – headed by the respective state forest minister and 10 members nominated by the minister.
- The State Boards of Wildlife currently manage the conservation and protection of wildlife at the state level. The state chief minister sits atop the board and is supported by 20+ members, including of the state legislature, NGOs, conservationists and representatives of the state forest departments and tribal welfare.
- Under the proposed amendments, the commercial sale and purchase of elephants will no longer be prohibited under the Act. This clause is prone to abuse and can severely impact elephant populations by legitimising live trade of elephants.

Wild Life Act (Protection) Act, 1972:

- The Wild Life Act provides for:
 - state wildlife advisory boards,
 - regulations for hunting wild animals and birds
 - establishment of sanctuaries and national parks
 - regulations for trade in wild animals, animal products and trophies
 - judicially imposed penalties for violating the Act
- Harming endangered species listed in Schedule I of the Act is prohibited throughout India.
- Hunting species, like those requiring special protection (Schedule II), big game (Schedule III), and small game (Schedule IV), is regulated through licensing.
- A few species classified as vermin (Schedule V), may be hunted without restrictions.
- Wildlife wardens and their staff administer the act.
- An amendment to the Act in 1982, introduced a provision permitting the capture and transportation of wild animals for the scientific management of the animal population.

Food Fortification

News: The Food Safety and Standards Authority of India's (FSSAI's) Food Fortification Resource Centre (FFRC) has reported that over 70% of India's population consumes less than half the daily recommended dietary allowance of micronutrients. These deficiencies are prevalent not only in women and children from rural areas but also affect population groups in urban India.

What is food fortification?

- Food fortification is defined as the practice of adding vitamins and minerals to commonly consumed foods during processing to increase their nutritional value. It is a proven, safe and cost-effective strategy for improving diets and for the prevention and control of micronutrient deficiencies.
- The Food Safety and Standards Authority of India (FSSAI), defines fortification as "deliberately increasing the content of essential micronutrients in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health".
- According to the Food Ministry, fortification of rice is a cost-effective and complementary strategy to increase vitamin and mineral content in diets. According to FSSAI norms, 1 kg fortified rice will contain iron (28 mg-42.5 mg), folic acid (75-125 microgram) and Vitamin B-12 (0.75-1.25 microgram).
- In addition, rice may also be fortified with micronutrients, singly or in combination, with zinc (10 mg-15 mg), Vitamin A (500-750 microgram RE), Vitamin B1 (1 mg-1.5 mg), Vitamin B2 (1.25 mg-1.75 mg), Vitamin B3 (12.5 mg-20 mg) and Vitamin B6 (1.5 mg-2.5 mg) per kg. With a section of the populace having limited access to nutritious food, fortification is key in addressing the nutrition gap.
- In a bid to directly address anaemia and micronutrient deficiency in the country, the Centre recently approved a pilot scheme on "Fortification of Rice & its Distribution under Public Distribution System".
- The government's food fortification initiative is already taking shape with several states, including Andhra Pradesh, Gujarat, Maharashtra, Tamil Nadu, Chhattisgarh, Uttar Pradesh, Odisha, Telangana, Uttarakhand and Madhya Pradesh, starting the distribution of fortified rice under the pilot programme.
- Fortifying staple foods and condiments with key micronutrients is an effective way of addressing deficiencies. Timely adoption of food fortification in social and nutrition security programmes as a part of the fortification initiative will play a crucial role in addressing undernutrition in India.

Benefits:

- Since the nutrients are added to staple foods that are widely consumed, this is an excellent method to improve the health of a large section of the population, all at once. Fortification is a safe method of improving nutrition among people. The addition of micronutrients to food does not pose a health risk to people.
- It does not require any changes in food habits and patterns of people. It is a socio-culturally acceptable way to deliver nutrients to people. It does not alter the characteristics of the food—the taste, the feel, the look.
- It can be implemented quickly as well as show results in improvement of health in a relatively short period of time. This method is cost-effective especially if advantage is taken of the existing technology and delivery platforms.

Fly Ash Management and Utilisation

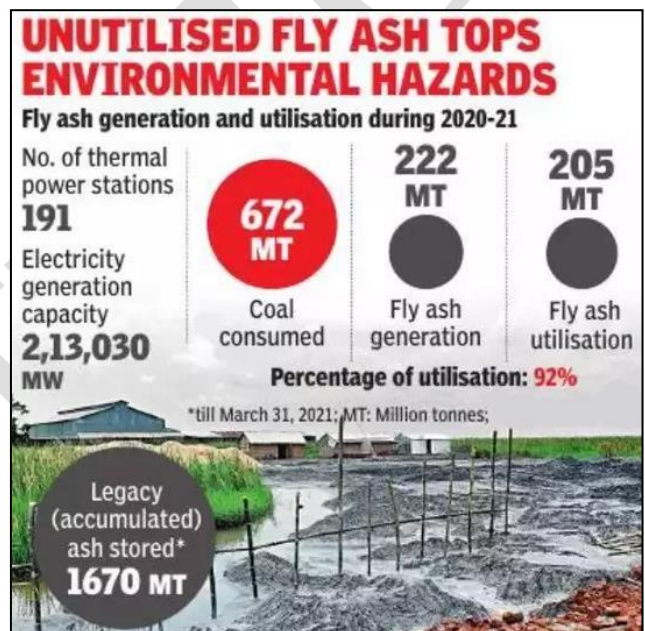
News: Recently, the National Green Tribunal (NGT) directed the constitution of a 'Fly Ash Management and Utilisation Mission.

Fly Ash

- Fly ash is an unwanted unburnt residue of coal combustion in a coal thermal power plant.
- It is emitted along with flue gases during the burning of coal in a furnace and collected using the electrostatic precipitators. The fly ash collected with the help of precipitators is converted into a wet slurry to minimise fugitive dust emissions. It is then transported to the scientifically designed ash ponds through slurry pipelines.
- Fly ash includes substantial amounts of silicon dioxide (SiO₂), aluminium oxide (Al₂O₃), ferric oxide (Fe₂O₃) and calcium oxide (CaO).
- It resemble Portland cement but is chemically different. Portland cement is a binding material in the form of a finely ground powder that is manufactured by burning and grinding a mixture of limestone and clay.
- Its chemical composition includes calcium silicates, calcium aluminate and calcium aluminoferrite.
- It exhibits cementitious properties. A cementitious material is one that hardens when mixed with water.
- It is used in concrete and cement products, road base, metal recovery, and mineral filler among others.
- Fly ash particles are toxic air pollutants. They can trigger heart disease, cancer, respiratory diseases and stroke. When combined with water they cause leaching of heavy metals in ground water.
- It also pollutes the soil, and affects the root development system of trees.
- Gross under-utilisation of this by-product over the years has led to the accumulation of 1,670 million tonnes of fly ash according to the Summary of Ash Generation and Utilisation during 2020-2021 by the Joint Committee earlier constituted by the NGT.

Latest order:

- The order by the NGT takes note of the 'unscientific handling and storage' of the fly ash by coal thermal power stations. For example, the draining of industrial effluents and fly ash in the Rihand Reservoir.
- The Fly Ash Management and Utilisation Mission, besides monitoring the disposal of annual stock of unutilised fly ash, will also see how 1,670 million tonnes of legacy (accumulated) fly ash could be utilized in the least hazardous manner and how all safety measures could be taken by the power plants.
- The Mission will hold its first meeting within one month to assess the fly ash management situation in coal power plants and to prepare action plans to build road maps for ash utilisation by individual plants.
- These meetings shall be conducted each month, for a year. It aims to 'coordinate and monitor issues relating to the handling and disposal of fly ash and associated issues.'



- The Mission is to be jointly headed by the secretaries of the Union Ministry of Environment, Forest & Climate Change (MoEF&CC), Union Ministry of Coal and Power, keeping on board chief secretaries of respective states where the mission is being implemented.
- The secretary of MoEF&CC will be the nodal agency for coordination and compliance.

Fly Ash Notification 2021:

- Fly Ash Notification 2021 was issued under the Environment (Protection) Act 1986.
- Prohibiting dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land or into water bodies, the Centre has made it mandatory for such plants to ensure 100% utilization of ash in an eco-friendly manner, and introduced for the first time a penalty regime for non-compliance based on 'polluter pays' principle.
- Under new rules, the non-compliant power plants will be imposed with an environmental compensation of Rs 1,000 per tonne on unutilised ash during the end of every financial year.
- The amount, collected by the Central Pollution Control Board (CPCB) from the thermal power plants, will be used towards the safe disposal of the unutilised ash. It may also be utilised for advancing research on use of ash including ash based products. In cases where fly ash is being used in various activities, power plants will have to deliver fly ash at project sites free of cost.
- The power plant may, however, charge for ash cost and transportation as per mutually agreed terms, in case it is able to dispose of the ash through other means. The new fly ash notification of December 2021, has made provision for the 'enforcement, monitoring, audit and reporting' of the progress of fly ash utilisation and implementation by coal thermal power plants and user agencies.
- The Notification holds the CPCB and State Pollution Control Boards (SPCB) / Pollution Control Committees (PCC) responsible for monitoring the effective implementation of mandates under it.
- However, along with these statutory regulators, the Mission also extends the responsibility of fly ash management to the chief secretaries of the states. The Notification mandates the individual thermal power plant to upload monthly information regarding ash generation and utilisation on its web portal.
- The Mission as directed by the NGT, on the other hand, will make the roadmaps and progress in fly ash utilisation available for all thermal power plants and their clusters, on the MoEF&CC website on a quarterly basis for the knowledge of all stakeholders.

Environment & Bio-diversity

State of Forest Report 2021

News: Recently, the Union Ministry of Environment, Forests and Climate Change (MoEFCC) released the India State of Forest Report-2021. In October, 2021 an amendment was proposed by MoEFCC to the Forest (Conservation) Act, 1980 to bring significant changes to forest governance in India.

About:

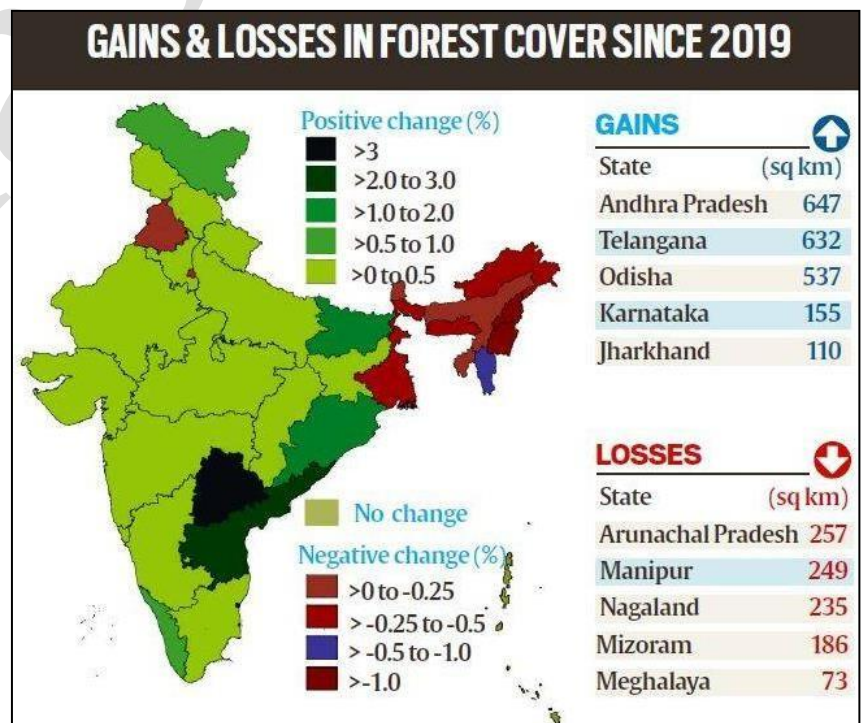
- It is an assessment of India's forest and tree cover, published every two years by the Forest Survey of India.
- The first survey was published in 1987, and ISFR 2021 is the 17th.
- India is one of the few countries in the world that brings out such a survey every two years, and this is widely considered comprehensive and robust.
- The ISFR is used in planning and formulation of policies in forest management as well as forestry and agroforestry sectors.
- Three categories of forests are surveyed – very dense forests (canopy density over 70%), moderately dense forests (40-70%) and open forests (10-40%).
- Scrubs (canopy density less than 10%) are also surveyed but not categorised as forests.

New Features of ISFR 2021:

- It has for the first time assessed forest cover in tiger reserves, tiger corridors and the Gir forest which houses the Asiatic lion. The forest cover in tiger corridors has increased by 37.15 sq km (0.32%) between 2011-2021, but decreased by 22.6 sq km (0.04%) in tiger reserves.
- Forest cover has increased in 20 tiger reserves in these 10 years, and decreased in 32.
- Buxa (West Bengal), Anamalai (Tamil Nadu) and Indravati reserves (Chhattisgarh) have shown an increase in forest cover while the highest losses have been found in Kawal (Telangana), Bhadra (Karnataka) and the Sunderbans reserves (West Bengal).
- Pakke Tiger Reserve in Arunachal Pradesh has the highest forest cover, at nearly 97%.

Key highlights:

- The forest and tree cover in the country continues to increase with an additional cover of 1,540 square kilometres over the past two years.
- India's forest cover is now 7,13,789 square kilometres, 21.71% of the country's geographical area, an increase from 21.67% in 2019. Tree cover has increased by 721 sq km.
- Tree cover is defined as all tree patches of size less than one hectare occurring outside the recorded forest area. This covers trees in all formations including scattered trees.
- The states that have shown the highest increase in forest cover are Telangana (3.07%), Andhra Pradesh (2.22%) and Odisha (1.04%).
- Five states in the Northeast – Arunachal Pradesh, Manipur, Meghalaya, Mizoram and Nagaland have all shown loss in forest cover.
- Area-wise: Madhya Pradesh has the largest forest cover in the country followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.



- In terms of forest cover as percentage of total geographical area, the top five States are Mizoram, Arunachal Pradesh, Meghalaya, Manipur and Nagaland.
- The term 'forest area' denotes the legal status of the land as per the government records, whereas the term 'forest cover' indicates presence of trees over any land.
- Mangroves have shown an increase of 17 sq km. India's total mangrove cover is now 4,992 sq km.
- 35.46% of the forest cover is prone to forest fires. Out of this, 2.81% is extremely prone, 7.85% is very highly prone and 11.51% is highly prone.
- By 2030, 45-64% of forests in India will experience the effects of climate change and rising temperatures.
- Forests in all states (except Assam, Meghalaya, Tripura and Nagaland) will be highly vulnerable climate hot spots. Ladakh (forest cover 0.1-0.2%) is likely to be the most affected.
- The total carbon stock in the country's forests is estimated at 7,204 million tonnes, an increase of 79.4 million tonnes since 2019. Forest carbon stock is the amount of carbon that has been sequestered from the atmosphere and is now stored within the forest ecosystem, mainly within living biomass and soil, and to a lesser extent also in dead wood and litter.
- Bamboo forests have grown from 13,882 million culms (stems) in 2019 to 53,336 million culms in 2021.

Concerns:

- There is a 1,582 sq km decline in moderately dense forests, or "natural forests". The decline, in conjunction with an increase of 2,621 sq km in open forest areas – shows a degradation of forests in the country.
- Also, scrub area has increased by 5,320 sq km – indicating the complete degradation of forests in these areas.
- Very dense forests have increased by 501 sq km.
- The forest cover in the region has shown an overall decline of 1,020 sq km in forest cover. The Northeast states account for 7.98% of total geographical area but 23.75% of total forest cover. The decline in the Northeastern states has been attributed to a spate of natural calamities, particularly landslides and heavy rains, in the region as well as to anthropogenic activities such as shifting agriculture, pressure of developmental activities and felling of trees.

Ranking States based on Environment Clearances

News: The Union Ministry of Environment, Forests and Climate Change has decided to rank states, specifically State Environment Impact Assessment Authorities (SEIAAs), on the speed with which they accord Environmental Clearances (EC) to development projects.

Background:

- In India Environmental clearance of a project has to be obtained either from the State Government and /or from the Central Government.
- The basic objective behind the environmental clearance is to ensure the least damage to the natural resources and incorporate suitable remedial measures right at the stage of project formulation.
- The Environmental Impact Assessment (EIA) notification issued by the Ministry of Environment & Forest and Climate Change (MoEFCC) includes the details of the procedure for obtaining Environmental Clearance and public hearing for decision making. This EIA notification is valid for both Government as well as the Public sector/Private sector for mega projects undertaken by them.
- The potential impacts of proposed projects, plan programs, or legislative actions relative to the physical-chemical, biological, cultural, and socio-economic components of the total environment.

Latest issue:

- The issue of action taken to enable "ease of doing business", especially in the context of "ranking of states based on the time taken in accordance with clearances" was raised in November 2021.
- The average time to grant environmental clearances in all sectors has reduced significantly from over 150 days in 2019 to less than 90 days in 2021.
- It has been decided to incentivise the states through a star-rating system, based on efficiency and timeliness in grant of EC. This is intended as a mode of recognition and encouragement as well as for

prompting improvements where needed. The SEIAA, which clears projects in the shortest period of time, has a high rate of clearance, and seeks fewer “essential details”, will be ranked the highest.

- SEIAAs will be graded between 0 and 1 on five parameters, and 0 and 2 on one

The parameters are:

- The average number of days taken by an SEIAA to accept proposals seeking either EC or Terms of Reference (ToR) for projects. The number of complaints addressed by the Authority.
- The percentage of cases for which site visits are carried out by either SEIAAs or State Expert Appraisal Committees (SEACs). The percentage of cases in which the Authority seeks additional information from project proponents more than once.
- The disposal percentage of proposals seeking fresh or amended ToRs that are older than 30 days.
- The disposal percentage of proposals seeking fresh or amended EC that are older than 120 days.

Criticism:

- Such a rating system stands to reduce the SEIAA to a ‘rubber stamps authority’ where their performance will be judged by the speed with which they facilitate environmental degradation and jeopardising of community livelihoods.
- The rating system is also against the environmental rule of law, violates article 21 of the Constitution (Protection of Life and Personal Liberty) and is an arbitrary exercise of power to benefit only business at the cost of the environment and people. The move will severely constrain the mandate of the SEIAAs under the Environment Protection Act, 1986 and the Environment Impact Assessment notification.
- This ratings system could lead to a further dilution in the quality of environment impact assessments and it only demonises the regulatory process, whereas it is the state of the economy at large which has arrested the growth of business.
- To assess the performance of SEIAAs, the criteria for the same should step from this environmental protection mandate, which is drawn from Section 3(3) of the Environment Protection Act.
- The Act empowers the Central Government to establish authorities (under section 3(3)) charged with the mandate of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country.

Asia Ministerial Conference on Tiger Conservation

News: 4th Asia Ministerial Conference on Tiger Conservation was recently organised by the Government of Malaysia and Global Tiger Forum (GTF).

Details:

- The conference is an important event for reviewing progress towards the Global Tiger Recovery Programme and commitments to tiger conservation. The Kuala Lumpur Joint Statement was adopted.
- India will facilitate Tiger Range Countries towards finalisation of New Delhi declaration for the Global Tiger Summit to be held at Vladivostok, Russia later this year. A “Pre-Tiger Summit” meeting was held at New Delhi in 2010, wherein the draft declaration on tiger conservation for Global Tiger Summit was finalised.

Tiger Conservation in India:

- India has achieved the remarkable feat of doubling the tiger population in 2018 itself, 4 years ahead of the targeted year 2022. The model of success of India’s tiger governance is now being replicated for other wildlife like the Lion, Dolphin, Leopard, Snow Leopard and other small wild cats. The budgetary allocation for tiger conservation has increased from Rs 185 crore in 2014 to Rs 300 crore in 2022.
- 14 Tiger Reserves in India have already been awarded with international CA|TS accreditation and efforts are on to bring in more Tiger Reserves under CA|TS accreditation.
- Approximately 4.3 million man-days of employment are being generated by 51 Tiger Reserves in India and funds from Compensatory Afforestation Fund Management and Planning Authority (CAMPA) are being utilized for promoting voluntary village resettlement from core areas of the Tiger Reserves.
- India is one of the Founding members of the intergovernmental platform of Tiger Range Countries – Global Tiger Forum, and over the years, GTF has expanded its programme on multiple thematic areas, while working closely with the Government of India, tiger states in India and tiger range countries.

- Global Tiger forum is the only intergovernmental international body established with members from willing countries to embark on a global campaign to protect the tiger.
- Two legal instruments that have enabled tiger recoveries in India are:
 - The Wildlife Protection Act of 1972.
 - The Forest (Conservation) Act of 1980, which reinforced Project Tiger.

Conservation Status of Tiger:

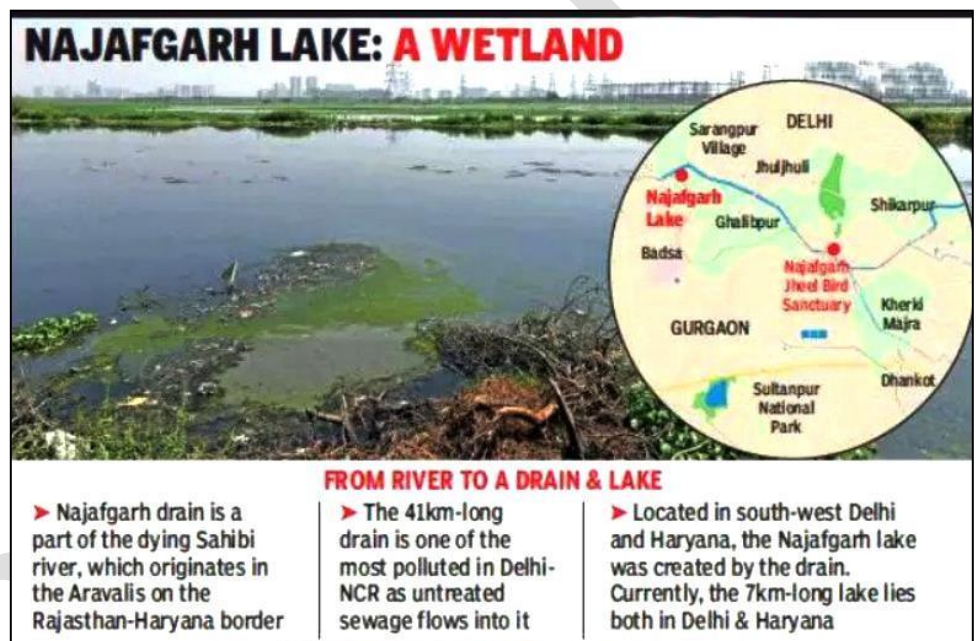
- Indian Wildlife (Protection) Act, 1972: Schedule I.
- International Union for Conservation of Nature (IUCN) Red List: Endangered.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Appendix I.

Environment Management Plan

News: Recently, the National Green Tribunal (NGT) has directed Delhi and Haryana to enforce the Environment Management Plan (EMP) that the two governments have prepared for the rejuvenation and protection of the Najafgarh Jheel, a transboundary wetland.

Najafgarh Jheel:

- It is located in a natural depression in southwest Delhi, close to the Gurugram-Rajokri border on National Highway-48.
- The lake is largely filled with sewage from Gurugram and surrounding villages of Delhi. A portion of the lake falls in Haryana.
- The presence of 281 bird species, including several threatened ones such as Egyptian vulture, Sarus Crane, Steppe Eagle, Greater Spotted Eagle, Imperial Eagle and those migrating along the Central Asian Flyway has been reported at the lake.



- The implementation of these action plans is to be monitored by the National Wetland Authority through the respective State Wetland Authorities. Earlier, the Union Environment Ministry had set up a three-member committee to prepare an integrated EMP.

The Environment Management Plan:

- The top priority would be to notify the Najafgarh jheel and its area of influence under The Wetlands (Conservation and Management) Rules, 2017.
- The rules prohibit and regulate certain activities within wetlands and their 'zone of influence'.
- It lists immediate measures to be taken including demarcating the boundary of the wetland using geo-tagged pillars, and commissioning a hydrological assessment and species inventory.
- Medium-term measures to be implemented in two to three years include in-situ treatment of major drains meeting the Najafgarh jheel, regular monitoring of the waterbird population, and relocating flow obstructions such as power sub-stations.
- The jheel is known to be a habitat for migratory and resident waterbirds.
- It also proposes a detailed estimation of sewage generation in the area considering 15 years of projected population, and identification of all drains contributing to pollution in the jheel.

Security & Disaster Management

Armed Forces Special Powers Act

News: The Konyak Civil Society Organizations, the guardian umbrella of organizations of the Konyaks, has slammed the extension of the Armed Forces (Special Powers) Act of 1958 (AFSPA). The Armed Forces (Special Powers) Act of 1958 has been extended in Nagaland for six months from 30th December 2021.

Armed Forces (Special Powers) Act, 1958:

- A reincarnation of the British-era legislation that was enacted to quell the protests during the Quit India movement, the AFSPA was issued by way of four ordinances in 1947.
- The ordinances were replaced by an Act in 1948 and the present law effective in the Northeast was introduced in Parliament in 1958 by the then Home Minister, G.B. Pant. It was known initially as the Armed Forces (Assam and Manipur) Special Powers Act, 1958. After the States of Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland came into being, the Act was adapted to apply to these States as well.
- The AFSPA gives unfettered powers to the armed forces and the Central armed police forces deployed in “disturbed areas” to kill anyone acting in contravention of law and arrest and search any premises without a warrant and with protection from prosecution and legal suits. The law first came into effect in 1958 to deal with the uprising in the Naga Hills, followed by the insurgency in Assam.
- The Act was amended in 1972 and the powers to declare an area as “disturbed” were conferred concurrently upon the Central government along with the States. Currently, the Union Home Ministry issues periodic “disturbed area” notification to extend AFSPA only for Nagaland and Arunachal Pradesh.
- The notification for Manipur and Assam is issued by the State governments. Tripura revoked the Act in 2015 and Meghalaya was under AFSPA for 27 years, until it was revoked by the MHA from 1st April 2018.
- The Act was implemented in a 20-km area along the border with Assam.
- Jammu and Kashmir has a separate J&K Armed Forces (Special Powers) Act, 1990.

Issues:

- The law empowers security personnel, down to non-commissioned officers, to use force and shoot “even to the causing of death” if they are convinced that it is necessary to do so for the “maintenance of public order”. It also grants soldiers executive powers to enter premises, search, and arrest without a warrant.
- The exercise of these extraordinary powers by armed forces has often led to allegations of fake encounters and other human rights violations by security forces in disturbed areas while questioning the indefinite imposition of AFSPA in certain states, such as Nagaland and J&K.

Way Forward:

- In November 2004, the Central government appointed a five-member committee headed by Justice B P Jeevan Reddy to review the provisions of the act in the northeastern states. The committee recommended that AFSPA should be repealed and appropriate provisions should be inserted in the Unlawful Activities (Prevention) Act, 1967
- The Unlawful Activities Act should be modified to clearly specify the powers of the armed forces and paramilitary forces and Grievance cells should be set up in each district where the armed forces are deployed.
- The 5th report of the Second Administrative Reforms Commission (ARC) on public order has also recommended the repeal of the AFSPA. However, these recommendations have not been implemented.
- The Supreme Court has upheld the constitutionality of AFSPA in a 1998 judgment (Naga People's Movement of Human Rights v. Union of India).
- In this judgment, the Supreme Court held that
 - a suo-motu declaration can be made by the Central government, however, it is desirable that the state government should be consulted by the central government before making the declaration.
 - the declaration has to be for a limited duration and there should be a periodic review of the declaration 6 months have expired.
 - while exercising the powers conferred upon him by AFSPA, the authorized officer should use minimal force necessary for effective action.

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

Case Study

You are having lunch with your close friend Naveen. You both are friends since childhood and your families are also close to each other, it's like one family. Naveen recently got appointed as Assistant Director in Social Welfare Department.

During conversation, Naveen tells you that he is enjoying his work because it's giving him an opportunity to help the poor. He also says that he is not asking anyone for bribes but people themselves pay him money because they are happy with his speedy service. He says that he initially did not receive any money but when more and more people insisted, he started taking bribes. He also says that just before he arrived for lunch he was given a good amount of money by a happy beneficiary in his office.

You are a Deputy Superintendent of Police and you are on duty. Naveen knows this, but he is sharing his experiences as he does with any one of his family members. He did not, even for a moment, think that you were a cop on duty.

As a responsible officer who is on duty, and who's duty is to enforce law, what will you do to your friend?

Short News for Prelims

Chisumle – Demchok Road

News: Ladakh's Chisumle-Demchok Road, when it crosses the Umling Pass, is now the world's highest motorable road.

Chisumle- Demchok Road

- The project to build the road through the pass — a part of Border Roads Organization (BRO) Project Himank — had been completed in 2017, after which vehicles had started playing on the route. The road is in south Ladakh. It passes through Umling La Pass, which is at a height of over 19,000 feet. The height of the pass makes it the highest motorable road in the world, and was recently recognized as such by Guinness World Records. The 52-km road 'black-top' tarmac road from Chisumle to Demchok betters the previous record of a road in Bolivia, which connects the volcano Uturuncu at 18,953 feet.
- The road was built under extremely challenging conditions, as temperatures in the region can fall to below minus 40 degrees Celsius, and oxygen levels go down to 50 per cent below normal.
- At the pass, the road is higher than both the base camps for the climb to Mount Everest, the world's highest mountain. The South Base Camp in Nepal is at a height of 17,598 ft, while North Base Camp in Tibet is at 16,900 ft. The Chisumle-Demchok road is also higher than the Siachen Glacier, which is situated at 17,700 feet. Khardung La in Leh, which at one time was among the highest roads in the world, is at an altitude of 17,582 feet.

Offline E-Payments

News: The Reserve Bank of India (RBI) has come out with the framework for facilitating small-value digital payments in offline mode, a move that would promote digital payments in semi-urban and rural areas.

Offline E-payments

- Offline digital payment does not require Internet or telecom connectivity. Such payments can be carried out face-to-face (proximity mode) using any channel or instrument like cards, wallets and mobile devices.
- Such transactions would not require an Additional Factor of Authentication. Since the transactions are offline, alerts (by way of SMS and/or e-mail) will be received by the customer after a time lag. There is a limit of ₹200 per transaction and an overall limit of ₹2,000 until the balance in the account is replenished.
- Payment instruments shall be enabled for offline transactions only after the explicit consent of the customer.
- That apart, these transactions using cards will be allowed without a requirement to turn on the contactless transaction channel. The customers shall have recourse to the Reserve Bank – Integrated Ombudsman Scheme, as applicable, for grievance redressal. RBI retains the right to stop or modify the operations of any such payment solution that enables small value digital payments in offline mode.

Multi Agency Centre

News: The Union government has asked the States to share more intelligence inputs through the Multi Agency Centre (MAC), a common counter-terrorism grid under the Intelligence Bureau (IB).

Details:

- States are often reluctant to share information on the platform. There are several gaps in sharing critical information at the right time. Plans are afoot for more than a decade to link the system up to the district level.

- The Multi-Agency Centre (MAC) was formed in December 2001 following the Kargil intrusion and the subsequent overhaul of the Indian national security apparatus suggested by the Kargil Review Committee report.
- Accordingly, the Intelligence Bureau (IB) was authorized to create a multi-agency centre (MAC) in New Delhi.
- Now functioning 24×7 as the nodal body for sharing intelligence inputs, MAC coordinates with representatives from numerous agencies, different ministries, both central and state.
- Various security agencies share real-time intelligence inputs on the MAC.
- The state offices have been designated as subsidiary MACs (SMACs). As many as 28 organisations, including the Research and Analysis Wing (R&AW), armed forces and State police, are part of the platform.

Domestic Systematically Important Banks

News: Reserve Bank of India has released its list of Domestic Systemically Important Banks (D-SIBs) in 2021. It has identified the state-owned lender State Bank Of India and the private lenders ICICI Bank and HDFC Bank as systemically important banks, which are perceived as banks, 'too big to fail'.

Details:

- The system of D-SIBs was adopted in the aftermath of the 2008 financial crisis where the collapse of many systematically important banks across various regions further fueled the financial downturn.
- D-SIBs are important for the country's economy. In events of distress, the government supports such banks and if such a bank fails, it would lead to disruption of the country's overall economy.
- RBI finalizes such banks after considering factors like size, complexity, lack of substitutability and interconnectedness of the banks, state reports. Since 2015, the RBI has been releasing the list of all D-SIBs. They are classified into five buckets, according to their importance to the national economy.
- In order to be listed as a D-SIB, a bank needs to have assets that exceed 2 percent of the national GDP. The banks are then further

classified on the level of their importance across the five buckets.

- Due to their economic and national importance, the banks need to maintain a higher share of risk-weighted assets as tier-I equity. SBI, since it is placed in bucket three of D-SIBs, has to maintain Additional Common Equity Tier 1 (CET1) at 0.60 percent of its Risk-Weighted Assets (RWAs).
- Should such a bank fail, there would be significant disruption to the essential services they provide to the banking system and the overall economy. The too-big-to-fail tag also indicates that in case of distress, the government is expected to support these banks.
- Due to this perception, these banks enjoy certain advantages in funding. It also means that these banks have a different set of policy measures regarding systemic risks and moral hazard issues.

Green Energy Corridor

News: Recently, the Cabinet Committee on Economic Affairs approved the scheme on Green Energy Corridor (GEC) Phase-II for Intra-State Transmission System (InSTS).

GEC-1:

- Phase 1 of the Green Energy Corridor is already under implementation in Gujarat, Andhra Pradesh, Karnataka, Himachal Pradesh, Maharashtra, Madhya Pradesh, Tamil Nadu, and Rajasthan. It is working for the grid integration and power evacuation of about 24GW of Renewable Energy.

GEC-2:

- It will facilitate grid integration and power evacuation of approximately 20 GW of Renewable Energy (RE) power projects in seven States namely, Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh. The transmission systems will be created over a period of five year from Financial Year 2021-22 to 2025-26. It is targeted to be set up with a total estimated cost of Rs. 12, 031 crores, and the Central Finance Assistance (CFA) will be 33% of the project cost. The CFA will help in offsetting the Intra-State transmission charges and thus keep the power costs down.

Details:

- It aims at synchronizing the electricity produced from renewable resources, such as wind and solar, with the conventional power stations in the grid. It aims to achieve the target of 450 GW installed RE capacity by 2030. The objective of the GEC is to evacuate approx. 20,000 MW of large-scale renewable power and improvement of the grid in implementing states.
- It will contribute to the long-term energy security of India and will promote ecologically sustainable growth by reducing carbon footprint. It will facilitate in generating large direct and indirect employment opportunities for both the skilled and unskilled personnel.

Omisure

News: Omisure — India's first home-grown testing kit has recently received approval from the Drugs Controller General of India.

About Omisure

- Omisure is an omicron detecting RT-PCR kit developed by the Mumbai-based Tata Medical and Diagnostics Ltd (TATA MD) in partnership with the Indian Council of Medical Research (ICMR).
- It can differentiate the omicron strain of the novel coronavirus from the delta, alpha and the other variants in under four hours. It can diagnose this variant in a single step
- This new kit can identify the Omicron variant by targeting two regions of the S or the spike gene. This gene codes for the spike protein, which helps the novel coronavirus enter and infect human cells. The S, the Enveloped (E), and Nucleocapsid (N) genes are some of the targets of conventional RT-PCR tests.
- When it detects these genes, a patient sample is labelled positive. As omicron bears heavy mutations in the S gene, the RT-PCR can sometimes miss it. The absence of S gene likely indicates omicron's presence.
- This is called S gene dropout or S gene target failure — and is one of the targets of Omisure.
- Gene sequencing reads the order of nucleotides, which are the building blocks of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). Despite being considered the gold standard, sequencing has a few limitations. It

is slow, expensive and complicated. It is a multi-step process.

- It begins with extracting the virus' RNA from patient samples, converting it into DNA, amplifying or multiplying it through RT-PCR before finally sending it for gene sequencing.
- This entire process can take as many as three days.

Emergency Credit Line Guarantee Scheme

News: Recently, SBI released a research report on the ongoing roll-out of Emergency Credit Line Guarantee Scheme.

According to the SBI Research report on ECLGS:

- The scheme has saved 13.5 lakh firms from going bankrupt and consequently 1.5 crore jobs.
- In absolute terms, MSME loan accounts worth Rs 1.8 lakh crore were saved.
- Almost 93.7 per cent of such accounts are in the micro and small category.
- Amongst the states, Gujarat has been the biggest beneficiary, followed by Maharashtra, Tamil Nadu and Uttar Pradesh.

About the scheme:

- The scheme was launched as part of the Aatmanirbhar Bharat Abhiyan package announced in May 2020 to mitigate the distress caused by coronavirus-induced lockdown, by providing credit to different sectors, especially Micro, Small and Medium Enterprises (MSMEs).
- 100% guarantee coverage is being provided by the National Credit Guarantee Trustee Company, whereas Banks and Non Banking Financial Companies (NBFCs) provide loans.
- The credit will be provided in the form of a Guaranteed Emergency Credit Line (GECL) facility.
- No Guarantee Fee shall be charged by NCGTC from the Member Lending Institutions (MLIs) under the Scheme. Interest rates under the Scheme shall be capped at 9.25% for banks and FIs, and at 14% for NBFCs.
- In August 2020, the scheme was extended to Mudra borrowers and Individual loans for business purposes.
- On Nov 20, the scheme was extended through ECLGS 2.0 for 26 sectors identified by the Kamath Committee and for the Health Care

sector up to Mar 21, for entities with outstanding credit of above Rs.50 crore and not exceeding Rs.500 crore.

- The scheme is expected to provide credit to the sector at a low cost, thereby enabling MSMEs to meet their operational liabilities and restart their businesses. By supporting MSMEs to continue functioning during the current unprecedented situation, the Scheme is also expected to have a positive impact on the economy and support its revival.

Red Sanders Harvesting festivals

News: The President has greeted the people of India on the occasion of Makar Sankranti and Pongal festivals.

Harvesting festivals:

- Makar Sankranti or Uttarayan or Maghi or simply Sankranti is considered as the transition day of Sun into the Capricorn. Now the sun moves northwards in the Hindu calendar. Dedicated to the deity Surya, many native festivals are organized all over India. It mostly falls at the end of Kharif harvests.
- In South India and particularly in Tamil Nadu, it's the festival of Pongal which is being celebrated over 4 days at harvest time.
- Lohri is celebrated in North India particularly in Punjab as a traditional winter folk festival or as a popular harvest festival of farmers.
- Bhogiis celebrated in Andhra Pradesh as a four day festival with a bonfire with logs of wood, other solid-fuels, and wooden furniture at home that are no longer useful.
- In Assam and many parts of the North East, the festival of Magha Bihu is celebrated. It sees the first harvest of the season being offered to the gods along with prayers for peace and prosperity.
- Gujarat celebrates it in the form of the convivial kite festival of Uttarayan.
- In Shimla District of Himachal Pradesh, Makara Sankranti is known as Magha Saaji. Saaji is the Pahari word for Sankranti, start of the new month. Hence this day marks the start of the month of Magha.

Red Sandalwood

News: Red Sanders (Red Sandalwood) has fallen back into the 'endangered' category in the International Union for Conservation of Nature's (IUCN) Red List.

About Red Sanders

- The species, *Pterocarpus santalinus*, is an Indian endemic tree species, with a restricted geographical range in the Eastern Ghats. It is endemic to a distinct tract of forests in Andhra Pradesh.
- It is mainly found in Chittoor, Kadapa, Nandhyal, Nellore, Prakasam districts of Andhra Pradesh.
- It was classified as 'near threatened' in 2018 and has now joined the 'endangered' list once again in 2021.
- It is listed under Appendix II of CITES and is banned from international trade.
- The Union Environment Ministry had decided to keep Red Sanders (red sandalwood) OUT of the Schedule VI of Wild Life Protection Act, 1972, arguing that this would discourage the cultivation of the rare plant species. Schedule VI regulates and restricts the cultivation, possession, and sale of a rare plant species.
- It was a moment of celebration when the species was lifted off from the endangered category for the first time since 1997. Over the last three generations, the species has experienced a population decline of 50-80 percent. It is also scheduled in appendix II of the CITES and Wildlife Protection Act.

Threats:

- Red Sanders are known for their rich hue and therapeutic properties, are high in demand across Asia, particularly in China and Japan. They are used in cosmetics and medicinal products as well as for making furniture, woodcraft and musical instruments.
- Its popularity can be gauged from the fact that a tonne of Red Sanders costs anything between Rs 50 lakh to Rs 1 crore in the international market.

Dravidian Model of Economic Development

News: The Chief Minister of Tamil Nadu is pushing for a 'Dravidian Model' where economic development is inclusive.

What is the Dravidian Model?

- The goal is equal economic development that will be in tune with social justice. It has taken root since the days of the Justice Party government [in pre-Independent India]. TN polity has divided the task into short-term and long-term, and travels with the objective of improving the economy by implementing them within the time frame.
- TN has constituted an Economic Advisory Council comprising internationally renowned economists since there is a need to evolve an economic development to suit the current situation. It has emerged out higher as comparatively high levels of human development with economic dynamism.
- It sought and ensured opportunity-equalizing policies in the expanding modern sectors through affirmative action policies and investments in education and health. Tamil Nadu has been a pioneer in broad-basing entry into school education through a slew of incentives, the noon meal scheme being the most well-known.
- It also succeeded in building a bloc of lower caste groups under a Dravidian-Tamil identity that subsumed and sought to transcend individual caste identities. It has distinct political mobilization against caste-based inequalities in the state. Mobilization built an ethos that questioned the privileges of caste elites and the naturalness of merit in a caste society.

BrahMos Missile

News: In the first export order for the BrahMos supersonic cruise missile system, the Philippines has approved a \$374.96 mn contract for the purchase of a shore-based anti-ship variant of the missile from India.

About BrahMos Missile

- BrahMos missile derives its name from the combination of the names of Brahmaputra and Moskva Rivers.

- They are designed, developed and produced by BrahMos Aerospace, a joint venture company set up by DRDO and Mashinostroyeniya of Russia. It is a two-stage missile with a solid propellant booster as the first stage and liquid ramjet as the second stage.
- The cruise missiles like BrahMos are a type of system known as the 'standoff range weapons' which are fired from a range sufficient to allow the attacker to evade defensive fire from the adversary.
- Such weapons are in the arsenal of most major militaries in the world.
- BrahMos missile flies at a speed of 2.8 Mach or almost three times the speed of sound. It is the main weapon system of the Indian Navy warships and has been deployed on almost all of its surface platforms.
- An underwater version is also being developed which will not only be used by the submarines of India but will also be offered for export to friendly foreign nations.
- The versions of the BrahMos that are being tested have an extended range of around 400 km, as compared to its initial range of 290 km, with more versions of higher ranges currently under development.
- Various versions including those which can be fired from land, warships, submarines and Sukhoi-30 fighter jets have already been developed and successfully tested in the past.
- The earliest versions of the ship launched BrahMos and land-based system are in service of the Indian Navy and the Indian Army since 2005 and 2007 respectively.

Postal Ballot System

News: The Election Commission of India has allowed journalists to cast their votes through postal ballot facility.

Details:

- Any absentee voter wishing to vote by postal ballot has to make an application to the returning officer in Form-12D, giving all requisite particulars and get the application verified by the nodal officer appointed by the organisation concerned.
- Any voter opting for postal ballot facility would not be able to cast a vote at the polling station.

- Currently, the following voters are also allowed to cast their votes through postal ballot:
 - Service voters (armed forces, the armed police force of a state and government servants posted abroad),
 - Voters on election duty,
 - Voters above 80 years of age or Persons with Disabilities (PwD),
 - Voters under preventive detention.
- A restricted set of voters can exercise postal voting. Through this facility, a voter can cast her vote remotely by recording her preference on the ballot paper and sending it back to the election officer before counting.

Rural Area Development Plan Formulation and Implementation

News: Recently, the Ministry of Panchayati Raj has revised Rural Area Development Plan Formulation and Implementation (RADPFI) guidelines, 2017 in a view to transforming rural India and ensuring rural prosperity.

Details:

- RADPFI 2021 guidelines is a continuation to the Ministry's efforts towards promotion of Spatial rural planning and would create pathways for rural transformation by developing a perspective for long term planning in villages.
- It will enable effective land use planning in rural areas and in improving the quality of life in rural areas.
- It includes Village Planning Scheme (VPS) on the lines of Town Planning Schemes in urban areas.
- Provisions linking Gram Panchayat Development Programme (GPDP) with Spatial Land Use Planning,
- Spatial standards for Gram Panchayat development.
- It is aimed at ensuring ease of living in villages and help minimizing migration to big cities by providing all necessary infrastructure and facilities and also resources and opportunities for livelihood in rural areas.
- It will augment development of vibrant economic clusters in rural areas, which would contribute to the socio-economic development of rural areas. It will also

supplement the efforts of the Central Government such as the SVAMITVA Scheme of Ministry of Panchayati Raj and RURBAN Mission of Ministry of Rural Development and facilitate better utilization of Geospatial information.

Kerala Bird Atlas

News: The Kerala Bird Atlas (KBA), the first-of-its-kind State-level bird atlas in India, has created solid baseline data about the distribution and abundance of bird species across all major habitats, giving an impetus to futuristic studies.

Kerala Bird Atlas (KBA)

- The KBA has been prepared based on systematic surveys held twice over 60 days a year during the wet (July to September) and dry (January to March) seasons between 2015 and 2020. It was conducted as a citizen science-driven exercise with the participation of over 1,000 volunteers of the birdwatching community.
- The KBA accounts for nearly three lakh records of 361 species, including 94 very rare species, 103 rare species, 110 common species, 44 very common species, and 10 most abundant species.
- It was found that the species count was higher during the dry season than in the wet season while species richness and evenness were higher in the northern and central districts than in the southern districts.
- The KBA offers authentic, consistent and comparable data through random sampling from the geographical terrain split. It is arguably Asia's largest bird atlas in terms of geographical extent, sampling effort and species coverage derived from the aggregation of 25,000 checklists. The KBA is considered to be a valuable resource for testing various ecological hypotheses and suggesting science-backed conservation measures.

One District One Product

News: As a major boost to Centre and State collaboration in promoting products under the ODOP Initiative – a State Conference was recently held by the Department for Promotion of Industry and Internal Trade (DPIIT).

One District One Product (ODOP)

- ODOP spearheaded by the Uttar Pradesh government in 2018, is an important initiative that is being adopted all over India to realize the true potential of each district. ODOP is an initiative which is seen as a transformational step forward towards realizing the true potential of a district, fuel economic growth and generates employment and rural entrepreneurship. It is operationally merged with 'Districts as Export Hub' initiative being implemented by DPIIT as a major stakeholder.
- The main philosophy is to select, brand and promote one product from each district of India that has a specific characteristic feature to enable profitable trade in that product and generate employment.
- India is home to several agricultural and non-agricultural (including manufacturing) products that are region-specific. Every district has products that are unique and provide livelihoods and generate income.
- This scheme is in tune with the PM's call to transform every district into an export hub and realize the goal of Atmanirbhar Bharat.
- The important aspect that the policy initiatives in India should thus be mindful of are:
 - Ownership of the initiative should lie at the center of implementation.
 - The stakeholders irrespective of the sector along the value chain need to be identified and provided information and awareness.
 - It is important to streamline other initiatives such as registration of Geographical Indications (GI), formation and development of farmer producer organizations etc.

Nai Talim

News: The Vice President of India has said that the New Education Policy follows the 'Nai Talim' of Mahatma Gandhi by giving importance to the mother tongue as the medium of instruction at the school level.

What is Nai Talim?

- The phrase Nai Talim is a combination of two words- Nai Means 'New' and Talim – a Urdu word-means 'Education'. In 1937, Gandhiji introduced the concept of Nai Talim in India. It aimed to achieve Gram Swaraj (liberation of villages). In short, Gandhiji dreamed to make all villages independent; and self-reliant.
- It is an approach to the total personality development of body, mind and spirit and was based on four principles namely:
 - Education or learning in mother tongue along with handicraft work,
 - Work should be linked with most useful vocational needs of the locality,
 - Learning should be linked with vocational work, and
 - Work should be socially useful and productive needed for living.