CURRENT AFFAIRS DECEMBER 2022

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Economic & Social Development

1. **Proposal to Shift from "Minimum" to "Living" Wages:**
   - The **Union Labour Ministry** is currently mulling to shift from the "minimum wages" to "living wages" in a bid to bring more people from poverty in the country.
   - Living wage:
   - The term "living wage" is the theoretical income level that enables an individual or a family to afford adequate shelter, food, healthcare and other basic necessities. It is the minimum income of that helps support a satisfactory standard of living and prevents individuals from falling into poverty.
   - A living wage is defined as the minimum income necessary for workers to meet their basic necessities. It is different from the minimum wage, which is based on labor productivity and skill sets.
   - Minimum wage is the lowest amount of money a laborer can earn as mandated by the law. It does not change based on inflation. It can increase only with the government intervention. This is not true for the living wage.
   - The living wage is determined by the average cost to live comfortably, while the minimum wage is the fixed amount set by the government.
   - The difference between the minimum wage and the living wage can range between 10 and 25 percent based on the cost of living in a specific place.

India's decision:
   - The Indian government is considering to shift from the minimum wage to the living wage to eliminate poverty in the country. If such a shift happens, it would have significant financial implications for India and the government. It will make Sustainable Development Goal commitments easily achievable.
   - India is planning to receive assistance from the International Labour Organization (ILO) to understand what constitutes a living wage since it is highly subjective. The ILO member states, including India, have recently requested the ILO to contribute to the improved understanding of living wages by undertaking a peer-reviewed research on the theoretical concepts and theoretical estimations.

2. **World Population to Hit 7.9 Billion on 2023 New Year's Day:**
   - According to the **United Nations Population Fund** (UNPFA), the human population across the globe touched 8 billion.
   - As of 2022, more than half the world's population lives in Asia, China and India being the two most populous countries with more than 1.4 billion people each.

United Nations Population Fund:
   - It is a subsidiary organ of the UN General Assembly and works as a sexual and reproductive health agency.
   - The UN Economic and Social Council (ECOSOC) establishes its mandate.
   - It was established as a trust fund in 1967 and began operations in 1969.
   - In 1987, it was officially renamed the United Nations Population Fund but the original abbreviation, 'UNFPA' for the United Nations Fund for Population Activities was retained.

- UNFPA works directly to tackle Sustainable Development Goals on health (SDG3), education (SDG4) and gender equality (SDG5).
- UNFPA is not supported by the UN budget, instead, it is entirely supported by voluntary contributions of donor governments, intergovernmental organizations, the private sector, foundations and individuals.

Trends of Population Growth:

Overall Decrease in Population Growth Rate:
- According to UN, it took the global population 12 years to grow from 7 billion to 8 billion, it will take approximately 15 years until 2037, for it to reach 9 billion.
- This indicates that overall growth rate of global population is slowing.
- The UN population report said the global population is growing at its slowest rate since 1950, having fallen under 1% in 2020.
- The world's population could grow to around 8.5 billion in 2030 and 9.7 billion in 2050.
- It is projected to reach a peak of around 10.4 billion people during the 2080s and to remain at that level until 2100.
- According to the UN, 60% of the global population lives in a region where the fertility rate is below replacement level.
- In 1990, 40% lived in a region where fertility rate was below replacement level.

High-Fertility Levels in Poor Countries:
- Countries with the highest fertility levels tend to be those with the lowest income per capita.
- More than half of the projected increase in the global population up to 2050 will be concentrated in eight countries: the Democratic Republic of the Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and the United Republic of Tanzania.
- Countries of sub-Saharan Africa are expected to contribute more than half of the increase anticipated through 2050.

International Migration:
- International migration is now the driver of growth in many countries, with 281 million people living outside their country of birth in 2020.
- All South Asian nations including India, Pakistan, Nepal, Bangladesh and Sri Lanka have seen high levels of emigration in recent years.

Findings about India's Population:
- According to UN, India's fertility rate has hit 2.1 births per woman i.e., replacement-level fertility and is further declining.
- While India's population growth is stabilising, it is "still growing at 0.7% per year" and is set to surpass China in 2023 as the world's most populous country.
- According to UN, China's population is no longer growing and may start declining as early as 2023.
- The World Population Prospects 2022, put India's population estimate at 1.412 billion in 2022, compared with China's 1.426 billion.
- India is likely to peak at 1.7 billion population in 2048 and then start declining to 1.1 billion at the end of century.

World's Largest Adolescent Population:
- According to UNFPA estimates, 68% of India's population is between 15-64 years old in 2022, while people aged 65 and above comprise 7% of the population.
- Over 27% of the country's population is between the age of 15-29.

- At 253 million, India is also home to the world's largest adolescent population (10-19 years).
- India has its largest ever adolescent and youth population.
- India will continue to have one of the youngest populations in the world till 2030 and is currently experiencing a demographic window of opportunity, a "youth bulge" that will last till 2025.

Way Forward:
- To maximize the potential benefits of a favourable age distribution, countries need to invest in the further development of their human capital by ensuring access to health care and quality education at all ages and by promoting opportunities for productive employment and decent work.
- India is at a stage of demographic transition where mortality rates are declining and fertility rates would decline in the next two to three decades or so. India can now focus on eliminating the need for contraception.
- Women can decide if they want to have children, and if yes, when, how many, and at what intervals.
- For young and adolescent populations, there is a need for skilling, which is the only way to ensure they are more productive and have better incomes.

3. **New Gender Reform Laws of Spain and Scotland:**
- Scotland and Spain have recently passed gender reform laws to make it easier for individuals to change their legally registered gender without requiring any medical supervision.
- In India, the transgender people's rights are governed by the Transgender Persons (Protection of Rights) Act, 2019 and the Transgender Persons (Protection of Rights) Rules, 2020.
- Under these rules, an application declaring gender is submitted to the District Magistrate. The individual applying for gender identification is not required to undergo medical examination for declaring the desired sex. The District Magistrate can process the application based on the affidavit submitted declaring the gender identity of an individual without medical or physical examination and provide an identification number to the applicant, which can be used as a proof of the application.

4. **FIT Rank for MSMEs:**
- TransUnion CIBIL and Online PSB Loans Limited (OPL), under the mentorship of SIDBI, collaborated to launch the FIT Rank for MSMEs.
- FIT Rank is a comprehensive ranking model that leverages the information obtained from GST, bank statements and income tax returns (ITR) to increase access of MSMEs to formal credit facilities.
- This is the first-ever credit default predictor model developed by CIBIL in collaboration with OPL.
- This ranking model can predict the probability of an MSME becoming a non-performing asset (NPA) using machine learning algorithms.

- It provides ranking for the MSME, based on the financial income, and trade data on a scale of 1 to 10. The FIT Rank 1 is the least risky MSME and FIT rank 10 is the most at-risk MSME.
- Each FIT rank corresponds with the Probability of Default (PD). When the FIT Rank is lower, the perceived risk of default by the MSME is low.

- This model was developed due to the increased digitization of the credit industry.

What is the significance of the FIT Rank?

- The FIT rank model triangulates information from multiple sources to provide a unified view of the financial, income and trade data of a particular MSME. This ensures an accurate risk differentiation of MSMEs. This enables the banks to confidently deliver credit facilities to more MSMEs and increase the credit growth of the sector.
- Only around one-third of MSMEs in India received loan from the formal credit system. The new model expands the risk underwriting parameters of the MSMEs based on multiple data sources and makes more MSMEs eligible for formal credit facilities. This will help in the realization of the full potential of India's MSME sector.
- The model will especially benefit new-to-credit MSMEs, which do not have any credit history. It enables banks and other financial institutions to objectively assess such MSMEs and process loans more effectively.
- Using the data provided by the FIT rank, SIDBI has launched a new Express Loan Product for MSMEs to offer loans up to Rs.50 lakh to purchase machinery and roof-top solar installations via the straight-through-process.

5. **Social Progress Index 2022:**
- Recently, the Social Progress Index (SPI) for States and Districts of India was released by the Economic Advisory Council to the Prime Minister (EAC-PM).
- The SPI was compiled by the Institute for Competitiveness and Social Progress Imperative.
- The report also dwells on India's performance (ranked 110 out of 169 nations) based on the global SPI 2022 that is brought out by Social Progress Imperative since 2013.
- SPI is a comprehensive tool that can serve as a holistic measure of a country's social progress at the national and sub-national levels.
- The report aims to provide a systematic account of the social progress made at all levels in the country.
- The index uses an extensive framework comprising 89 indicators at the state level and 49 at the district level.

Assessment Components:

- The index assesses states and districts based on 12 components across three critical dimensions of social progress:
- Basic Human Needs: It assesses the performance of states and districts in terms of Nutrition and Basic Medical Care, Water and Sanitation, Personal Safety and Shelter.
- Foundations of Wellbeing: It evaluates the progress made by the country across the components of Access to Basic Knowledge, Access to Information and Communication, Health and Wellness, and Environmental Quality
- Opportunity: It focuses on Personal Rights, Personal Freedom and Choice, Inclusiveness, and Access to Advanced Education.

What are the Findings of the Index?
- Highest SPI Score: Puducherry
- Lowest SPI Score: Jharkhand and Bihar
- Basic Human Needs: Goa, Puducherry, Lakshadweep, and Chandigarh are the top four states with the best performance in water, sanitation and shelter.
- Foundations of Wellbeing: Mizoram, Himachal Pradesh, Ladakh, and Goa have emerged as the best-performing states for the Foundations of Wellbeing.
- For Environmental Quality, Mizoram, Nagaland, and Meghalaya are the top three states.
- Opportunity: Tamil Nadu has achieved the highest component score for Opportunity dimension.
- Top Best Performing Districts: Aizawl (Mizoram), Solan (Himachal Pradesh) and Shimla (Himachal Pradesh) have emerged as the top three best-performing districts.

What is EAC-PM?
- It is an independent body constituted to give advice on economic and related issues to the Prime Minister.
- EAC-PM is responsible for analysing and advising the Prime Minister on any issue of macroeconomic importance that the Prime Minister refers to.
- These could be either suo-motu or on reference from the Prime Minister or anyone else.
- They also include attending to any other task as may be desired by the Prime Minister from time to time.

6. **2022 Global Food Security Index (GFSI) Report:**
- The 2022 Global Food Security Index (GFSI) report was released by the British weekly The Economist. In this report, South Africa overtook Tunisia to become the most food-secure country in Africa.

Key findings:
- **Vulnerability to Shocks:** The global food environment is deteriorating, making it vulnerable to shocks. Significant progress was made in global food security from 2012 to 2015, with the overall GFSI score increasing by 6 percent. However, structural challenges have caused the growth of the global food system to slow down. The past 3 years witnessed a reversal in the global trend of the overall food security environment.
- **Affordability:** In 2022, the GFSI suffered because of the plummeting of two of its strongest pillars – affordability, and quality and safety. The weakness in the other two pillars (availability, and sustainability and adaptation) continued during this year. Affordability (top-scoring pillar) was dragged down mainly because of the sharp rise in food inflation, declining freedom of trade and reduced funding for food safety nets.
- **Widening food security gap:** In 2022, 8 of the top 10 performing countries are in Europe, with Finland topping the list with a score of 83.7. It is followed by Ireland (scoring 81.7) and Norway (scoring 80.5). These countries have received high scores on all 4 pillars of the GFSI. The non-European countries in the top 10 list are Japan and Canada. The difference between the top-performing countries and countries at the lower rank has been widening since 2019, revealing the inequity in the global food system.
- **Africa's Most Food-Secure Country:** South Africa, at the 59th position, was recognized as the most food-secure country in Africa. It made a record leap from the 70th rank in 2021. This comes despite the various global challenges to the country's agriculture sectir, like climate change, the fertilizer crisis caused by the Ukraine war, inflation, etc. This is

the first time that a country in Sub-Saharan Africa was the top performer in the continent. The second-best performing country in Africa is Tunisia at the 62nd position.

7. ILO Singapore Declaration:

- The 17th Asia-Pacific Regional Meeting of the International Labour Organisation (ILO) set ten-point priorities of national action under the Singapore Declaration.
- It seeks to draw attention for the member countries to deal with the issue of dwindling wages of workers, inflation and unemployment.
- It was adopted by the delegates representing governments, employers and workers' governments, employers and workers in the regions.
- Members agreed that social dialogue is essential to address labour market challenges and finding solutions in crisis situations such as the COVID-19 pandemic, natural disasters, and economic uncertainty.

Key point priorities:

- Ensure labour protection for all through the promotion of freedom of association
- Recognition of the right to collective bargaining, including for workers in vulnerable situations and workers in the informal economy, as enabling rights for decent work
- Closing gender gaps, increase women's labour force participation, promote equal pay for work of equal value, balance work and responsibilities, and promoting women's leadership.
- Develop and implement inclusive labour market programmes and policies that support life transitions and demographic shifts.
- Pursue collective and determined efforts to promote and accelerate a smooth and sustained transition from the informal to formal economy
- Strengthen governance frameworks and respect for freedom of association for migrant workers
- Strengthen the foundation for social and employment protection and resilience
- Expanding social protection to all workers, guaranteeing universal access to comprehensive, adequate and sustainable social protection for all.

8. World Bank's Gender Toolkit:

- World Bank launched a "Toolkit on Enabling Gender Responsive Urban Mobility and Public Spaces in India" with the aim of suggesting ways to make public transport in Indian cities more inclusive of women's travelling requirements.

Why urban public spaces and mobility services should be viewed through a gender lens?

- Women are amongst the biggest users of public transport across Indian cities.
- Lack of safety deters women from stepping out; creating a vicious cycle that lowers their presence in public spaces.
- Women face barriers in using public transport owing to gender-blind design elements during access and egress, waiting at stops and transfers, boarding and alighting, and inside the vehicle.
- Barriers to women's mobility actively restrict their choices around education and employment.
- Deep-rooted gender-based social norms actively restrict women's movement outside their homes.

- Women bear a disproportionate burden of unpaid care work in India necessitating public transport solutions for the mobility of care
- Women's 'time poverty' constrains time available for commuting.

Recommendations given in the new toolkit:
- Integrating gender elements when developing comprehensive mobility plans at the city level.
- Developing Gender Action Plans as an integral part of plans at the city level.
- Incentive-based policies may be brought in by state governments to enable women's workforce participation in the mobility sector
- Establish a Gender Advisory Committee to monitor GAP implementation.
- Strengthen grievance redressal cells to fast-track sexual harassment complaints by commuters and users of public spaces, ensuring representation of women and persons of minority genders.
- Establish one-stop centres at public transport facilities.
- Implementing agencies can consider digitizing ticketing systems and adopting a common mobility card through an integrated mobility system.

9. **Single-block-and-multiple debit in UPI:**
- Recently, RBI Governor announced that UPI's capacity will be enhanced through the introduction of single block and multiple debits functionality, enabling the users to block funds in their accounts to be used when in need. He also announced the expansion of the scope of BBPS to include all categories of payments and collections.
- The single block multiple debit feature of the UPI will enable users to separate and block funds in their accounts for specific purposes.
- This feature enables customers to create a payment mandate against a merchant by blocking funds in their bank account for specific purposes that can be debited as per the needs.
- It will enable ease of e-commerce transactions and smooth transactions in securities market.
- It will be especially useful for hotel bookings, purchase of securities in the secondary capital market, and purchase of government securities using RBI's Retail Direct scheme.
- This will ensure merchants the timely payments from customers, while the funds will remain in the customers' account until the actual delivery of goods or services is made.

Increasing the scope of BBPS:
- The Bharat Bill Payment System (BBPS) was launched in 2017 as an interoperable platform operated by the NPCI Bharat BillPay Ltd. Its purpose is to facilitate the bill payment requirements of customers and billers. Currently, it does not support non-recurring payments or collection requirements of individuals even if they are recurring in nature.
- Now, the central bank has decided to extend the scope of BBPS to cover all both recurring and non-recurring payments. This will enable BBPS to become accessible to wider set of individuals and businesses. It will ease payments like education fees, tax payments, rent collections etc. It will increase transparency, ensure uniform payments experience, faster access to fund and improved efficiency.

10. **EIU Cost of Living Index 2022:**
- Recently, the Worldwide Cost of Living 2022 report was released by the London-based **Economist Intelligence Unit (EIU)**.
- It compares prices of more than 200 goods and services in 172 countries across the globe.
- The semiannual report found sweeping changes in the living expenses in cities, triggered mainly because of the war in Ukraine.
- Moscow and St. Petersburg – Russia's most populous cities – witnessed a drastic increase in the rank of any city in the list. Moscow's ranking jumped from the 72nd position in 2021 to the 37th position in 2022.
- Living expenses in many European cities declined despite the global energy crisis because of the weakening of currencies and economies. European cities (Luxembourg, Stockholm, Brussels, Lyon, France and Manchester) accounted for five of the 10 cities that fell the most in the rankings in 2022.
- Kyiv–the capital of Ukraine – is not in the 2022 list.
- New York and Singapore have tied to take up the top rank because of high income and a strong US dollar.

11. **Global Wage Report 2022-2023:**
- The International Labour Organization (ILO) recently released the Global Wage Report 2022-2023. This ILO flagship report examines the evolution of real wages, giving a unique picture of wage trends globally and by region.

Key findings:
- The real and nominal wages of employees were considered: The word "wage", was defined as the total gross remuneration including regular bonuses received by employees during a specified period for time (monthly for the report) worked as well as for time not worked.
- Nominal wage data: The adjusted figures after accounting for consumer price inflation while real wage growth refers to the year-on-year change in real average monthly wages of all employees.
- **Global wages:** They were reduced in 2022 for the first time since 2008. It also added that monthly wages have declined by 0.9 per cent in real terms in the first half of 2022. This is the first negative growth of real global wages in the 21st century.
- The United States, the United Kingdom, Spain, South Korea, Bulgaria and Spain are some of the countries that witnessed a fall in the minimum wages. While Italy, Japan, Mexico and the UK facing a decrease in overall wages in real terms compared to 2008.
- **Cost of living:** It has the greatest impact on lower-income earners and their households as they have to spend most of their disposable income on essential goods and services, which generally experience greater price increases than non-essential items.
- **Inequality:** At the Asia-Pacific level, only the jobs in high-skill occupations saw a recovery from the COVID-19 crisis, which is true across all subregions. It is raising concerns about increased inequality.
- **Employment:** While there is an employment gain of 1.6% among high-skill workers between 2019 and 2021, there is no such substantial gain among low-to-medium-skill workers.
- Among the G-20 countries, a significant gap, in the average level of real wages between advanced G-20 countries and emerging G-20 countries such as India, is seen.

- **Poverty:** 75 to 95 million people were pushed into extreme poverty during COVID-19.
- **India**: In India, the nominal wages rose to ?17,017 per month in 2021 from ?4,398 in 2006.
- But when inflation is factored in, the real wage growth in India plunged to -0.2% in 2021 from 9.3% in 2006.
- The negative growth in India started after the pandemic.
- Other Asian Countries: In China, the growth decreased from 5.6% in 2019 to 2% in 2022. In Pakistan, the growth is -3.8%.

Pandemic Impacts:

- COVID-19 intensified informality, led to the withdrawal of workers from the labour market, reduced earnings, increased unemployment and widened inequality
- They struggled to find shelter, food, and even drinking water for their families.
- Inflation was the major reason for decrease in income and the greatest impact was on low-income groups.
- Rising inflation had a greater cost-of-living impact on lower-income earners, the ILO said adding that they had to spend most of their disposable income on essential goods and services, which generally experience greater price increases than non-essential items.
- Inflation is also biting into the purchasing power of minimum wages.
- Income inequality and poverty will rise if the purchasing power of the lowest paid is not maintained. In addition, a much-needed post-pandemic recovery could be put at risk. This could fuel further social unrest across the world and undermine the goal of achieving prosperity and peace for all.
- Although the recent health crisis and the war in Ukraine seem to be the key drivers of uncertainty at present, the fact is that over the past two decades the world has arguably been drifting in a direction that endangers the prospect of achieving prosperity and peace for all, as called for by the United Nations 2030 Agenda for Sustainable Development.

World Bank on Global Growth:

- Global growth is expected to decelerate markedly from 4.1 per cent in 2022 and 3.2 per cent in 2023 as pent-up demand dissipates and as fiscal and monetary support is unwound across the world.

Major causes for slowdown:

- Lengthy lockdown months,
- Excess expenditure on health infrastructure
- Loss of human resources.
- Decreasing purchasing power of people around the world.

Results:

- The current slowdown in demand and escalating inflation in the world market are a few repercussions that the world is facing due to the advent of the pandemic.
- Lesser earnings further proceed to the lesser demand in the market and eventually create an economic condition of recession where the purchasing power of people does not allow them to consume the current supply rate.

Way Forward:

- Labour market policies: There is a need to strengthen labour market institutions and wage policies.

- The creation of decent formal wage employment is a prerequisite for a more equitable distribution of wages and income, and is a key contributor to equitable and sustainable wage growth.

Gender pay gap:
- Governments should focus on the gender pay gap as when women leave the labour market, they are less likely to return than men.

Multipronged approach:
- There is an urgent need to address the negative effects of climate change; increasing inequalities; the poverty, discrimination, violence and exclusion endured by millions of people, including the discrimination that women and girls continue to suffer in many parts of the world; the lack of vaccines and access to adequate sanitation and essential healthcare.

International Labour Organization:
- It is a specialised agency of the United Nations.
- It is the only tripartite U.N. agency since 1919.
- Aim: To promote rights at work, encourage decent employment opportunities, enhance social protection and strengthen dialogue on work-related issues.
- India is a founder member of the ILO.
- Headquarters: Geneva, Switzerland.
- Received the Nobel Peace Prize in 1969:
- For improving peace among classes
- Pursuing decent work and justice for workers
- Providing technical assistance to other developing nations

Flagship Reports of ILO are:
- ✓ Global Wage Report
- ✓ World Employment and Social Outlook
- ✓ World Social Protection Report
- ✓ World of Work Report

12. 4-tiered Regulatory Framework for Urban Cooperative Banks:
- Recently, the Reserve Bank of India (RBI) announced a four-tiered regulatory framework for the categorization of Urban Co-operative Banks (UCBs).

Background:
The Reserve Bank of India had constituted the Expert Committee on Urban Co-operative Banks.
- to examine the issues in the urban cooperative banking sector
- to review regulatory/ supervisory approach for strengthening the sector
- Based on the recommendations of the Expert Committee, it has been decided to adopt a four-tiered regulatory framework, as against the existing two-tiered framework, for the categorization of UCBs.
- Commencement: The instructions shall be applicable with immediate effect.
- Applicability: This circular applies to all Primary (Urban) Co-operative Banks.

Why it was needed?
- The element of heterogeneity in the cooperative sector demands a tired structure to:
- balance the spirit of mutuality and co-operation among UCBs of all sizes

- spread their area of operation and undertake more complex business activities
- The categorization may be used for differentiated regulatory prescriptions aimed at strengthening the financial soundness of the UCBs.
- UCBs have been categorized into the following four tiers for regulatory purposes:
- ✓ Tier 1: All unit UCBs and salary earners' UCBs (irrespective of deposit size), and all other UCBs having deposits up to Rs 100 crore
- ✓ Tier 2: UCBs with deposits of more than Rs 100 crore and up to Rs 1000 crore
- ✓ Tier 3: UCBs with deposits of more than Rs 1000 crore and up to Rs 10,000 crore
- ✓ Tier 4: UCBs with deposits of more than Rs 10,000 crore

Net worth and capital adequacy:
- ➢ RBI also has come out with norms pertaining to the net worth and capital adequacy of these banks.
- ➢ Tier 1 UCBs operating in a single district should have a minimum net worth of Rs2 crores.
- ➢ For all other UCBs (in Tier 1, 2, and 3) tiers), the minimum net worth should be Rs5 crores.
- ➢ The UCBs, which currently do not meet the revised minimum net worth requirement, will have to achieve the minimum net worth of Rs2 crores or Rs5 crores (as applicable) in a phased manner.

Minimum capital to risk-weighted assets ratio:
- The central bank also prescribed minimum capital-to-risk weighted assets ratio requirements for UCBs.
- Tier 1 UCBs have to maintain a minimum capital to risk-weighted assets ratio of 9 per cent of Risk Weighted Assets (RWAs) on an ongoing basis.
- Tier 2 to 4 UCBs have to maintain a minimum capital to risk-weighted assets of 12 per cent of RWAs on an ongoing basis.

About Co-operative Banks:
- They are distinct from commercial banks, were born out of the concept of co-operative credit societies where members from a community group together to extend loans to each other, at favorable terms.
- Co-operative Banks are broadly classified into Urban and Rural co-operative banks based on their region of operation.
- They are registered under the Co-operative Societies Act of the State concerned or under the Multi-State Co-operative Societies Act, 2002.
- The Co-operative banks are governed by the:
- Banking Regulations Act, 1949
- Banking Laws (Co-operative Societies) Act, 1955

Issues in UCBs:
- Recent Failures: Cooperative banks in India have been struggling to survive for the last few years. The issue came into the limelight after the Punjab and Maharashtra Cooperative (PMC) bank fiasco.
- Dual control: For years, such banks have escaped scrutiny despite failures and frauds due to dual regulation by the state registrar of societies and the RBI.
- Sinking balance sheet: Sharper decline is seen both in terms of loans and deposits.
- Declining number of UCBs: After liberalization in licensing policy in 1993, nearly one-third of the newly licensed ones became financially unsound within a short period.

- Diminished share in agricultural lending: Despite their crucial role in agricultural sector, its share in total agricultural lending diminished considerably over the years from as high as 64% in 1992-93 to just 11.3 % in 2019-20.
- Large share of rural cooperatives: They make up 65% of the total size of all cooperatives taken together.

13. Global Report on Health Equity for Persons with Disabilities:
- Ahead of the International Day of Persons with Disabilities (3rd December), the World Health Organization (WHO) has released a report titled- Global report on health equity for persons with disabilities.

What are the Findings of the Report?
Statistics related to Disabilities:
- Currently, some 1.3 billion people, or one in six, worldwide suffer from major disabilities.
- Because of the systemic and persistent health inequities, many persons with disabilities face the risk of dying much earlier—even up to 20 years earlier—than persons without disabilities.
- An estimated 80 % of people with disabilities reside in low- and middle-income countries with limited resources, making it difficult to address these inequities.

Risk of Disabilities:
- They are at a two-fold risk of contracting chronic illnesses like asthma, depression, diabetes, obesity, dental disorders and stroke.
- Many of the discrepancies in health outcomes cannot be attributed to underlying health conditions but rather to preventable, unfair and unjust circumstances.

Some Factors for Inequity in Healthcare:
- Hostile attitudes of healthcare providers
- Non-comprehensible health information formats
- Physical barriers, lack of transportation, or financial constraints that prevent access to a health center.

What are the Recommendations?
- It is crucial to ensure that people with disabilities participate fully and effectively in all facets of society and to instil inclusion, accessibility and non-discrimination in the medical field.
- Health systems should be alleviating the challenges that people with disabilities face, not adding to them.
- Ensuring health equity for persons with disabilities will also have wider benefits and can advance global health priorities in 3 ways:
- ✓ Health equity for all is critical towards achieving universal health coverage;
- ✓ Inclusive public health interventions that are administered equitably across different sectors can contribute to healthier populations; and
- ✓ Advancing health equity for persons with disabilities is a central component in all efforts to protect everyone in health emergencies.
- ✓ Governments, health partners and civil society should ensure all health sector actions are inclusive of persons with disabilities so that they can enjoy their right to the highest standard of health.

What are the Initiatives to Empowerment of Disables?

India:
- Right of Persons with Disabilities Act 2016
- Unique Disability Identification Portal
- Accessible India Campaign
- DeenDayal Disabled Rehabilitation Scheme
- Assistance to Disabled Persons for Purchase/fitting of Aids and Appliances
- National Fellowship for Students with Disabilities

Global:
- Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific.
- United Nations Convention on Rights of Persons with Disability.
- International Day of Persons with Disabilities
- UN Principles for People with Disabilities

14. RBI Launches Retail CBDC:
- India is witnessing massive growth in digital transactions, the volume and value of Unified Payments Interface (UPI) transactions increased by 118% in 2022. India's Digital rupee move based on transparent and efficient technology will provide customers with continuous access to the payment system.
- India launched its Central Bank Digital Currency (CBDC) or digital rupee or e-rupee on December 1, 2022. It is an electronic version of cash and will be primarily meant for retail transactions. The pilot will initially cover the four cities of Mumbai, New Delhi, Bengaluru, and Bhubaneswar.
- This makes it important to know what CBDCs are, how they are different from cryptocurrencies and UPI transactions, and also about the safety concerns associated with it.

How will the E-rupee be Circulated in the Market?
- E-rupees will be issued in the same denominations as paper currency and coins, and will be distributed through the intermediaries, that is banks.
- Transactions will be through a digital wallet offered by the participating banks and stored on mobile phones and devices.
- Transactions can be both person to person (P2P) and person to merchant (P2M).
- For P2M transactions (such as shopping), there will be QR codes at the merchant location.
- Users will be able to withdraw digital tokens from banks in the same way they can currently withdraw physical cash.
- They will be able to keep their digital tokens in the wallet, and spend them online or in person, or transfer them via an app.

What are the Advantages of E-rupee?
- Reducing Dependency on Dollar: India can establish Digital Rupee as a superior currency for trade with its strategic partners, thus reducing reliance on the dollar.
- This occurs at a time when India is already in talks with Russia, UAE and Saudi Arabia to allow settlement of trade in the Indian rupee.
- Cutting Cost of Maintaining Physical Currency: CBDC has the potential to reduce dependency on cash. To the extent large cash usage can be replaced by CBDCs, the cost of printing, transporting, storing and distributing currency can be reduced.

- Regulated Intermediation: Along with reducing operational costs, it will offer the public the same features as any private virtual currency (cryptocurrency) without any risks associated with it.
- Unlike crypto, E-rupee has regulated intermediation and control arrangements that plays the crucial role of ensuring integrity and stability of the monetary and financial ecosystem.
- Globalisation of Payment System: CBDC can also enable a more real-time and cost-effective globalisation of payment systems. It could eliminate the need for an expensive network of correspondent banks to settle cross-border payments.
- For Indians working abroad, sending money home will become simpler and cheaper resulting in huge savings for India, the world's top recipient of remittances.

What are the Challenges Associated with E-Rupee?

- Privacy and Security Concern: E-rupee has the capacity to accumulate sensitive user and payment data on a massive scale. In the wrong hands, this data can be easily used to spy on the private transactions of citizens.
- If implemented without proper security protocols, an E-Rupee could substantially amplify the scope and scale of many of the security and privacy threats that already exist in today's financial system.
- Digital Divide and Financial Illiteracy: High level of digital illiteracy is the biggest challenge and hindrance in the success of E-rupee in India. India had a rank of 73 out of 120 countries for internet literacy (2021).
- Also, digital services are not available in local languages, which is a major barrier to financial literacy.
- Acceptability Concern: Traceability of e-rupee transactions could become a deterrent to its uptake in India where cash transactions are still hugely popular, largely because of their anonymity. According to government data, the volume of bank notes in circulation rose 5% in fiscal year 2022.

What Should be the Way Forward?

- Secured Digital Environment: India's regulatory systems need to catch the evolving risks of data privacy and guide banking institutions to place appropriate safeguards and cushions to avoid any personal data breach.
- Strict KYC Norms: A digital rupee may well be a boon but there is a need to enforce strict compliance of Know Your Customer (KYC) norms to prevent the digital currency's use for terror financing or money laundering.
- Also, given India's still-vast digital divide, a protocol for offline use has to be worked out.

What is CBDC or E-rupee?

- It is a legal tender issued by the RBI in digital form. It is the same as the fiat currency and is exchangeable one-to-one with the fiat currency.
- E-rupee will be in the form of a digital token representing a claim on the central bank and will effectively function as the digital equivalent of a banknote that can be transferred electronically from one holder to another.
- Based on usage and the functions performed by the digital rupee, and considering different levels of accessibility, the RBI has demarcated the digital rupee into two categories:

- ➢ **Retail E-rupee:** It is an electronic version of cash primarily meant for retail transactions, which can potentially be used by almost everyone, and can provide access to safe money for payment and settlements.
- ➢ **Wholesale CBDC:** It is designed for restricted access to select financial institutions.
- Financial transactions involving government securities (G-Sec) and interbank transactions could be transformed by this technology.
- It also makes the capital market more efficient and secure in terms of operational costs, use of collateral, and liquidity management.

15. MGNREGA Restructuring:

- The Central government has constituted a committee to review the implementation of the MGNREGA scheme, especially to assess the programme's efficacy as a poverty alleviation tool.
- The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was enacted in 2005, and the demand-driven scheme promises 100 days of unskilled work per year to every rural household that wishes to participate.
- It was launched as a poverty alleviation instrument for the rural region, providing them with a safety net in the form of guaranteed work and wages. The scheme now has 51 crore active workers enrolled.
- However, it was felt that states like UP and Bihar where there is a higher level of poverty, haven't been able to utilise the scheme optimally.
- The scheme has also been criticised by economists like Jagdish Bhagwati and Arvind Panagariya as an "inefficient instrument of shifting income to the poor".

About the committee:

- The Sinha committee (named after former Rural Development secretary Amarjeet Sinha) has now been tasked to study –
- ➢ The various factors behind the demand for MGNREGA work,
- ➢ The expenditure trends and inter-State variations, and
- ➢ The composition of work.
- ➢ It will suggest (within 3 months) what changes in focus and governance structures are required to make MGNREGA more effective.

Terms of reference of the committee:

- It will look at the argument that the cost of providing work has also shot up since the scheme first started.
- It will review the reasons and recommend ways to bring in a greater focus on poorer areas.
- It will study if the composition of work taken up presently under the scheme should be changed, i.e., whether it should focus more on community-based assets or individual works.

Criticism of the scheme:

- Lack of tangible asset creation: Bihar, for example, despite its levels of poverty, does not generate assets to make a concrete difference, while Kerala which is economically better has been utilising it for asset creation.
- Allocation of funds is not as per the needs of the states: From the above example, while Bihar needs MGNREGA more, Kerala cannot be denied funds because of the current structure of the programme.

Conclusion:
- Regardless of all the criticism, MGNREGA acted as a crucial safety net during the COVID pandemic. Thus, the scheme needs to be reformed to provide not only social (safety net for the vulnerable) but also economic (tangible asset creation) benefits.

Science and Technology

1. Omicron XBB.1.5:
- The coronavirus outbreak continues to be a threat worldwide. The cases have been rising and the government has been taking strict action to contain its spread.
- Amid this outbreak, two Covid variants have been in the news majorly-- Omicron BF.7, which is prominent in countries like China, Japan, and Hongkong; and the other is Covid XBB.1.5 variant, which is being reported in the US and some parts of the UK.
- However, if we talk about India, there have been 5 cases of the XBB.1.5 variant in the last few days. In such a situation, there are many people who are worried about which variant is more dangerous in India and what is the difference in their symptoms. So, let's understand the distinction between XBB.1.5 and Omicron BF.7.

What is Covid's XBB.1.5 Variant?
- The XBB.1.5 variant of Covid is actually a sub-variant of XBB. It is made of a combination or say mutation of BA.2.75 and BA.2.10.1 and was first reported in India.

What is Covid's BF.7 Omicron Variant?
- China's BF.7 is a BA.5.2.1.7 mutation of Omicron BA.5. The variant BF.7 has an R346T mutation in the spike protein of the virus and can evade antibodies originally derived from the Wuhan virus, particularly vaccines such as the Chinese vaccine Sinovac.

Which variant is more dangerous?
- Looking at the current situation, the XBB.1.5 variant is being said to be more dangerous because-
- It is said to be more contagious than BF.7.
- Its cases are 56% more than BF.7.
- XBB.1.5 scales up to 120 percent faster than BF.7.
- XBB.1.5 is not only affecting the vaccine and the body's antibodies but also weakening it.
- China's vaccine is weakening in front of the BF.7 Omicron variant because of which the virus is spreading like wildfire. This variant of Omicron is responsible for 44% of infections.

Wrapping it up:
- According to experts, India does not have to worry about the new Covid variant of XBB.1.5 as 90% of its eligible population has been vaccinated 30-40% have administered booster doses.
- However, people need to "be cautious" and keep their elders and children isolated while advising against stepping outside unnecessarily. People need to follow Covid-appropriate behaviour and most importantly mask up.

2. Stay Safe Online Campaign and G20 Digital Innovation Alliance:

- As part of India's G20 presidency, the Ministry for Electronics & Information Technology (MeitY) has launched the "Stay Safe Online" campaign and the "G20 Digital Innovation Alliance" (G20-DIA).

What is the Stay Safe Online Campaign?

- The objective of the 'Stay Safe Online Campaign' is to raise awareness among citizens to stay safe in the online world due to the widespread use of social media platforms and the rapid adoption of digital payments.
- The exponential increase in the number of internet users in India and the rapidly evolving technology landscape have brought unique challenges.
- The campaign will make citizens of all age groups, especially children, students, women, senior citizens, specially-abled, teachers, faculty, officials of Central/State Governments, etc. aware of the cyber risk and ways to deal with it.
- The campaign will be carried out in English, Hindi and local languages to reach a wider audience.
- The campaign involves the dissemination of multilingual awareness content in the form of infographics, cartoon stories, puzzles, short videos, etc.

What is G20 Digital Innovation Alliance (G20-DIA)?

- It aims to identify, recognize, and enable the adoption of innovative and impactful digital technologies developed by start-ups, from G20 nations as well as the invited non-member nations.
- It envisages to address the needs of humanity in the six critically important sectors i.e., Agri-tech, Health-tech, Ed-tech, Fin-tech, Secured Digital Infrastructure, and Circular Economy.
- Startup products in these six sectors enabled through Digital Public Goods Infrastructure can create a global population-scale impact and reduce the digital divide and enable sustainable, and inclusive techno-socio-economic development.
- The engagement of innovators, entrepreneurs, startups, corporations, investors, mentors, and other ecosystem stakeholders will lead to the speedy acceptance of the platform that India plans to offer through the G20 Digital Innovation Alliance (G20-DIA).

3. **'GNB1 Encephalopathy' Disease:**

- Researchers at the Indian Institute of Technology (IIT), Madras, Tel Aviv University and Columbia University are studying a rare genetic brain disease called "GNB1 Encephalopathy" and trying to develop a drug to treat it effectively.

GNB1 Encephalopathy:

- GNB1 Encephalopathy is a kind of brain disease or neurological disorder which affects individuals in the foetus stage.
- A single nucleotide mutation in the GNB1 gene that makes one of the G-proteins, the "Gβ1 protein," causes this disease. This mutation affects the patient since they are a foetus.
- Early symptoms of the disease are delayed physical and mental development, intellectual disabilities, frequent epileptic seizures.
- Less than 100 cases of GNB1 Encephalopathy have been recorded worldwide. However, the actual number of affected children is probably higher since diagnosis for this genetic

disorder is not widely available due to the requirement of sophisticated and expensive procedures.

4. **AVGC Task Force's Recommendations:**
- Government has received the report of the Animation, Visual Effects, Gaming and Comics (AVGC) Promotion Task Force.

Main Recommendations:

Domestic Industry Development for Global Access:
- A National AVGC-XR (Extended Reality) Mission with a budget outlay to be created for integrated promotion & growth of the AVGC sector.
- Launch of a 'Create in India' campaign with exclusive focus on content creation, In India, For India & For World.
- With a goal to make India the global hub for AVGC, institute an International AVGC Platform, along with a Gaming Expo with focus on Foreign Direct Investment (FDI), Co-production treaties and Innovation.
- Establish a National Centre of Excellence (COE) for the AVGC sector to become an international reference point across Skilling, Education, Industry Development and Research & Innovation for the AVGC sector.

Developing Talent Ecosystem to realize Demographic Dividends:
- Leverage National Education Policy (NEP) to develop creative thinking with dedicated AVGC course content at school levels, to build foundational skills and to create awareness about AVGC as a career choice.
- A University Grants Commission (UGC) recognised curriculum for undergraduate and postgraduate degrees has also been suggested.
- Enhance Industry participation to ensure employment opportunities and absorption for students from non-metro cities and Northeast states.
- Established AVGC Accelerators and Innovation hubs in academic institutions, on lines of Atal Tinkering Labs.

Enhancing Technology & Financial Viability for Indian AVGC Industry:
- Democratize AVGC technologies by promoting subscription-based pricing models for MSME, Start-Ups and institutions.
- Made in India for AVGC technologies through incentive schemes for R&D and IP creation. Evaluate PLI scheme to incentivize AVGC hardware manufacturers.
- Enhanced Ease of Doing Business in AVGC sector i.e., tax benefits, import duties, curbing piracy, etc.
- Leverage Start-Up India to provide technical, financial and market access assistance to AVGC entrepreneurs to promote culture of R&D and local IP Creation.

Raising India's Soft Power through an Inclusive Growth:
- Establish a dedicated Production Fund for domestic content creation from across India to promote Indian culture & heritage globally.
- Evaluate Reservation for high-quality indigenous content by broadcasters.
- For an Inclusive India, target skilling and industry outreach for youth in Tier 2 & 3 towns and villages in India.
- Establish Special incentives for women entrepreneurs in the AVGC sector.
- Establish a framework to ensure Child Rights Protection in the digital world.

What is the Status of AVGC Sector of India?

- The AVGC sector in India has witnessed unprecedented growth rates in recent times, with many global players entering the Indian talent pool to avail offshore delivery of services.
- Further, the Media and Entertainment (M&E) Industry is expected to grow at an 8.8% CAGR by 2026.

- As per the experts, within the M&E Industry, the AVGC sector can witness a growth of 14-16% in the next decade.
- India is emerging as a primary destination for high-end, skill-based activities in the AVGC sector.
- The Government of India has designated audio-visual services as one of the 12 Champion Service Sectors and announced key policy measures aimed at nurturing sustained growth.
- The AVGC Sector is an important segment of the Media & Entertainment sector, is emerging as an important growth engine of the Indian economy.

What are the Challenges with the AVGC Sector?

Lack of Authentic Data:
- Non availability of data such as employment, industry size, education intuitions, etc. for AVGC sector, makes decision making tougher for entities.

Skill Gap in Education and Employment sector:
- Creation of the AVGC ecosystem within the country requires a workforce with specialized skills for various roles such as animators, developers, designers, localization experts, product managers, etc.
- At present, the education system at school and university level does not have a dedicated curriculum focused on AVGC.

Infrastructure Constraints:
- In the absence of adequate training infrastructure, there is deterioration in the quality of training being delivered to students, thus impacting the quality of output and human resources for the AVGC industry.

Less focus on Research Development:
- There is also a need to develop research related narrative for the AVGC-XR sector, so that dedicated focus can be given to it.

Absence of an AVGC Academic Reference Point:
- There is no apex institute in India for the AVGC sector unlike other sectors such as engineering, design, management, packaging, etc.

Availability of Funds:
- At present there is no dedicated fund available for the promotion of the AVGC sector which acts as an obstacle for the growth of the sector in India.

Lack of Globally-Popular Indian IPs:
- The AVGC sector in general has suffered a lack of original Indian intellectual property as most work in this sector is outsourced.
- Animation industry is dominated by services to other countries and thus it is important to incentivize local production with additional concessions to increase local IP.

Way Forward:

Need for Holistic Academic Curriculum:
- Most of the AVGC related programmes offered by various institutes in India are academic in nature. Thus, there is a need to develop a holistic curriculum offering relevant industry programmes.

Impetus to be given to R&D:

- R&D plays a very important role in driving the entire AVGC sector. Therefore, focused interventions need to be undertaken for the sector.

Need to explore the Startup Ecosystem of India:

- Aspiring entrepreneurs not only create various job opportunities but also foster economic growth of the industry.
- New inventions and disruptive innovations will enable the Indian AVGC industry to grow at a faster pace, matching the international standards.

5. **India's First Green Steel:**

- Kalyani Ferresta brand steel is the first-of-its-kind steel manufactured by a Pune-based steel company Kalyani Group. It is manufactured using renewable energy resources to bring zero carbon footprint in the environment.
- The term 'Green Steel' refers to a steelmaking process that lowers greenhouse gas emissions, cuts costs and improves the quality of steel. This can be done through usage of gas in place of coal, recycling steel etc.
- To move towards 'Green Steel', the Petroleum and Natural Gas Ministry has launched Pradhan Mantri Urja Ganga project in the Eastern India, which can provide gas to all the Steel plants, located in the area.
- The gas will help in replacing coal in steel making process as usage of coal leads to large amount of Carbon Dioxide (CO_2) emissions.

6. **Surface Water and Ocean Topography (SWOT):**

- Recently, a National Aeronautics and Space Administration (NASA) -led international satellite, Surface Water and Ocean Topography (SWOT) was launched from Southern California by SpaceX Falcon 9 rocket.
- The satellite will take the first global survey of Earth's freshwater systems from space.
- SWOT is an advanced radar satellite that aims to provide scientists with a deeper understanding of the oceans and how climate change impacts them.
- The rocket's payload, the SWOT, incorporates advanced microwave radar technology to collect high-definition measurements of oceans, lakes, reservoirs and rivers over 90% of the globe.

Significance:

- Using its radar, the satellite will be able to measure the water levels of ocean features ten times more accurately than is currently possible.
- It will also be able to measure over a million lakes and rivers on Earth.
- Through its observations, the satellite will also be able to improve the accuracy of flood forecasts and provide scientists with more precise monitoring of impending droughts, rising sea levels, and life on Earth.
- One major thrust of the mission is to explore how oceans absorb atmospheric heat and carbon dioxide in a process that naturally regulates global temperatures and has helped to minimize climate change.
- Oceans are estimated to have absorbed more than 90% of the excess heat trapped in Earth's atmosphere by human-caused greenhouse gas emissions.

7. **Panini Code–a 2500-year-old Sanskrit Riddle:**
- Indian PhD student – Rishi Rajpopa – has solved the Panini code. He released a thesis titled "In Panini, We Trust: Discovering the Algorithm for Rule Conflict Resolution in the Astadhyayi". This thesis has decoded the problem that was a source of perplexity for Sanskrit scholars for centuries.
- In this thesis, Rishi Rajpopat rejected the traditional interpretation of the metarule and argued that Panini meant that between rules applicable to the left and right sides of a word respectively, the father of linguistics required the interpreter to choose the rule applicable to the right side. This finding produced grammatically correct words almost without exceptions. This discovery allows Sanskrit users to use the rules provided by Astadhyayi more accurately.
- Panini is a famous Sanskrit scholar, philologist and grammarian. He lived around the 5th century BCE in India and is considered the "first descriptive linguist". The western scholars consider him as the "father of linguists".

Astadhyayi:
- The Astadhyayi is one of the most important works of Panini. It is a grammar that essentially defines the ancient language of Sanskrit.
- It has 3,959 sutras (aphoristic threads) in 8 chapters. Each of these chapters are subdivided into four sections.
- It is a prescriptive and generative grammar with algebraic rules governing all aspects of Sanskrit.
- Over the centuries since this work was discovered, scholars have not been able to work out the correct usage of the rules and metarules provided by the Astadhyayi.
- The rules in the Astadhyayi function like an algorithm. If the base and suffix of a word are provided, the algorithm will turn it into grammatically correct words, phrases and sentences. This makes it a meticulous process.
- The conflict occurs whenever two or more of Panini's rules are applied simultaneously, which is usually the case.
- In such events, Panini's metarule could be used. The scholars have interpreted metarule as "in the event of a conflict between two rules of equal strength, the rule that comes later in the grammar's serial order wins". However, this often provides grammatically incorrect results.

8. **US' Historic Nuclear Fusion Breakthrough:**
- Recently a few scientists at the Lawrence Livermore facility, the US have achieved a net gain in energy from a nuclear fusion reaction, which is seen as a big breakthrough.
- China's Artificial Sun, the Experimental Advanced Superconducting Tokamak (EAST) device replicates the nuclear fusion process carried out by the sun.
- The experiment forced a minuscule amount of hydrogen into a peppercorn-sized capsule, for which scientists used a powerful 192-beam laser that could generate 100 million degrees Celsius of heat.
- It is also called 'Inertial Fusion'.

- At some other places, including the international collaborative project in southern France called ITER (International Thermonuclear Experimental Reactor) in which India is a partner; very strong magnetic fields are used for the same purpose.
- The laser beam was hotter than the Sun's centre and helped to compress the hydrogen fuel to more than 100 billion times that of Earth's atmosphere.

- Under the pressure of these forces, the capsule started imploding on itself and leading to the fusion of hydrogen atoms and the release of energy.

What can be the Future Prospect?

- Attempts to master the fusion process have been going on at least since the 1950s, but it is incredibly difficult and is still at an experimental stage.
- The nuclear energy currently in use across the world comes from the fission process.
- Besides greater energy yield, fusion is also a carbon-free source of energy, and has negligible radiation risks.
- Though the achievement is significant, it does little to bring the goal of producing electricity from fusion reactions any closer to reality.
- By all estimates, use of the fusion process for generating electricity at a commercial scale is still two to three decades away.
- The technology used in the US experiment might take even longer to get deployed.

What is Fusion?

- Fusion is a different, but more powerful, way of harnessing the immense energy trapped in the nucleus of an atom.
- In fusion, nuclei of two lighter elements are made to fuse together to form the nucleus of a heavier atom.
- A large amount of energy is released in both these processes, but substantially more in fusion than fission.
- This is the process that makes the Sun and all other stars shine and radiate energy.

What are Advantages of Nuclear Fusion?

Abundant Energy:

- Fusing atoms together in a controlled way releases nearly four million times more energy than a chemical reaction such as the burning of coal, oil or gas and four times as much as nuclear fission reactions (at equal mass).
- Fusion has the potential to provide the kind of baseload energy needed to provide electricity to the cities and the industries.

Sustainability:

- Fusion fuels are widely available and nearly inexhaustible. Deuterium can be distilled from all forms of water, while tritium will be produced during the fusion reaction as fusion neutrons interact with lithium.
- No CO_2:
- Fusion doesn't emit harmful toxins like carbon dioxide or other greenhouse gases into the atmosphere. Its major by-product is helium: an inert, non-toxic gas.
- No long-lived Radioactive Waste:
- Nuclear fusion reactors produce no high activity, long-lived nuclear waste.

Limited Risk of Proliferation:

- Fusion doesn't employ fissile materials like uranium and plutonium (Radioactive tritium is neither a fissile nor a fissionable material).

No Risk of Meltdown:

- It is difficult enough to reach and maintain the precise conditions necessary for fusion—if any disturbance occurs, the plasma cools within seconds and the reaction stops.

Features of Nuclear fission and nuclear fusion

S.No.	NUCLEAR FISSION	NUCLEAR FUSION
1	The process of breaking up (splitting) of a heavy nucleus into two smaller nuclei is called 'nuclear fission'.	Nuclear fusion is the combination of two lighter nuclei to form a heavier nucleus.
2	Can be performed at room temperature.	Extremely high temperature and pressure is needed.
3	Alpha, beta and gamma radiations are emitted.	Alpha rays, positrons, and neutrinos are emitted.
4	Fission leads to emission of gamma radiation. This triggers the mutation in the human gene and causes genetic transform diseases.	Only light and heat energy is emitted.

9. **Cervical Cancer Vaccine "Cervavac":**
- India is expected to roll out the indigenously developed CERVAVAC vaccine for the prevention of cervical cancer among girls aged 9-14 years through their schools by mid-2023.
- The decision was based on the National Technical Advisory Group for Immunisation (NTAGI) recommendation to introduce the Human Papillomavirus (HPV) Vaccine in the Universal Immunisation Programme.
- **CERVAVAC** is India's first indigenously developed quadrivalent human papillomavirus (qHPV) vaccine that is said to be effective against four strains of the virus - Type 6, Type 11, Type 16 and Type 18.
- A quadrivalent vaccine is a vaccine that works by stimulating an immune response against four different antigens, such as four different viruses or other microorganisms.
- CERVAVAC is based on VLP (Virus-Like Particles), similar to the Hepatitis B vaccination.
- The vaccine has received the Drugs Controller GeneraI of India's approval and has been cleared by the government advisory panel NTAGI for use in the public health programme.

Significance:
- It has a significant potential to eliminate cervical cancer and it would be helpful if included in national HPV vaccination efforts and offered at a lower cost than existing vaccinations.
- The vaccine is extremely effective only when it's administered before the first sexual intercourse.

What is Cervical Cancer?

- Cervical cancer develops in a woman's cervix. It is the 4th most common type of cancer among women, globally and 2nd most common among women in India.
- India contributes the largest share of the global cervical cancer burden; nearly 1 in every 4 deaths globally due to cervical cancer (as per The Lancet study).
- Almost all cervical cancer cases (99%) are linked to infection with high-risk HPV, an extremely common virus transmitted through sexual contact.
- Effective primary (HPV vaccination) and secondary prevention approaches (screening for and treating precancerous lesions) will prevent most cervical cancer cases.
- When diagnosed, cervical cancer is one of the most successfully treatable forms of cancer, as long as it is detected early and managed effectively.
- Cancers diagnosed in late stages can also be controlled with appropriate treatment and palliative care.
- With a comprehensive approach to prevent, screen and treat, cervical cancer can be eliminated as a public health problem within a generation.

10. World Malaria Report 2022:

- Recently, the World Malaria Report 2022 was released by the World Health Organization (WHO).

Deaths due to Malaria:

- High-burden malaria countries maintained a strong front against the disease in 2021 despite the Covid-19 pandemic, with cases and deaths stabilising.
- While deaths came down to 619,000 in 2021 from 625,000 in the first year of the pandemic, it remained higher than the pre-pandemic level of 568,000 deaths in 2019.

Trend of Malaria Cases:

- As for Malaria cases, the upward trend continued but at a slower rate — 247 million cases in 2021, compared to 245 million cases in 2020 and 232 million in 2019.

Scenario of High Burden Countries:

- Among the 11 high-burden countries, five — the Democratic Republic of the Congo, Ghana, India, Niger and the United Republic of Tanzania — recorded a decline in deaths.
- But these countries continued to contribute heavily to the global disease burden.

Control Tools used by Countries:

- Insecticide-treated bednets (ITNs) are the key vector control tool used by endemic countries.
- Prevalence of Intermittent Preventive Treatment in Pregnancy (IPTP) has remained consistent in 2021 as compared to 2020.

Hurdles in Ending Malaria:

- Hurdles impeding the process of ending Malaria include - mutating parasites which can evade rapid diagnostic tests, increasing drug resistance and the invasion of an urban-adapted mosquitoes, especially in Africa.
- New tools and fundings to deploy them are urgently needed to help defeat malaria.

Malaria:

- Malaria is a life-threatening mosquito borne blood disease caused by plasmodium parasites.

- It is predominantly found in the tropical and subtropical areas of Africa, South America as well as Asia.
- It is preventable as well as curable.

Spread:
- The parasites spread through the bites of infected female Anopheles mosquitoes.
- After entering the human body, parasites initially multiply within the liver cells and then attack the Red Blood Cells (RBCs) resulting in their rupture.
- There are 5 parasite species that cause malaria in humans, and 2 of these species – Plasmodium falciparum and Plasmodium vivax – pose the greatest threat.
- Symptoms of malaria include fever and flu-like illness, including shaking chills, headache, muscle aches, and tiredness.

Malaria Vaccine:
- Known by its lab initials as RTS, S but branded as Mosquirix, the vaccine has passed lengthy scientific trials that found it to be safe and reducing the risk of malaria by nearly 40%, the best recorded.
- It was developed by GlaxoSmithKline (GSK) company and approved by the European Medicines Agency in 2015.
- The RTS, S vaccine trains the immune system to attack the malaria parasite (Plasmodium (P.) falciparum, the deadliest species of the malaria parasite).

Initiatives to Curb Malaria:
Global:
- The WHO has also identified 25 countries with the potential to eradicate malaria by 2025 under its 'E-2025 Initiative'.
- The WHO's Global technical strategy for malaria 2016–2030 aims is to reduce malaria case incidence and mortality rates by at least 40% by 2020, at least 75% by 2025 and at least 90% by 2030 against a 2015 baseline.

India-Specific:
- In India, malaria elimination efforts were initiated in 2015 and were intensified after the launch of the National Framework for Malaria Elimination (NFME) in 2016 by the Ministry of Health and Family Welfare.
- NFME is in line with WHO's 2016-2030 Malaria Strategy, which guides the WHO Global Malaria Programme (GMP).
- The National Strategic Plan for Malaria Elimination (2017-22) was launched in July 2017 which laid down strategies for the following five years.
- It gives year-wise elimination targets in various parts of the country depending upon the endemicity of malaria.
- Implementation of the High Burden to High Impact (HBHI) initiative was started in four states (West Bengal, Jharkhand, Chhattisgarh and Madhya Pradesh) in July 2019.
- Distribution of Long Lasting Insecticidal Nets (LLINs) to high burden areas has led to a reduction in endemicity in these 4 very high endemic states.
- The Indian Council of Medical Research (ICMR) has established Malaria Elimination Research Alliance-India (MERA-India) which is a conglomeration of partners working on malaria control.

11. Rashid Rover:

- A SpaceX Falcon 9 rocket carried into space the first ever Arab-built lunar spacecraft. It was launched from the Cape Canaveral Space Force Station in Florida.
- The **Rashid Rover** was built by Dubai's Mohammed bin Rashid Space Centre (MBRSC), in the United Arab Emirates (UAE), and is being delivered by the HAKUTO-R lander, engineered by Japanese lunar exploration company ispace.
- The mission is due to arrive at Moon around April 2023. According to Mohammed Bin Rashid Space Centre (MBRSC) in Dubai, the Rashid rover will provide 'novel and highly valued data, images, and insights,' as well as 'collect scientific data on matters relating to the origin of the solar system, our planet and life.'
- Weighing only 10kg with payload and measuring 70cm in height; 50cm in both length and width, Rashid Rover – which is almost the same size as a plane's regular carry-on luggage – is designed as the world's most compact rover to traverse and explore the Moon's surface.
- It is expected to land on the Atlas Crater, located at 47.5°N, 44.4°E on the Moon's south-eastern outer edge of Mare Frigoris (Sea of Cold), by April 2023.
- The lunar rover will operate on solar panels that were mounted at a certain angle to maximize the collection of solar energy.
- It will carry four cameras, including two main cameras – a microscopic and a thermal imaging camera – in addition to sensors and systems equipped to characterize the soil, dust, radioactive and electrical activities, and rocks on the Moon's surface.
- The four-wheeled rover will perform numerous scientific experiments to measure the effectiveness of some materials on the lunar surface, such as the efficiency of adhesion of the rover wheels to the lunar surface, and explore the process of overcoming natural obstacles on the moon.

Surviving harsh environment:
- The Moon's environment is very harsh. Its temperature drops to as low as minus 173 degrees Celsius, from as high as 127 degrees Celsius, when sunlight hits the Moon's surface. But Rashid Rover is equipped with the latest technologies that can resist the lunar surface temperature.
- Significance
- Rashid Rover will study the surroundings for at least one lunar day (equivalent to 14 Earth days). Its Langmuir probe, for instance, can help scientists better understand the electrically charged environment at the lunar surface, which is apparently caused by the solar wind which is a stream of charged particles from the sun.
- This ambitious mission undertaken by the UAE to study the surface of the Moon is considered a gateway for future exploration of other planets, especially for Mars under the Mars 2117 programme.
- Alongside the lunar gateway, there are also efforts to build base stations for human settlement on the moon that can be used to support longer human missions. The Moon will be used as a base camp where we fuel and continue the journey to farther celestial bodies in our solar system.

12. **Space Tech Innovation Network:**
- The Indian Space Research Organisation (ISRO) has signed an MoU with Social Alpha, a multistage innovation curation and venture development platform to launch SpaceTech Innovation Network (SpIN).

- SpIN is India's first dedicated platform for innovation, curation, and venture development for the burgeoning space entrepreneurial ecosystem.
- The SPIN platform would create a level playing field for various stakeholders to collaborate and contribute to the space ecosystem in the country.
- SpIN will primarily focus on facilitating space tech entrepreneurs in three distinct innovation categories:
  - ➢ Geospatial Technologies and Downstream Applications
  - ➢ Enabling Technologies for Space & Mobility
  - ➢ Aerospace Materials, Sensors, and Avionics.

Significance:
- Innovative technologies are expected to bring a paradigm shift in utilising the space applications to maximise the economic, social, and environmental benefits for the larger society.

Innovation Challenge:
- SpIN has launched its first innovation challenge for developing solutions in areas of maritime and land transportation, urbanization, mapping, and surveying.
- The selected start-ups and innovators will be able to access both Social Alpha's and ISRO's infrastructure and resources as per the prevailing guidelines.
- They will be provided active hand-holding in critical areas, including access to product design, testing and validation infrastructure, and intellectual property management.

13. Surge in iGAS Cases in the UK:
- Recently, there was a surge in the number of cases of lower respiratory tract Group A Strep infections (GAS) in children in the United Kingdom.
- Group A streptococcus (GAS) is a bacterium commonly found in throats and on the skin.
- It generally does not cause illnesses. However, it causes a number of infections that range from mild to fatal.
- Some of the symptoms of GAS infections are sore throat, fever, chills and muscle aches.
- These infections spread by close contact with infected person, coughs, sneezes and from wounds.
- The bacteria can also spread from asymptomatic patients who have the bacteria in their body but do not feel unwell or show symptoms.

What is iGAS?
- Invasive group A strep (iGAS) is a group of bacterial infections that cause the most serious GAS infections. These infections are caused when the bacteria get into the parts of the body where the bacteria are normally not found like the lungs and bloodstream. In rare instances, an iGAS infection can be deadly. Some of the most deadly and rare forms of iGAS infections are Necrotising fasciitis, necrotising pneumonia and Streptococcal Toxic Shock Syndrome
- The iGAS infection is caused when an individual has sores or open wounds that allows bacteria to enter into tissue, breach in their respiratory tract after a viral infection, or in a person having weak immune system. While iGAS infections are rare, there is a surge in cases in 2022, especially among children under the age of 10.

14. IIT-M Ocean Wave Energy Converter:

- Researchers in IIT Madras have developed and deployed a system called Sindhuja-I that is capable of generating electricity using energy from sea waves. It was recently deployed some 6 km from the coast of Tuticorin in Tamil Nadu, where the sea's depth is around 20 meters.

Sindhuja-I:

- Sindhuja-I is an ocean wave energy converter that is currently capable of producing 100 watts of electricity using energy from seawaves.
- Its capacity is expected to be scaled up to 1 mW of energy in the next 3 years.
- This system has a floating buoy, a spar and an electrical module.
- The buoy moves up and down as the sea waves oscillate. A hole in the centre of the buoy will allow the spar to pass through it.
- The spar is fixed to the seafloor so that it is prevented from being moved by sea waves.
- This ensures that the buoy moves and the spar doesn't. This results in the production of a relative motion between spar and buoy.
- The power is produced by an electric generator using the relative motion between the spar and buoy.

15. ChatGPT:

- Recently, OpenAI has introduced a new chatbot called ChatGPT, which is a 'conversational' AI and will answer queries just like a human would.
- The ChatGPT can answer "follow-up questions", and can also "admit its mistakes, challenge incorrect premises, and reject inappropriate requests."
- It is based on the company's GPT 3.5 series of language learning models (LLM).
- GPT stands for Generative Pre-trained Transformer 3 and this is a kind of computer language model that relies on deep learning techniques to produce human-like text based on inputs.
- The model is trained to predict what will come next, and that's why one can technically have a 'conversation' with ChatGPT.
- The chatbot was also trained using Reinforcement Learning from Human Feedback (RLHF).

Usage:

- It can be used in real-world applications such as digital marketing, online content creation, answering customer service queries or as some users have found, even to help debug code.
- The bot can respond to a large range of questions while imitating human speaking styles.
- It is being seen as a replacement for the basic emails, party planning lists, CVs, and even college essays and homework.
- It can also be used to write code, as examples have shown.

Limitations:

- The chatbot displayed clear racial and sexist biases, which remains a problem with almost all AI models.

- The chatbot gives answers which are grammatically correct and read well– though some have pointed out that these lack context and substance, which is largely true.
- ChatGPT occasionally produces inaccurate information and that its knowledge is restricted to global events that occurred before 2021.

What is a Chatbot?

- Chatbots, also called chatterbots, is a form of Artificial Intelligence (AI) used in messaging apps.
- This tool helps add convenience for customers—they are automated programs that interact with customers like a human would and cost little to nothing to engage with.
- Key examples are chatbots used by businesses in Facebook Messenger, or as virtual assistants, such as Amazon's Alexa.
- Chatbots tend to operate in one of two ways—either via machine learning or with set guidelines.
- However, due to advancements in AI technology, chatbots using set guidelines are becoming a historical footnote.

Types:

Chatbot with Set Guidelines:

- It can only respond to a set number of requests and vocabulary and is only as intelligent as its programming code.
- An example of a limited bot is an automated banking bot that asks the caller some questions to understand what the caller wants to do.

Machine Learning Chatbot:

- A chatbot that functions through machine learning have an artificial neural network inspired by the neural nodes of the human brain.
- The bot is programmed to self-learn as it is introduced to new dialogues and words.
- In effect, as a chatbot receives new voice or textual dialogues, the number of inquiries that it can reply to and the accuracy of each response it gives increases.
- Meta (as Facebook's parent company is now known) has a machine learning chatbot that creates a platform for companies to interact with their consumers through the Messenger application.

Advantages:

- Chatbots are convenient for providing customer service and support 24 hours a day, 7 days a week.
- They also free up phone lines and are far less expensive over the long run than hiring people to perform support.
- Using AI and natural language processing, chatbots are becoming better at understanding what customers want and providing the help they need.
- Companies also like chatbots because they can collect data about customer queries, response times, satisfaction, and so on.

Disadvantages:

- Even with natural language processing, they may not fully comprehend a customer's input and may provide incoherent answers.
- Many chatbots are also limited in the scope of queries that they are able to respond to.
- Chatbots can be expensive to implement and maintain, especially if they must be customized and updated often.
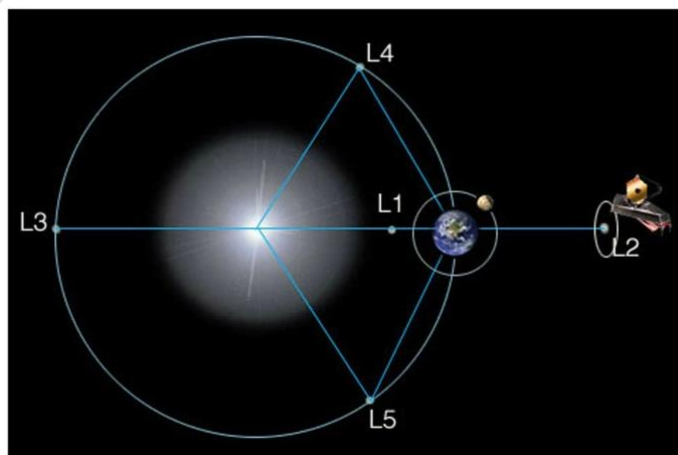
- The challenges of AI metamorphosing into sentient are far in the future; however, unethical AI perpetuating historical bias and echoing hate speech are the real dangers to watch for.

16. EQUULEUS Spacecraft:
- Japanese Space Agency JAXA recently announced that it had successfully used steam to propel its EQUULEUS spacecraft, which was one of the 10 CubeSats that were launched as part of the Artemis I mission on the maiden flight of the Space Launch
- EQUilibriUm Lunar-Earth point 6U Spacecraft (EQUULEUS) is a nanosatellite of the 6U CubeSat format that will measure the distribution of plasma surrounding the Earth to help scientists understand the region's radiation environment.
- It also carries an instrument called DELPHINUS (DEtection camera for Lunar impact PHenomena IN 6U Spacecraft) for observing Lunar impact flashes and near-Earth asteroids from EML2 (second Earth-Moon Lagrange point).
- The cubesat is expected to reach the EML2 in approximately one-and-a-half years.
- To reach the ELM2, it made use of an engine called AQUARIUS (AQUA ResIstojet propUlsion System) that uses water as fuel. It uses waste heat from the communication kit to convert the water into steam that is squirted out to produce trust.
- The use of AQUARIS enabled the EQUULEUS to reach the EML2 at a low cost. It makes future visits to the spot more economical.
- Using ultra-high-speed camera, a dust sensor and an ultraviolet telescope, the EQUULEUS will be able to observe Near-Earth Objects like asteroids, comets and mini-moons as well as lunar impact flashes.

EML2:
- Lagrangian points are spots in outer space where gravity and centrifugal force balance each other. The balance of gravitational force enables spacecraft to remain in a specific place. Researchers are especially interested in the second Earth-Moon Lagrange point (EML2) as the candidate construction site for a deep spaceport for future deep space exploration. Long-term stays at the EML2 will provide effective radiation shielding for long-duration missions.
- Spacecraft departing from EML2 can reach various orbits like the Earth orbits, Moon orbits and interplanetary orbits using very little orbital control.

Environment and Ecology

1. **Confuciusornis shifan:**

- Recently, paleontologists have announced the discovery of a fossil beaked bird ancestor in northeastern China.
- The title of paper: "A new confuciusornithid bird with a secondary epiphyseal ossification reveals phylogenetic changes in confuciusornithid flight mode."
- The findings in detail in the prestigious journal Nature Communications Biology.
- The nearly complete fossil is of a beaked bird that lived in what is now China during the Early Cretaceous epoch, some 119 million years ago.

Significance:

- The preserved specimens will collectively provide rich information on Confucian ornithid morphology, taxonomy, flight ability, growth, diet and ecology.
- The new find strikingly exemplifies the morphological, developmental and functional diversity of the first beaked birds.

Confuciusornis shifan:

- Confuciusornis is a genus of extinct raven-billed bird in the family Confuciusornithidae.
- Confuciusornithidae is a clade of Early Cretaceous pygostylian birds known from the Jehol Biota of East Asia,
- It weighed less than 200 grams and was smaller than most other confuciusornithid species.
- It represents the earliest known toothless, beaked birds.
- It is different from other Mesozoic birds due to the presence of an additional cushion-like bone in the first digit of the wing.
- This feature is significant as it may have helped the bird meet the functional demand of flight at a stage when the skeletal growth was still incomplete.

Origin of Name:

- The specific name is derived from the Mandarin "shifan", meaning a paragon of all teachers, in honor of Confucius.
- The name also commemorates the 70th anniversary of Shenyang Normal University (Shenyang Shifan Daxue).

2. **Nilgiri Tahr Project:**

- Recently, the Tamil Nadu government launched an initiative for the conservation of the Nilgiri Tahr.
- There are multiple references to the Nilgiri Tahr in Tamil Sangam literature dating back to 2,000 years.
- The late Mesolithic (10,000-4,000 BC) paintings highlight the significance of the Tahr in folklore, culture and life.

- It was designated as the State animal of Tamil Nadu in recognition of its ecological and cultural significance.

Features:
- To develop a better understanding of the Nilgiri Tahr population through surveys and radio telemetry studies.

- Reintroduce the Tahrs to their historical habitat.
- Address proximate threats.
- Increase public awareness of the species.

Cost:
- The project will cost Rs.25.14 crore.
- Implementation:
- The project is to be implemented from 2022 to 2027.

Niligiri Tahr Day:
- October 7 will be celebrated as 'Niligiri Tahr Day' in honour of E.R.C. Davidar.
- He was responsible for pioneering one of the first studies on Nilgiri Tahr in 1975.

Challenges in the conservation of the Nilgiri Tahrs:
- Potential local extinction due to highly fragmented populations.
- Invasion of exotic species into the habitat.
- Forest fires.
- Over-exploitation of forest resources.
- Lack of ecological data and understanding.

Nilgiri Tahr
- **Local Name:**
  - The species is locally known as **Varaiaadu**.
- **IUCN Status:**
  - It has been listed as an **endangered species** and is protected under **Schedule-I of the Wildlife (Protection) Act of India, 1972.**
- **Habitat and Distribution:**
  - The animal inhabits meadows with **steep cliffs at elevations between 300 metres and 2,600 metres** above sea level.
  - Historically, the Nilgiri Tahr was known to inhabit a large portion of the **Western Ghats.**
    - But today it remains restricted to a few **scattered patches in Tamil Nadu and Kerala.**
    - It has **become locally extinct in around 14%** of its traditional shola forest-grassland habitat.
- **Estimates:**
  - It is estimated that there are **3,122 Nilgiri Tahrs in the wild.**

3. **Garrarnawun Bush Tomato:**
- A new species of bush tomato, christened Garrarnawun bush tomato (Solanum scalarium), was discovered in Australia recently.

Genus Solanum:
- Genus Solanum has around 1,400 accepted species that are distributed across the world. The species belonging to this genus are found in all continents except Antarctica. It is the most species-rich genus in the Solanaceae family and is among the largest in the angiosperms (flowering plants).
- The genus includes 3 food crops having high economic value. These are the potato, tomato and eggplant (brinjal).
- Much of the species belonging to the Solanum are concentrated in circum-Amazonian tropical South America. However, its hotspots are also found in Africa and Australia.

- This genus is often recognized by its two-chambered superior ovary, fused sepals and petals, 5 stamens, poricidal anthers, and sometimes branched hairs and/or prickles.

About the new species:
- The Garrarnawun bush tomato (Solanum scalarium) is currently found only in one site in world i.e., the Judbarra/Gregory National Park in the Australia's Northern Territory.
- It is a perennial pale green shrub that is around 30 cm tall.
- This species belongs to the taxonomically challenging group called Kimberley dioecious clade in Australia. It is distinguished from other members of this group by its spreading decumbent habit and conspicuously prickly male floral rachis.
- Its common name recognizes the lookout point in the Judbarra/Gregory National Park. This point is the traditional meeting place of the Wardaman and Nungali-Ngaliwurru peoples, whose lands intersect in this region.
- This species is currently known from a single population of around 50 to 100 individuals. Hence, scientists are proposing to include in the "data deficit" category of the IUCN Red List.
- It is found on skeletal pink soil, dissected rocks and exposed sandstone pavements.
- It is expected to be found in more locations due to the prevalence of a similar and less accessible outcrops in the immediate region.

4. **Lion@47:**
- Recently, the Project Lion document titled "Lion @ 47: Vision for Amrutkal" has been launched by the Minister of State for Environment, Forest and Climate Change.
- Gujarat's Barda Wildlife Sanctuary: It has been identified as a potential second home for Asiatic lions.

About Lions

- **Scientific name:** Lions, one of the largest animal species on earth are scientifically named 'Panthera Leo'.
- **Historical Significance:** They have an illustrious place in India's history and culture, with their earliest known references found in the pillars of the Mauryan empire. The Indian national emblem is adorned by the majestic lion on all four sides.
- **IUCN Status:** Asiatic Lion: Endangered
  - The Asiatic lion (Panthera Leo) is presently **found only in and around the Gir Forest in the Saurashtra peninsula of Gujarat** in western India.
- **Role in the animal kingdom:** Lions hold an indispensable place in the ecosystem, they are an apex predator of their habitat, and are responsible for checking the population of grazers, thus helping in maintaining the ecological balance.
- **Threats:** Trophy hunting and Loss of natural habitat
- **Conservation Efforts Taken:**
  - **Asiatic Lion Conservation Project:** It was launched by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).
  - The lion census is **conducted once every five years.**

- It is located near Porbandar which is 100 kilometres from the Gir National Park.

Project Lion:
- It envisages landscape ecology-based conservation of the Asiatic Lion in Gujarat by integrating conservation and eco-development.
- The Project is being implemented in the Gir landscape in Gujarat which is the last home of the Asiatic lion.

Objectives:
- To secure & restore lions' habitats for managing its growing population.
- Scale up livelihood generation and participation of local communities.
- Become a global hub of knowledge on big cat disease diagnostics and treatment.
- Create inclusive biodiversity conservation through project lion initiative.

Distribution:
- They are now distributed in nine districts of Junagadh, Gir Somnath, Amreli, Bhavnagar, Botad, Porbandar, Jamnagar, Rajkot and Surendranagar, covering around 30,000 square kilometres, which is termed the Asiatic Lion Landscape.

Challenges:
- Vulnerable to extinction: Efforts were being made since the 1990s to find a relocation site for the Asiatic lions within Gujarat and outside the state, considering that the species is vulnerable to extinction threats from epidemics because of low genetic diversity.
- Geographic separation is the primary objective of translocation to establish a second free-ranging population of lions to mitigate conservation risks.

5. **Carbon Border Adjustment Mechanism:**
- The European Union (EU) agreed on a preliminary deal for an EU Carbon Border Adjustment Mechanism (CBAM) on imported goods such as iron and steel, cement, aluminium, fertilisers, electricity and hydrogen.
- The CBAM/ a carbon border tax/ carbon leakage instrument was proposed by the EU in 2021 and will be applicable from October 1, 2023.
- According to the standard economic theory of trade, imposing carbon taxes on domestic producers without an adjustment mechanism would certainly cause a shift of production to places where those taxes can be avoided.

About Carbon Border Tax:
- A carbon border tax is an import duty based on the amount of carbon emissions produced by the goods in question.
- It discourages emissions as a carbon price, and it has an impact on production and exports as a trade-related measure.

Stated goal of CBAM:
- To eliminate the difference in carbon price paid by companies subject to the EU's Emissions Trading System (ETS) and the price paid by companies elsewhere.
- Levelling the playing field for EU firms.
- To implement stronger emission reduction efforts.
- Incentivises non-EU countries to increase their climate ambition.
- It will ensure that EU and global climate efforts are not undermined due to the relocation of production which is defined as 'carbon leakage'.

Concerns:
- From an equity perspective, it increases costs in poorer countries, due to the need to remit new taxes, etc.
- Such schemes are still rare in most of the world and introducing them will be a major policy challenge for lower-income countries.
- For countries reliant on one of the targeted industries – like Mozambique's aluminium extraction, this could be a major economic shock.

- If enacted unilaterally, it is likely to unfairly protect domestic industries from international competition – a practice known as 'green protectionism.'
- BASIC countries have emphasised that carbon border taxes could promote market distortion and worsen the trust deficit among countries.

6. Scientists Freeze Great Barrier Reef Coral:

- While working on Australia's Great Barrier Reef, scientists have successfully trialed a new method for freezing and storing coral in their first trial.

What is the Need for Freezing Coral?

- As rising ocean temperatures destabilize the delicate ecosystems of Coral, therefore scientists are striving to protect coral reefs.
- The Great Barrier Reef has suffered four bleaching events in the last seven years, including the first-ever bleach during a La Niña phenomenon, which typically brings cooler temperatures.
- Scientists used the cryomesh to freeze coral larvae at the Australian Institute of Marine Sciences (AIMS).

What is the Methodology of Freezing Coral?

Cryomesh:

- Cryomesh was devised by a team from the University of Minnesota's College of Science and Engineering.
- This is lightweight and can be manufactured cheaply.
- It better preserves coral and has the properties of cryoplates.
- The mesh technology will help store coral larvae at -196°C (-320.8°F).
- Significance:
- This cryogenically frozen coral can be stored and later reintroduced to the wild.
- But current process requires sophisticated equipment including lasers, however a new lightweight "cryomesh" can be manufactured cheaply and better preserves coral.

What are Coral Reefs?

- Corals are marine invertebrates or animals which do not possess a spine. In scientific classification, corals fall under the phylum Cnidaria and the class Anthozoa.
- Coral is made up of genetically identical organisms called polyps. These polyps have microscopic algae called zooxanthellae living within their tissues.
- The corals and algae have a mutualistic relationship.
- The coral provides the zooxanthellae with the compounds necessary for photosynthesis.
- In return, the zooxanthellae supply the coral with organic products of photosynthesis, like carbohydrates, which are utilized by the coral polyps for synthesis of their calcium carbonate skeletons.
- In addition to providing corals with essential nutrients, zooxanthellae are responsible for the unique and beautiful colors of corals.
- They are also called the "rainforests of the seas".
- There are two types of corals:
- Hard, shallow-water corals—the kind that builds reefs.
- Soft corals and deepwater corals that live in dark cold waters.

Significance:

- They support over 25% of marine biodiversity even though they take up only 1% of the seafloor.
- The marine life supported by reefs further fuels global fishing industries.
- Besides, coral reef systems generate USD 2.7 trillion in annual economic value through goods and service trade and tourism.

What is the Great Barrier Reef?
- It is the world's most extensive and spectacular coral reef ecosystem composed of over 2,900 individual reefs and 900 islands.
- The reef is located in the Coral Sea (North-East Coast), off the coast of Queensland, Australia.
- It can be seen from outer space and is the world's biggest single structure made by living organisms.
- It was selected as a World Heritage Site in 1981.

7. **Kunming-Montreal Global Biodiversity Framework:**
- Recently, at the 15th Conference of Parties (COP15) to the UN Convention on Biological Diversity "Kunming-Montreal Global Biodiversity Framework" (GBF) was adopted.
- GBF includes 4 goals and 23 targets for achievement by 2030.
- The U.N. biodiversity conference concluded in Canada's Montreal.
- The first part of COP 15 took place in Kunming, China and reinforced the commitment to address the biodiversity crisis and the Kunming Declaration was adopted by over 100 countries.

What are the Key Targets of the GBF?
30x30 Deal:
- Restore 30% degraded ecosystems globally (on land and sea) by 2030
- Conserve and manage 30% areas (terrestrial, inland water, and coastal and marine) by 2030
- Stop the extinction of known species, and by 2050 reduce tenfold the extinction risk and rate of all species (including unknown)
- Reduce risk from pesticides by at least 50% by 2030
- Reduce nutrients lost to the environment by at least 50% by 2030
- Reduce pollution risks and negative impacts of pollution from all sources by 2030 to levels that are not harmful to biodiversity and ecosystem functions
- Reduce global footprint of consumption by 2030, including through significantly reducing overconsumption and waste generation and halving food waste
- Sustainably manage areas under agriculture, aquaculture, fisheries, and forestry and substantially increase agroecology and other biodiversity-friendly practices
- Tackle climate change through nature-based solutions
- Reduce the rate of introduction and establishment of invasive alien species by at least 50% by 2030
- Secure the safe, legal and sustainable use and trade of wild species by 2030
- Green up urban spaces

What are the Other Major Outcomes of COP15?
Money for Nature:

- Signatories aim to ensure USD200 billion per year is channelled to conservation initiatives, from public and private sources.
- Wealthier countries should contribute at least USD20 billions of this every year by 2025, and at least USD30 billion a year by 2030.
- Big Companies Report Impacts on Biodiversity:
- Companies should analyse and report how their operations affect and are affected by biodiversity issues.
- The parties agreed to large companies and financial institutions being subject to "requirements" to make disclosures regarding their operations, supply chains and portfolios.

Harmful Subsidies:
- Countries committed to identify subsidies that deplete biodiversity by 2025, and then eliminate, phase out or reform them.
- They agreed to slash those incentives by at least USD500 billion a year by 2030 and increase incentives that are positive for conservation.

Monitoring and reporting progress:
- All the agreed aims will be supported by processes to monitor progress in the future, in a bid to prevent this agreement meeting the same fate as similar targets that were agreed in Aichi, Japan, in 2010, and never met.
- National action plans will be set and reviewed, following a similar format used for greenhouse gas emissions under U.N.-led efforts to curb climate change. Some observers objected to the lack of a deadline for countries to submit these plans.

How India Presented its Demands at the Conference?
- India called for an urgent need to create a new and dedicated fund to help developing countries successfully implement a post-2020 global framework to halt and reverse biodiversity loss.
- So far, the Global Environment Facility which caters to multiple conventions, including the UNFCCC and UN Convention to Combat Desertification, remains the only source of funding for biodiversity conservation.
- India also said that conservation of biodiversity must also be based on 'Common but Differentiated Responsibilities and Respective Capabilities' (CBDR) as climate change also impacts nature.
- According to India, developing countries bear most of the burden of implementing the targets for conserving biodiversity and, therefore, require adequate funding and technology transfer.

What is the Convention on Biological Diversity (CBD)?
- CBD is a legally binding treaty to conserve biodiversity that has been in force since 1993 and has been ratified by 196 nations.
- It sets out guidelines for countries to protect biodiversity, ensure sustainable use, and promote fair and equitable benefit sharing.
- It aims at achieving a historic deal to halt and reverse biodiversity loss on par with the 2015 Paris Agreement on climate change.
- The CBD Secretariat is based in Montreal, Canada.
- The Parties (Countries) under CBD, meet at regular intervals and these meetings are called Conference of Parties (COP).

- In 2000, a supplementary agreement to the Convention known as the Cartagena Protocol on Biosafety was adopted. It came into force on 11th September 2003.
- The Protocol seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology.
- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) was adopted in 2010 in Nagoya, Japan at COP10. It entered into force on 12th October 2014.
- It not only applies to genetic resources that are covered by the CBD, and to the benefits arising from their utilization but also covers traditional knowledge (TK) associated with genetic resources that are covered by the CBD and the benefits arising from its utilization.
- The COP-10 also adopted a ten-year framework for action by all countries to save biodiversity. Officially known as "Strategic Plan for Biodiversity 2011-2020", it provided a set of 20 ambitious yet achievable targets collectively known as the Aichi Targets for biodiversity.
- India enacted Biological Diversity Act in 2002 for giving effect to the provisions of the CBD.

8. **World Restoration Flagships:**
- World Restoration Flagships of the UN Decade are the first, best, or most promising examples of large-scale and long-term ecosystem restoration in any country or region.
- They enable the UN Decade to make ecosystem restoration visible for a broad audience and inspire a global movement to enhance efforts to 'prevent, halt and reverse the degradation of ecosystems worldwide' and raise awareness of the importance of successful ecosystem restoration.
- National Mission for Clean Ganga initiative, also called as Namami Gange initiative has been recognised by the United Nations (UN) as one of the Top 10 World Restoration Flagships programmes aimed at reviving the natural world.
- It was selected from over 150 such initiatives from 70 countries across the globe.
- The winning initiatives were unveiled at the UN Biodiversity Conference (COP15) in Montreal.
- Initiative is selected under the United Nations Decade on Ecosystem Restoration, a global movement coordinated by the United Nations Environment Programme (UNEP) and the United Nations Food and Agriculture Organization (FAO).
- Benefits: Initiatives declared World Restoration Flagships are eligible to receive UN-backed promotion, advice or funding.

9. **Wildlife (Protection) Amendment Bill, 2022:**
- The Wildlife (Protection) Amendment Bill, 2022, which seeks to strengthen the protection of endangered species and enhance punishment for illegal wildlife trade, has been passed in Rajya Sabha by a voice vote.

Wildlife Protection Act 1972:
Schedules in WPA, 1972:
- It has **six schedules** which give varying degrees of protection.

- **Schedule I and part II of Schedule II:** Absolute protection – offenses under these are prescribed the highest penalties.
- **Schedule III and Schedule IV:** Species are protected, but the penalties are much lower.
- **Schedule V:** Animals (e.g. common crows, fruit bats, rats, and mice), are legally considered vermin and may be hunted freely.
- **Schedule VI:** Specified endemic plants are prohibited from cultivation and planting.
- The Wildlife (Protection) Amendment Bill, attempts to amend the Wildlife (Protection) Act (WLPA), 1972.
- Wildlife Act 1972 preserves the country's wild animals, birds, and plants in order to ensure ecological and environmental security.
- This act has laid down restrictions on hunting various kinds of animal species.
- It also includes provisions related to harvesting and various other ancillary matters connected thereto.

What is the need for Amendment?

- Threat of blacklisting: India has been blacklisted by CITES once before, and if a second blacklisting were to happen — then India will no longer be able to trade in important plant specimens. This would affect the livelihood of a large section of Indian society that relies heavily on this trade.
- Ambiguous listing: The rationalization needed to be done because there were many discrepancies in the schedules and they were also ambiguous.
- Non-uniform listing: Some species were listed under English names, others under scientific names, some under families, and others under orders.
- Issues in implementation: Such a categorization was very confusing for wildlife and forest officials on the ground to implement.
- Constant threats to wildlife
- Illegal Wildlife Trade
- Habitat Destruction
- Human-animal conflict
- Invasive Species
- Climate Change, Pollution

Key provisions of the new Bill:
- There were 50 amendments to the Act proposed in the Bill.
- The words "protection of wild animals, birds, and plants", mentioned under the Wild Life (Protection) Act, 1972 have been substituted with the words "conservation, protection and management of wildlife".

Rationalising schedules:
- Currently, the Act has six schedules for specially protected plants (one), specially protected animals (four), and vermin species (one).
- Bill reduces it to four by:
- Reducing the number of schedules for specially protected animals to two (one for greater protection level)
- Removes the schedule for vermin species
- Inserts a new schedule for specimens listed in the Appendices under CITES (scheduled specimens).
- Obligations under CITES: The Bill authorizes the central government to designate

- Management Authority: which grants export or import permits for the trade of specimens, and
- Scientific Authority: This gives advice on aspects related to the impact on the survival of the specimens being traded.
- It prohibits any person from modifying or removing the identification mark of the specimen.
- Every person possessing live specimens of scheduled animals must obtain a registration certificate from the Management Authority.

Invasive alien species:
- It empowers the central government to regulate or prohibit the import, trade, possession, or proliferation of invasive alien species.
- Control of sanctuaries: The Present Act entrusts the Chief Wildlife Warden to control, manage and maintain all sanctuaries in a state.
- The Chief Wildlife Warden has been appointed by the state government.
- The Bill specifies that the actions of the Chief Warden must be in accordance with the management plans for the sanctuary.
- These plans will be prepared as per the guidelines of the central government, and as approved by the Chief Warden.

Conservation reserves:
- Under the Act, state governments may declare areas adjacent to national parks and sanctuaries as a conservation reserve, for protecting flora and fauna, and their habitat.
- The Bill empowers the central government to also notify a conservation reserve.
- Surrender of captive animals:
- The Bill provides for any person to voluntarily surrender any captive animals or animal products to the Chief Wildlife Warden.
- No compensation will be paid to the person for surrendering such items. The surrendered items become the property of the state government.
- Penalties: Bill has increased the fines for violating the provisions of the Act.

10. SC's Idea on Project GIB:
- Recently, the Supreme Court (SC) sought Centre's review on the idea of 'Project Great Indian Bustard (GIB)' to save endangered birds.

Key Points:
- The Supreme Court had set up a three-member committee to assess the feasibility of laying high-voltage underground power cables.
- SC directed the committee to submit an updated status report on steps to safeguard the GIB.
- Project GIB is on the lines of 'Project Tiger', which was started in 1973 to save the big cats.
- SC's Demands:
- It sought reports from the chief secretaries of Rajasthan and Gujarat on:
- Installation of bird diverters in priority areas
- All bird diverters shall be in compliance with the quality required by the committee appointed by this court.
- Assess the total length of transmission lines in the two states where under-grounding of electric wires have to be done to ensure the birds do not die of electrocution.

Great Indian Bustard:
- It is considered India's most critically endangered bird species.
- It is especially found in Rajasthan and Gujarat.
- One of the heaviest flying birds endemic to the Indian subcontinent.
- State Bird of Rajasthan

Extinction:
- As per the 2021 report of the International Union for Conservation of Nature (IUCN), they are on the verge of extinction with hardly 50 to 249 of them alive.
- Scientific Name: Ardeotis nigriceps

Features:
- It is a large bird with brown-and-white feathers with black crown and wing markings. It is one of the heaviest birds in the world.
- Males have whitish necks and underparts with narrow black breast-bands.
- Females are smaller, with a greyer neck and typically no or incomplete breast-band.

Habitat:
- Untamed, Arid grasslands.
- A Maximum number of GIBs were found in Jaisalmer and the Indian Army-controlled field firing range near Pokhran, Rajasthan.
- Other areas: Gujarat, Maharashtra, Karnataka and Andhra Pradesh.
- The species occurs in the Indian Subcontinent, with former strongholds in the Thar desert in the north-west and the Deccan tableland of the Peninsula.
- This species inhabits arid and semi-arid grasslands with scattered short scrub, bushes and low intensity cultivation in flat or gently undulating terrain.

Population:
- As per the studies conducted by Wildlife Institute of India, there are around 150 Great Indian Bustards left across the country which includes about 128 birds in Rajasthan and less than 10 birds each in the States of Gujarat, Maharashtra, Andhra Pradesh and Karnataka.
- Bustard deaths have reached a total of seven this year (2022).

Protection Status:
- IUCN Status: Critically Endangered.
- Listed in Wildlife Protection Act's Schedule 1.

Threats to the Bird:
- Hunting, Intensification of agriculture, Power lines.
- It has an extremely small population that has undergone an extremely rapid decline.
- Widespread hunting for sport and food precipitated its decline, accelerated by vehicular access to remote areas.
- High intensity poaching still continues in Pakistan and egg-collecting was rampant in many states during the early 19th century.
- However, the current threats are mostly from habitat loss and degradation, caused by
- Widespread agricultural expansion and mechanization of farming.
- Infrastructural development such as irrigation, roads, electricity pylons, wind turbines and constructions.
- Mining and industrialization.
- Well intended but ill-informed habitat management.
- Lack of community support.

- Power companies' high tension wires are major threat factors, leading to death of about 15 percent of GIB population due to collisions with power lines, according to the Wildlife Institute of India (WII).

Indian Initiatives for Protection of GIB:
- 'Habitat Improvement and Conservation Breeding of Great Indian Bustard-an integrated approach':
- The Ministry with financial support from National Authority for Compensatory Afforestation Funds has sanctioned an outlay of Rs. 33.85 crores for the duration of five years for the programme titled 'Habitat Improvement and Conservation Breeding of Great Indian Bustard-an integrated approach'.

The objective:
- to build up the captive population of Great Indian Bustard and to release the chicks in the wild for increasing the population and also to promote in-situ conservation of the species.

Task Force:
- The Ministry has also constituted a Task Force for suggesting Eco- friendly measures to mitigate impacts of power transmission lines and other power transmission infrastructures on wildlife including the Great Indian Bustard.
- The Great Indian Bustard has been included in the Appendix I of Convention on Migratory Species (CMS) on the basis of a proposal submitted by India.
- It was also the mascot of the prestigious 13th CMS Conference of Parties held in Gandhinagar giving wider publicity for the conservation of the species.
- Important habitats of Great Indian Bustards are designated as National Parks/Sanctuaries for their better protection.
- The species has been identified for conservation efforts under the component 'Species Recovery Programme' of the Centrally Sponsored Scheme (CSS)-Development of Wildlife Habitat.
- Directions of the National Green Tribunal (NGT):
- NGT ordered a time-bound action plan for the implementation of mitigation measures such as installation of bird diverters and their regular maintenance and monitoring by power agencies.
- A Bustard conservation breeding centre in Rajasthan has been set up in Jaisalmer.
- Conservation Reserves: Great Indian Bustard habitats to be declared as conservation reserves.

Way Ahead:
- The bird diverters should be expeditiously installed in priority areas.
- It now requires an urgent acceleration in targeted conservation actions in order to prevent it from becoming functionally extinct within a few decades.
- Formulate landscape conservation strategies in priority areas.
- Consolidate core breeding areas identified across the species' range by creating strict refuges during prime breeding months (March–September).
- Assess the efficacy of these conservation actions by systematic, country-wide population monitoring on alternate years for the next 10 years.
- Commencing an ex-situ conservation breeding programme as an insurance against extinction.
- The local people and their active participation are central to conserving the species.

- Community outreach and linking local livelihoods with bustard conservation in priority areas by subsidy/incentive-driven agro-environmental schemes that promote bustard-friendly practices.
- Regulate and control eco-tourism to minimise disturbance to the species.

Polity & Governance

1. **Delimitation of Constituencies in Assam**:
- The Assam state Cabinet recently approved the merger of four districts with their constituent districts.
- On 27th December, the EC announced the process of delimitation of Assembly and Parliamentary constituencies in Assam, saying it would be based on Census data from 2001. Assam currently has 14 Lok Sabha constituencies and 126 Assembly constituencies.

Delimitation:
- Delimitation literally means the act or process of fixing limits or boundaries of territorial constituencies in a country to represent changes in population.
- The Delimitation Commission is to work without any executive influence.
- The Constitution mandates that the Commission's orders are final and cannot be questioned before any court as it would hold up an election indefinitely.
- When the orders of the Delimitation Commission are laid before the Lok Sabha or State Legislative Assembly, they cannot effect any modification in the orders.

Need:
- To provide equal representation to equal segments of a population.
- Fair division of geographical areas so that one political party doesn't have an advantage over others in an election.
- To follow the principle of "One Vote One Value".

Composition:
- The Delimitation Commission is appointed by the President of India and works in collaboration with the Election Commission of India.
- ✓ Retired Supreme Court judge
- ✓ Chief Election Commissioner
- ✓ Respective State Election Commissioners

What is the Process of Delimitation?
- Under Article 82, the Parliament enacts a Delimitation Act after every Census.
- Under Article 170, States also get divided into territorial constituencies as per Delimitation Act after every Census.
- Once the Act is in force, the Union government sets up a Delimitation Commission.
- The first delimitation exercise was carried out by the President (with the help of the Election Commission) in 1950-51.
- The Delimitation Commission Act was enacted in 1952.
- Delimitation Commissions have been set up four times — 1952, 1963, 1973 and 2002 under the Acts of 1952, 1962, 1972 and 2002.
- There was no delimitation after the 1981 and 1991 Censuses.

What are the Issues with Delimitation?

- States that take little interest in population control could end up with a greater number of seats in Parliament. The southern states that promoted family planning faced the possibility of having their seats reduced.
- In 2002-08, Delimitation was done based on the 2001 census, but the total number of seats in the Assemblies and Parliament decided as per the 1971 Census was not changed.

- The 87th Amendment Act of 2003 provided for the delimitation of constituencies on the basis of 2001 census and not 1991 census. However, this can be done without altering the number of seats allotted to each state in the Lok Sabha.
- The Constitution has also capped the number of Lok Shaba & Rajya Sabha seats to a maximum of 550 & 250 respectively and increasing populations are being represented by a single representative.

2. **Triple Test Survey on Reservation:**
- The Allahabad High Court had ordered the Uttar Pradesh Government to conduct urban local body elections without the OBC reservations as the "triple test" requirement for the quota has not been fulfilled. The state government has recently constituted a commission to conduct the tripe test survey in the urban local bodies.

What is a triple test survey?
- The Supreme Court put forth the triple test in the case Vikas Kishanrao Gawali vs. State of Maharashtra and others on March 2, 2021. It involves the government implementing three tasks to finalize the reservation to the OBCs in the local bodies. These tasks are:
- Constitute a dedicated commission to conduct a rigorous empirical study into the nature and implications of the backwardness in local bodies
- To specify the proportion of reservation required in local bodies based on the commission's recommendations
- To ensure that the reservations for SCs, STs and OBCs together do not surpass the aggregate of 50 percent of the total seats.

Why is triple survey used instead of rapid survey?
- In 2017, the Uttar Pradesh government conducted a rapid survey to determine the OBC population. This survey was conducted in each municipality, and based on its result, seats were reserved in proportion to the OBC population in the respective constituency.
- The rapid survey only focuses on the headcount of the OBC population. According to the Allahabad High Court, granting reservations based on the population alone does not consider the backwardness and the political representation of a class or a group.
- Disadvantages faced by a community in accessing education and job opportunities cannot be equated with the disadvantages in the area of political representation.
- This is because increasing participation in local self-government ensures immediate overall empowerment of an underrepresented community to which an elected representative belongs. Whereas, increasing access to education and jobs ensures only the socio-economic upliftment of individuals.

3. **Jan Vishwas (Amendment of Provisions) Bill, 2022:**
- Recently, the Union Government tabled the Jan Vishwas (Amendment of Provisions) Bill, 2022 in Parliament.

- The objective is to "decriminalize" 183 offences across 42 legislations and enhance the ease of living and doing business in India.
- Some Acts that are amended by the Bill include: the Indian Post Office Act, 1898, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, and the Information Technology Act, 2000.

What are the Highlights of the Bill?

Decriminalizing Certain Offences:
- Under the Bill, several offences with an imprisonment term in certain Acts have been decriminalised by imposing only a monetary penalty.
- For example:
- Under the Agricultural Produce (Grading and Marking) Act, 1937, counterfeiting grade designation marks is punishable with imprisonment of up to three years and a fine of up to five thousand rupees. Grade designation mark indicates the quality of an article under the 1937 Act.
- The Bill replaces this with a penalty of eight lakh rupees.
- Under the Information Technology Act, 2000, disclosing personal information in breach of a lawful contract is punishable with imprisonment of up to three years, or a fine of up to five lakh rupees, or both.
- The Bill replaces this with a penalty of up to 25 lakh rupees.
- In certain Acts, offences have been decriminalised by imposing a penalty instead of a fine.
- For instance, under the Patents Act, 1970, a person selling a falsely represented article as patented in India is subject to a fine of up to one lakh rupees.
- The Bill replaces the fine with a penalty, which may be up to ten lakh rupees. In case of a continuing claim, there shall be an additional penalty of one thousand rupees per day.

Revision of Fines and Penalties:
- The Bill increases the fines and penalties for various offences in the specified Acts.
- Further, these fines and penalties will be increased by 10% of the minimum amount every three years.

Appointing Adjudicating Officers:
- As per the Bill, the central government may appoint one or more adjudicating officers for the purpose of determining penalties. The adjudicating officers may: (i) summon individuals for evidence, and (ii) conduct inquiries into violations of the respected Acts.

Appellate Mechanisms:
- The Bill also specifies the appellate mechanisms for any person aggrieved by the order passed by an adjudicating officer.
- For instance, in the Environment (Protection) Act, 1986, appeals may be filed with the National Green Tribunal within 60 days from the order.

Why has the Bill been Introduced?

Rise in Criminal Cases:
- For decades, scholars of law have been concerned that criminal law has grown unprincipledly.
- As per the National Judicial Data Grid, of the 4.3 crore pending cases, nearly 3.2 crore cases are in relation to criminal proceedings.

Political Motives:

- As opposed to punishing wrongful conduct, criminalization often becomes a tool for governments to project a strong image.
- Governments offer little in the way of justifications to support such decisions. This phenomenon has been termed "overcriminalisation" by scholars.

Overcrowding of Prisons:

- As per the National Crime Records Bureau's Prison Statistics of 2021, a total of 5.54 lakh prisoners were confined in prisons against a capacity of 4.25 lakh.

What is the Scope of the Bill?
- The Bill might undertake 'quasi-decriminalisation'.
- The Observer Research Foundation's report titled Jailed for Doing Business found that there are more than 26,134 imprisonment clauses in a total of 843 economic legislations, rules and regulations which seek to regulate businesses and economic activities in India.
- In this light, the number of offences deregulated under the Bill seems to be a mere drop in India's regulatory framework.
- The regulatory offences to be considered for 'decriminalisation' need to be prioritised not only from the point of view of the ease of doing business but also from the points of view of the ills that plague our criminal justice system itself.
- The bill conforms to the understanding of the government that decriminalization should be limited to regulatory domains.

4. **Multi-State Cooperative Societies (Amendment) Bill, 2022:**
- The Lok Sabha has recently referred the Multi-State Co-operative Societies (Amendment) Bill-2022 to a joint committee of Parliament.
- The government had introduced the Bill that proposes merger of any cooperative society into an existing multi-state cooperative society.

History of India's cooperative movement:
- **Meaning:** cooperatives are people-centred enterprises jointly owned and democratically controlled by and for their members to realise their common economic, social and cultural needs and aspirations.
- **German model:** India's cooperative movement was formalised at the end of the 19th century, inspired by the German model of agricultural credit banks.
- **Colonial Law:** In 1904, the British government in India enacted the Cooperative Credit Societies Act.
- While this Act dealt solely with the extension of credit, the sector was opened to other activities in 1912.
- Administrative reforms in 1919 transferred cooperatives to provincial control.
- **Post-Independence:** the framers of the Constitution placed cooperatives in the State list.
- States made their own laws to regulate cooperatives within their jurisdiction.
- In 1984, the Multi-State Co-operative Societies Act (amended in 2002) was enacted by Parliament to consolidate different laws at the central level.
- Prevention of exploitation: India's cooperative movement originated in the agriculture and related sectors as a means for farmers to pool their resources to prevent exploitation by money lenders.
- Constitutional provision: Article 43B of the Constitution inserted by the 97th Amendment says that states shall endeavour to promote voluntary formation,

autonomous functioning, democratic control and professional management of cooperative societies.

Provisions of the Multi-State Co-operative Societies (Amendment) Bill-2022

Current Law:

- It was enacted 20 years ago which says that only multi-state cooperative societies can amalgamate themselves and form a new multi-state cooperative society.

New Law on Merger:

- Any cooperative society may by a resolution passed by a majority of not less than two-thirds of the members present and voting at a general meeting of such society can decide to merge into an existing multi-state co-operative society.
- Such resolution shall be subject to provisions of the respective State Cooperative Societies Act for the time being in force, under which such cooperative society is registered.

Cooperative election authority:

- The Bill also seeks to establish a cooperative election authority to bring electoral reforms in the cooperative sector.
- The government has proposed to substitute Section 45 of the 2002 Act.
- As per the proposed amendment, the authority will consist of a chairperson, a vice-chairperson and a maximum of three members to be appointed by the Centre.
- Co-operative Rehabilitation, Reconstruction and Development Fund
- The Bill seeks to insert a new Section 63A in the principal Act.
- This relates to establishment of the Cooperative Rehabilitation, Reconstruction and Development Fund for revival of sick multi-state cooperative societies.

Section 70A:

- The bill proposes to insert a new Section 70A relating to concurrent audit for such multi-state societies with an annual turnover or deposit of more than the amount as determined by the Centre.
- Cooperative Information Officer and a Cooperative Ombudsman:
- To make the governance of these societies more democratic, transparent and accountable, the Bill has provisions for appointing a Cooperative Information Officer and a Cooperative Ombudsman.
- To promote equity and inclusiveness, provisions relating to the representation of women and Scheduled Caste/Scheduled Tribe members on MSCS boards have been included.

Penalty:

- The Bill increases the penalty amount for violation of the law to Rs. 1 lakh and potential imprisonment from six months to a year.
- Major issues with the Bill
- **Against the federal structure:** The bill seeks to take away state governments' rights and is against the country's federal structure.
- The Bill seeks to amend Section 17 of the principal act to allow the merger of any State cooperative society with an existing MSCS.
- Opposition members argued that this was beyond the Centre's legislative competency as State cooperatives are not its domain.

- Mismanagement and corruption: Government and legislative control of cooperatives increased over the years, there were increasing reports of mismanagement and corruption.
- Burden: The new fund will put an additional burden on MSCSs and affect their autonomy.

Major issues with the cooperative sector:
- Multiple controls from the Centre: MSCSs were formed to ease the operation of collectives throughout the country.
- But MSCSs are facing issues regarding trust which is the very basis of cooperation.
- MSCSs were, therefore, brought under the Prevention of Money Laundering Act, 2002 in 2018 and all urban and MSCS banks were brought under the radar of the Reserve Bank of India in 2020.
- These developments have brought MSCSs under multiple controls from the Centre, giving rise to fears that monitoring would take a top-down approach as opposed to a grassroots one.
- Non application of recommendations: In 1991, the Choudhary Brahm Perkash Committee of the planning commission made far-reaching recommendations to reorganise MSCSs.
- But the Act has not been modified as per the report.
- Andhra Pradesh was the first to apply the recommendations and form a new model of cooperative societies.

Significance of the Bill:
- Transparency and accountability: The Bill seeks to bring transparency and accountability in the co-operative sector.
- Good Governance: It aims to strengthen governance, reform the electoral process, improve the monitoring mechanism, and ensure ease of doing business in multi-State co-operative societies.
- Financial discipline: The Bill also seeks to improve the composition of the board and ensure financial discipline, besides enabling the raising of funds in MCSCs.

Way Forward:
- SC judgment: The constitutional domain of States in regulating cooperative societies was upheld by the Supreme Court last year when it struck down a part of the 97th Constitution Amendment.
- The court held that the Centre required the ratification of the Amendment by 50% of the state legislatures as it sought to give a framework for State legislation on cooperative societies.
- SC upheld only the part of the amendment that related to MSCSs, for which Parliament was competent to enact laws.

Joint committee of Parliament:
- Meaning: It is one type of ad hoc Parliamentary committee constituted by the Indian parliament.
- Powers:
- A JPC can obtain evidence of experts, public bodies, associations, individuals or interested parties suo motu or on requests made by them.
- If a witness fails to appear before a JPC in response to summons, his conduct constitutes contempt of the House.

Formation:
- A Joint Parliamentary Committee is formed when motion is adopted by one house, and it is supported or agreed by the other house.
- Another way to form a Joint Parliamentary committee is that two presiding chiefs of both houses can write to each other, communicate with each other and form the joint parliamentary committee.
- Membership: It comprises 21 members from the Lower House and 10 from the Upper House.
- Chairman: Speaker will appoint one of the members of the committee as its chairperson.

What are multi-State cooperatives?
- Multi-State cooperatives are societies that have operations in more than one state.
- Such MSCSs are registered under the Multi-State Co-operative Societies Act 2002.
- Their regulation lies with the Central Registrar.
- The board of directors are from all the States these collectives operate in and control all finances and administration function.
- There are close to 1,500 MSCSs registered in India, the highest number being in Maharashtra.

5. **Energy Conservation (Amendment) Bill, 2022:**
- The Parliament passed the Energy Conservation (Amendment) Bill, 2022 declining the Opposition's demands to send it for scrutiny to a parliamentary committee and amid concerns expressed by members over carbon markets.

What are carbon markets?
- Carbon markets are essentially a tool for putting a price on carbon emissions - they establish trading systems where carbon credits or allowances can be bought and sold.
- As per the United Nations standards, a carbon credit is a kind of tradable permit that equals one tonne of carbon dioxide removed, reduced, or sequestered from the atmosphere.
- Meanwhile, carbon allowances or caps are determined by countries or governments according to their emission reduction targets.
- According to a United Nations Development Program (UNDP) release, interest in carbon markets is growing globally.
- 83% of NDCs submitted by countries mention their intent to make use of international market mechanisms to reduce greenhouse gas emissions.

What are the types of carbon markets?

Voluntary markets:
- Voluntary markets are those in which emitters - corporations, private individuals, and others - buy carbon credits to offset the emission of one tonne of CO_2 or equivalent greenhouse gases.
- Such carbon credits are created by activities which reduce CO_2 from the air, such as afforestation.
- In a voluntary market, a corporation looking to compensate for its unavoidable GHG emissions purchases carbon credits from an entity engaged in projects that reduce, remove, capture, or avoid emissions.
- In voluntary markets, credits are verified by private firms as per popular standards.

- There are also traders and online registries where climate projects are listed and certified credits can be bought.

Compliance markets:

- Compliance markets or regulated markets - set up by policies at the national, regional, and/or international level - are officially regulated.
- Today, compliance markets mostly operate under 'cap-and-trade' principle, most popular in the European Union (EU).
- Under the EU's emissions trading system (ETS) launched in 2005, member countries set a cap or limit for emissions in different sectors, such as power, oil, manufacturing, agriculture, and waste management.
- This cap is determined as per the climate targets of countries and is lowered successively to reduce emissions.
- Entities in this sector are issued annual allowances or permits by governments equal to the emissions they can generate.
- If companies produce emissions beyond the cap, they have to purchase additional permit, either through official auctions or from companies that have their emissions below the limit.
- Other national and sub-national compliance carbon markets also operate or are under development around the world - China, North America, Australia, Japan, South Korea, Switzerland, and New Zealand.
- The World Bank estimates that trading in carbon credits could reduce the cost of implementing NDCs by more than half - by as much as $250 billion by 2030.

What is the carbon market that is envisioned?

- In order to keep global warming within 2°C, ideally no more than 1.5°C, global greenhouse gas (GHG) emissions need to be reduced by 25 to 50% over this decade.
- Nearly 170 countries have submitted their nationally determined contributions (NDCs) so far as part of the 2015 Paris Agreement.
- NDCs are climate commitments by countries setting targets to achieve net-zero emissions. These countries have agreed to update every 5 years.
- India, for instance, is working on a long-term roadmap to achieve its target of net zero emissions by 2070.
- In order to meet their NDCs, one mitigation strategy is becoming popular with several countries - carbon markets.
- Article 6 of the Paris Agreement provides for the use of international carbon markets by countries to fulfil their NDCs.
- The U.N. international carbon market envisioned in Article 6 of the Paris Agreement is yet to kick off as multilateral discussions are still underway about how the inter-country carbon market will function.
- Under the proposed market, countries would be able to offset their emissions by buying credits generated by greenhouse gas-reducing projects in other countries.
- In the past, developing countries, particularly India, China and Brazil, gained significantly from a similar carbon market under the Clean Development Mechanism (CDM) of the Kyoto Protocol, 1997.
- But with the 2015 Paris Agreement, the global scenario changed as even developing countries had to set emission reduction targets.

What are the challenges to carbon markets?

- The UNDP points out serious concerns pertaining to carbon markets like
- Double counting of greenhouse gas reductions,
- Quality and authenticity of climate projects that generate credits to poor market transparency.
- Greenwashing - companies may buy credits, simply offsetting carbon footprints instead of reducing their overall emissions or investing in clean technologies.
- As for regulated or compliance markets, ETSs may not automatically reinforce climate mitigation instruments.
- The International Monetary Fund (IMF) points out that including high emission-generating sectors under trading schemes to offset their emissions by buying allowances may
- Increase emissions on net and provide no automatic mechanism for prioritizing cost-effective projects in the offsetting sector.

What does the Energy Conservation Bill 2022 say about carbon markets?
- The Energy Conservation (Amendment) Bill 2022 amends the Energy Conservation Act, 2001.
- The Bill seeks to empower the Central Government to establish carbon markets in India and specify a carbon credit trading scheme.
- Under the Bill, the central government or an authorised agency will issue carbon credit certificates to companies or individuals registered and compliant with the scheme.
- These carbon credit certificates will be tradeable in nature. This means that other persons would be able to buy these certificates on a voluntary basis.
- But, the Bill doesn't provide clarity on the mechanism to be used for the trading of carbon credit certificates - whether it will be like the cap-and-trade schemes or another method - and who will regulate such trading.

What are the concerns?
- Introduction of Bill - The carbon market schemes in other jurisdictions like the U.S., United Kingdom, and Switzerland are framed by their environment ministries.
- Unlike other countries, the Indian Bill was tabled by the Ministry of Power instead of the Ministry of Environment, Forest, and Climate Change (MoEFCC).
- Existing certificates - Another important concern raised is that the Bill does not specify whether certificates under already existing schemes would also be interchangeable with carbon credit certificates.
- Notably, two types of tradeable certificates are already issued in India - Renewable Energy Certificates (RECs) and **Energy Savings Certificates (ESCs).**
- These are issued when companies use renewable energy or save energy, which are also activities which reduce carbon emissions. The question is whether all these certificates could be exchanged with each other.
- There are concerns about whether overlapping schemes may dilute the overall impact of carbon trading.

6. **National Judicial Commission Bill, 2022:**
- Recently, the National Judicial Commission Bill, 2022 was introduced after the majority of voice votes were in its favour.

What are the Highlights of the Bill?
Regulates the Procedure of Appointment:

- The bill aims to regulate the procedure to be followed by the National Judicial Commission for recommending people for appointment as the Chief Justice of India and other judges of the Supreme Court and Chief Justices and other judges of High Courts.
- Regulate the Transfers:
- It also aims to regulate their transfers and to lay down judicial standards and provide for accountability of judges, and establish credible and expedient mechanism for investigating into individual complaints for misbehaviour or incapacity of a judge of the apex court or of a high court and to regulate the procedure for such investigation.

Removal of a Judges:
- It also proposes for the presentation of an address by parliament to the president in relation to proceeding for removal of a judge and for matters connected therewith or incidental thereto.
- What was the National Judicial Appointments Commission (NJAC)?
- About:
- In August 2014, Parliament passed the Constitution (99th Amendment) Act, 2014 along with the NJAC Act, 2014, providing for the creation of an independent commission to appoint judges to the Supreme Court and high courts to replace the collegium system.
- In 2015, the Supreme Court declared both the 99th Constitutional Amendment, 2014 and the NJAC Act, 2014 as unconstitutional and null and void.

Composition of NJAC:
- The Chief Justice of India as the ex officio Chairperson
- Two senior-most Supreme Court Judges as ex officio members
- The Union Minister of Law and Justice as ex officio member
- Two eminent persons from civil society (to be nominated by a committee consisting of the Chief Justice of India, Prime Minister of India and the Leader of Opposition in the Lok Sabha; one of the eminent persons to be nominated from SC/ST/OBC/minorities or women)

Difference between Collegium System and NJAC (Appointment):
NJAC:
- The Chief Justice of India and Chief Justices of the high courts were to be recommended by the NJAC based on seniority while SC and HC judges were to be recommended on the basis of ability, merit, and "other criteria specified in the regulations".
- The Act empowered any two members of the NJAC to veto a recommendation if they did not agree with it.

Collegium System:
- In the collegium system, a group of the senior-most judges makes appointments to the higher judiciary and this system has been operational for nearly three decades.

What is the Collegium System?
- The Supreme Court Collegium is a five-member body, which is headed by the incumbent Chief Justice of India (CJI) and comprises the four other senior most judges of the court at that time.
- A High Court collegium is led by the incumbent Chief Justice and two other senior most judges of that court.
- The government can also raise objections and seek clarifications regarding the collegium's choices, but if the collegium reiterates the same names, the government is bound to appoint them as judges.

- What are Constitutional Provisions related to the Appointment of Judges?
- Articles 124(2) and 217 of the Constitution deal with the appointment of judges to the Supreme Court and High Courts.
- The appointments are made by the President, who is required to hold consultations with "such of the judges of the Supreme Court and of the High Courts" as he may think is needed.
- But the Constitution does not lay down any process for making these appointments.

Why was the NJAC Challenged in Court?

- In early 2015, the Supreme Court Advocates-on-Record Association (SCAORA) filed a plea challenging the provisions of what were now laws.
- SCAORA contended that both the Acts were "unconstitutional" and "invalid".
- It argued that the 99th Amendment which provided for the creation of the NJAC took away the "primacy of the collective opinion of the Chief Justice of India and the two senior-most Judges of the Supreme Court of India" as their collective recommendation could be vetoed or "suspended by majority of three non-Judge members".
- It stated that the Amendment "severely" damaged the basic structure of the Constitution, of which the independence of the judiciary in appointing judges of the higher judiciary was an integral part.
- It also contended that the NJAC Act was itself "void" and "ultra vires" the Constitution as it was passed in both Houses of the parliament when Articles 124(2) and 217(1) as originally enacted were in force, and the 99th Amendment had not received Presidential assent.

Way Forward:

- **Balance between Independence and Accountability:** The real issue is not who (judiciary or executive) appoints the judges, but the manner in which they are appointed.
- For that, whatever may be the composition of the Judicial Appointment Commission (JAC), it is important to strike a balance between judicial independence and judicial accountability.
- The Executive should have a say in appointments but the composition of the JAC should be such that it does not result in compromising judicial independence.
- Justice Inside Judiciary: Care must be taken to ensure that the institutional imperative of the Court for dispensing justice is maintained inside the judiciary with equality of opportunity and fixed criteria for selection of judges.
- Reconsidering the Establishment of NJAC: NJAC's Act may be amended to include safeguards that would make it constitutionally valid, as well as reorganised to ensure that majority control remains with the judiciary.

7. TRAI Proposal on CNAP:

- TRAI has issued a consultation paper seeking public comments about the potential introduction of Calling Name Presentation (CNAP).
- The Calling Name Presentation (CNAP) is a feature that provides information about the calling party so that call receivers can make informed decisions before attending income calls and curb harassment by unknown or span calls.
- It works similar to that of Truecaller and Bharat Caller ID & Anti-Span.

- It seeks to address the concerns regarding robocalls (calls made automatically using IT-enabled systems with a pre-recorded voice), spam calls and fraudulent calls.
- A survey by community research platform LocalCircles found that 64 per cent of respondents received at least 3 spam calls each day, with 95 per cent of respondents receiving such calls despite registering on Do-not-Call Directory (DND).
- According to the Truecaller's '2021 Global Spam and Scam Report', the average number of span calls each user receives per month in India is 16.8. The total spam volumes received by Truecaller users is around 3.8 billion calls in October alone.

What are the proposed models for CNAP mechanism?
The TRAI proposed 4 models for facilitating the CNAP mechanism:
First Model:
- It involves each telecom service provider establishing and operating a CNAP database of its subscribers. Based on the information available in the database, the CNAP will either provide the name identity of the calling entity or indicate that the data is either restricted or unavailable. In this model, the operators are required to upgrade their "intermediate network nodes" used to facilitate, transmit and redistribute data to other nodes and eventually to the end users.

Second Model:
- This model involves the calling entity sharing its CNAP database with the receiver's operator. The calling operator will then permit the receiver's operator to access its database for receiving the caller's CNAP data. Operators could also make use of their respective mobile number portability databases.

Third Model:
- The third model proposes the creation of a third party for operating a centralized database. The receiver's operator must delve into the centralized database to retrieve and present the caller's data. This model requires the TSPs to inform the database while enrolling new subscribers or deactivating the existing subscribers.

Fourth Model:
- This model will require each TSP to maintain a CNAP database and retain a copy of a synchronized central database operated by a third party. It ensures internal retrieval of data since the receiver's operator has access to both centralized and its own database.

What are the limitations?
Latency:
- There is a possibility of a slight increase in the time taken to set up calls in certain models. The first and fourth models do not require coordination with outside entities. Therefore, they are expected to be quicker than the third model. For the second model, setting up of call would be faster if the caller and receiver use the same operator. There will be a slight increase in time if the operators are different.
- There will be limitations in responsiveness when moving from a faster wireless network (5G or 4G) to comparatively slower wireless networks like 2G or 3G or vice versa.

Privacy:
- There is no clarity on how the CNAP mechanism will balance the caller's right to remain anonymous (an essential component of the Right to Privacy). There are several reasons for users requiring anonymity like whistle-blowers and harassment cases.

Loopholes:

- Currently, telemarketers have found new methods to circumvent the existing regulations. Previously, they were required to be registered as promotional numbers, making it easier to identify and block such numbers.
- Now, the marketers are using "at-home workers" to whom telemarketing is outsourced. They are given SIM cards that are not registered to a particular company but to the individuals themselves. Thus, when they make a call to the potential customer, it pops up as a personal call, bypassing the regulations of promotional calling.

8. **Centre Approves PADMA as Self-Regulatory Body:**
- The Union Ministry of Information and Broadcasting has recently approved the Print and Digital Media Association (PADMA) as a self-regulatory body for publishers of news and current affairs across India.

What is PADMA?
- The Print and Digital Media Association (PADMA) is a self-regulatory body having 47 news publishers.
- This organization is responsible for looking into grievances related to digital media news content on its member publishers' platforms.
- It will be headed by former HC Judge Mool Chand Garg. It also includes a part-time member of Prasar Bharati Ashok Kumar Tandon and journalist Manoj Kumar Mishra as its members.
- It will be involved in the redressal of grievances pertaining to the code of ethics under the rule 12 of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.
- The organization must also ensure that the member publishers have agreed to adhere to the provisions of the rules, including the furnishing of information required under Rule 18.
- With this, the Ministry of Information and Broadcasting has approved 9 self-regulatory bodies since May 21 under Rule 12 of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021:
- The Union Ministry of Electronics and Information Technology notified the rules in February 2021. These rules identify significant social media intermediaries (SSMIs) – the social media intermediaries with registered users in India above the notified threshold. The SSMIs are required to observe certain additional due diligence like appointing certain personnel for compliance, enabling identification of the first originator of information on its platform under certain conditions, and the use technologies to identify certain types of content. All intermediaries are required to provide a grievance redressal mechanisms for resolving complaints from users or victims. The rules provide three-level grievance redressal mechanism with varying levels of self-regulations.
- Rule 12 requires self-regulatory bodies to oversee and ensure the publishers' adherence to the code of ethics. They are also required to provide guidance to publishers on the implementation of code of ethics and address grievances that have not been resolved by publishers within 15 days. They must also hear appeals filed by the complainants against the decisions of publishers.

International Affairs

1. **G20 Science Working Group's Secretariat:**

- The Bengaluru-based Indian Institute of Science (IISc) has been chosen as the secretariat for Science 20 (S20) – the science working group of the G20 summit.
- About the S20 2023
- The Science 20 (S20) 2023 will work towards resolving common global-level challenges like poverty.

It will focus on three key issues:

- Universal Holistic Health
- Clean Energy for Green Future
- Connecting Science to Society and Culture
- These three issues will be discussed at the events that will be held in Agartala, Lakshadweep, and Bhopal throughout the year of 2023.
- In addition to these events, an inaugural conference will be held in Puducherry from January 30 to 31 next year and a summit meeting will be organized in Coimbatore, Tamil Nadu.
- The S20 summit, which will be held in Coimbatore, will bring together all the science ministers from the G20 countries.
- The theme of the Science 20 (S20) 2023 is 'Disruptive Science for Innovative and Sustainable Development'.

Significance of S20 2023:

- The S20 will play a major role in resolving global concerns like the hunger crisis and bring together the Group of 20 countries in developmental efforts. The G20 forum has 19 countries and the European Union. Its members include both developed and underdeveloped countries. Including these countries in addressing global issues through science-backed efforts can be achieved by the S20 working group.
- This working group can help ensure equitable and sustainable development by increasing the role of science in economic growth and progress. It will help share the global best practices and technological innovations.

What is the G20?

- The G20 was formed in 1999 in the backdrop of the financial crisis of the late 1990s that hit East Asia and Southeast Asia in particular.
- It aims to secure global financial stability by involving middle-income countries.
- Together, the G20 countries include 60% of the world's population, 80% of global GDP, and 75% of global trade.

Members of G20:

- Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the EU.

2. **Group of Friends:**

- India has recently launched a "Group of Friends" to promote accountability for crimes against peacekeepers. It was launched during India's presidency of the United Nations Security Council (UNSC).

- "Group of Friends to Promote Accountability for Crimes Against Peacekeepers" is an informal forum that will work to promote accountability for all acts of violence against the United Nations peacekeepers.
- It seeks to provide capacity building and technical assistance for the host states' authorities to prevent and address such crimes.

Group of Friends" to promote accountability for crimes against peacekeepers:
- Its co-chairs are India, Nepal, Bangladesh, Egypt, France, and Morocco.
- The informal forum will serve as a platform for exchanging information, sharing best practices, and mobilization of resources for facilitating accountability for crimes committed against peacekeepers.
- It will also be involved in monitoring the progress towards bringing accountability for such crimes.
- The forum will actively share information with the Secretary-General and help member states that are hosting or have hosted peacekeeping operations and assist them in bringing the perpetrators to justice.
- It will organize additional meetings, briefings, and events whenever necessary, as per the annual work plan and developments relevant to the safety and security of peacekeepers.
- It will organize 2 meetings of its members each year, and convene and host one event each year involving Permanent Missions and other Stakeholders.

Why was the group set up?
- The Group of Friends involves countries championing the implementation of the provisions of the UNSC resolution 2589, which was adopted in August 2021 under India's UNSC presidency.
- Resolution 2589 calls on the member states that are hosting or having hosted the UN peacekeeping operations to take necessary measures to bring to justice the perpetrators involved in all acts of violence against the United Nations personnel, including, but not limited to, their detention and abduction.
- It also calls on the member states to take the required steps to investigate such crimes, and apprehend the perpetrators based on the national laws and any applicable international obligations, including international humanitarian law.

3. **China's WTO Dispute over US Chip Sanctions:**
- China has recently raised a dispute with the World Trade Organisation (WTO) over the US chip sanctions.

What is US Chip Sanctions?
- On October, the United States issued new export controls preventing the sales and services by the US businesses to Chinese chip manufacturers. The purpose of these restrictions is to prevent China from buying and manufacturing high-end chips with military applications, preventing the growth of China's semiconductor industry and the development of military systems.
- This move also covers export restrictions on some chips used in supercomputers and stricter requirements on the sale of semiconductor equipment.

What are the implications of these restrictions?
- While these restrictions will slow down China's progress in chip technology, they can never completely halt the development of the Chinese chip industry.

- Rather, this move provides the US manufacturers the time to stay ahead of China in the technical aspects and cutting-edge capabilities.
- The ban on the export of US chips adversely affects China's objective to achieve self-reliance in chip manufacturing.
- Currently, Chinese manufacturers are unable to etch precise patterns on silicon wafers, making the country heavily reliant on imported equipment.
- It will also cause long-term geopolitical implications in the area of artificial intelligence and electric vehicle manufacturing. According to estimates, the number of petrol-powered vehicles is expected to decline by 50 percent by 2030. The US is looking to take up a lion's share of this opportunity.

WTO Dispute Against US Chip Sanctions:
- China has filed a dispute with the WTO over the export-related measures that were put in place by the US government as per the CHIPS Act of 2022 that specifically targeted China's semiconductor industry.
- It has invoked proceedings against the US under Article 4 of the Dispute Settlement Understandings (DSU), criticising the US for over-generalizing the concept of "national security" and over-stretching its export control measures.
- China held that the US' trade ban is hindering the normal international trade of semiconductor chips and threatening the stability of the global supply chains.
- It also alleged that the US restrictions have undermined the international trade order and violated the international trade rules.

How will the dispute be settled?
- The Article 4 of the DSU requires the US to reply within 10 days after the date of receiving China's request for consultations and enter into consultations in good faith within the period of not more than 30 days after receiving the request.
- If the two countries fail to arrive at an amicable settlement or solution, then China can request the establishment of a dispute settlement panel to adjudge the US' export-related measures.

World Trade Organization:
- It came into being in 1995. The WTO is the successor to the General Agreement on Tariffs and Trade (GATT) established in the wake of the Second World War.
- Its objective is to help trade flow smoothly, freely and predictably.
- It has 164 members, accounting for 98% of world trade.
- It was developed through a series of trade negotiations, or rounds, held under the GATT.
- GATT is a set of multilateral trade agreements aimed at the abolition of quotas and the reduction of tariff duties among the contracting nations.
- The WTO's rules – the agreements – are the result of negotiations between the members.
- The current set is largely the outcome of the 1986- 94 Uruguay Round negotiations, which included a major revision of the original GATT.
- The WTO Secretariat is based in Geneva (Switzerland).

WTO Ministerial Conference:
- It is the WTO's top decision-making body and usually meets every two years.
- All members of the WTO are involved in the MC and they can take decisions on all matters covered under any multilateral trade agreements

4. **Oil Companies Threatening Okavango, Murchison Falls:**
- A report titled "Who is Financing Fossil Fuel Expansion in Africa?" was released recently by a German non-profit Urgewald.

Okavango delta:
- The Okavango delta, a **UNESCO** World Heritage Site, is a vast inland river delta in the northern part of Botswana. The Moremi Game Reserve is situated at the eastern side of the delta.
- The Okavango delta is formed by the Okavango river, which raises from the highlands of Angola and flows into the Kalahari Desert of southern Africa. The Okavango river makes the otherwise dry region a waterlogged wetland, providing a vital source of water for flora, and fauna as well as a population of over 1 million people.
- It is the homeland for several indigenous communities like the San. It is home of Africa's Big Five wildlife species – Savanna elephants, Cape buffaloes, rhinos, lions and leopards. It also hosts 400 bird species and some 1,000 plant species.

Murchison Falls National Park:
- Murchison Falls National Park (MNFP) is Uganda's largest national park, spanning across 3,893 square kilometres of land. It is the location of the Murchison Falls, where waters of the Nile river flows through a 7-meter-wide gorge before plunging 43 meters. The river supports the survival of elephants, hippos, Nile crocodiles, buffaloes and marabou storks. It harbours some 446 bird species and 188 mammal species.

What are the key highlights of the report?
- Oil companies are threatening the Okavango delta and Murchison Falls. They are just two of the many biodiversity hotspots in Africa that are threatened by oil exploration and extraction projects.
- In 48 out of 55 African countries, oil, gas and coal companies are exploring or developing new fossil reserves, building new fossil infrastructure like pipelines or LNG terminals or building new thermal power plants.
- These projects are threatening wildlife and have the potential of making the local communities homeless. The oil drilled within these hotspots is benefiting the global elite and not Africans.

Threat to Okavango delta:
- The Okavango delta is currently under threat as ReconAfrica, a Canadian company, has been drilling for oil in the Kavango Zambezi Transfrontier Nature Conservation Area (KAZA) – the world's second-largest nature and landscape conservation area spanning across the border of Angola, Botswana, Namibia, Zambia and Zimbabwe.
- ReconAfrica has expanded its operations into conservation areas, clearing forests and drilling wells without the knowledge or approval from the local communities. Even

when the Canadian company did provide the information, it only did so in English – the non-native language of the local communities.
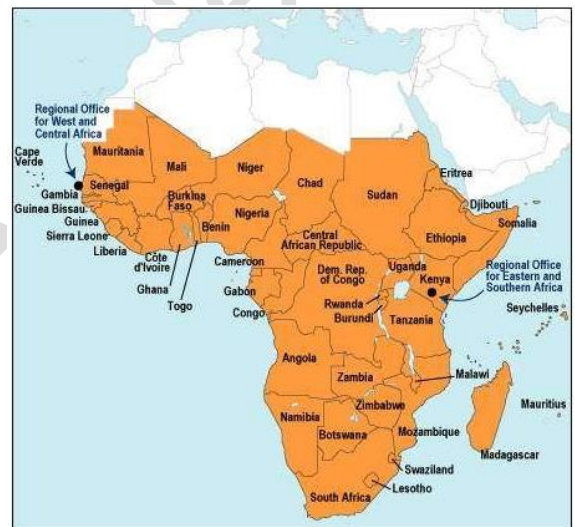
- More than 2 lakh people live in the regions that fall under ReconAfrica's exploration licenses.
- The projects like drill rigs, oil pipelines, pumping stations and roads can fragment the region, disrupt territories and obstruct migration routes.
- Tourism in the region is adversely affected as tourists are not willing to visit an industrialized oil landscape.
- These projects are also threatening to cause oil spill, which could pollute Okavango River and ultimately also the Okavango delta. This is in addition to threats like noise pollution, infrastructure construction, toxic chemicals and oil spills.

5. Sub-Saharan Africa's Debt Burden:

- According to the International Debt Report 2022 by the World Bank, debt of low and middle-income countries in Sub-Saharan Africa (SSA) surged to a record high of 789 billion USD in 2021.

What are the key findings of the report?

- The debt of countries in sub-Saharan Africa (SSA) increased from 702 billion USD in 2020 to 789 billion USD in 2021.
- This is the highest debt burden to be recorded in the region since 2010, when the region's debt stood at around 305 billion USD. The region's debt increased by over 2.4 times between 2010 and 2021.
- The SSA's current debt is higher than its repayment capacity.
- Globally, economic growth resumed after the 2020 global recession, and the external debt as a share of **Gross National Income** (debt-to-GNI ratio) returned to pre-pandemic levels. However, this is not the case for countries in Sub-Saharan Africa as the region's debt-to-GNI ratio increased by 2.9 percentage points compared to the 2020 figures and remained above the pre-pandemic levels at around 43 per cent. This marginal improvement in the debt-to-GNI ratio is likely to be present only temporarily. The ratio has increased by 19 percentage points since 2010.
- Increasing interest rates and global recession can worsen the debt crisis of countries in the SSA.
- According to the latest edition of the Regional Economic Outlook for Sub-Saharan Africa, the economic growth of countries in SSA is projected to be 3.6 per cent in 2022. This is a decline from 4.7 per cent in 2021.
- The report warned that the occurrence of stagflation (economic stagnation combined with high inflation) is imminent. This may push more countries into debt crisis.
- The impact of the 2023 economic recession is likely to persist into 2024 and 2025.

- The inflation in **SSA** is likely to be two times higher than the pre-pandemic levels, risking the social and political stability of the region and exacerbating the food crisis as well.
- The region's economic growth has been adversely affected by factors like inflation, war in Ukraine, massive debts and climate change.

- Its dependence on private creditors has increased. By the end of 2021, countries in this region owed around half (47 per cent) of their public and publicly guaranteed debt to private creditors. This is a 11 percentage point increase from the 2010 levels, when they owed around 35 per cent of their public and publicly guaranteed debt to private creditors.
- The report recommended increasing debt transparency to enable the countries to effectively manage debt risks and use resources ensure a sustainable development.

Defence & Security

1. 'Prahari' App and BSF Manuals Launched:
- Recently the Union Home minister launched 'Prahari' app for Border Security Force (BSF) Jawans.
- The Ministry also revised 13 BSF manuals to increase the understanding of the administration, training and operations of the border guarding organization.
- These manuals will help speed up the tasks of the BSF jawans. They will ease the work of all ranks of BSF jawans and officers.

What are the Key Features of the App?
- Through the 'Prahari' app, jawans can get personal and service-related information, housing, Ayushman- Central Armed Police Forces (CAPF) and leave related information on their mobile.

Other Features of the App Include:
- Availability of Bio Data
- Grievance redressal on "Centralized Public Grievance Redress and Monitoring System" (CP-GRAMS)"
- Information on various welfare schemes
- The app will also connect the Jawans with the portal of the Ministry of Home Affairs.

What is BSF?
- The BSF was raised in 1965, after the India-Pakistan war.
- It is one of the seven Central Armed Police Forces of the Union of India under the administrative control of the Ministry of Home Affairs (MHA).
- Other Central Armed Police Forces are: Assam Rifles (AR), Indo-Tibetan Border Police (ITBP), Central Industrial Security Force (CISF), Central Reserve Police Force (CRPF), National Security Guards (NSG) and Sashastra Seema Bal (SSB).
- It is deployed on Indo-Pakistan International Border, Indo-Bangladesh International Border, Line of Control (LoC) along with Indian Army and in Anti-Naxal Operations.
- It has an air wing, marine wing, an artillery regiment, and commando units.

- BSF has been defending Sir Creek in Arabian Sea and Sundarban delta in the Bay of Bengal with its state of art fleet of Water Crafts.
- BSF has an instrumental role in helping state administration in maintaining Law and Order and conducting peaceful elections.
- BSF has been crusading against natural calamity to save precious human lives as and when warranted.
- It contributes dedicated services to the UN peacekeeping Mission by sending a large contingent of its trained manpower every year.
- It has been termed as the **First Line of Defence of Indian Territories.**
- The Border Security Force has been awarded numerous gallantry awards including one Mahavir Chakra, 4 Kirti Chakras, 13 Vir Chakras and 13 Shaurya Chakras.

2. **Zeliangrong United Front (ZUF):**
- Recently, a tripartite agreement was signed by the Centre (Home Ministry), Manipur govt. and the Zeliangrong United Front (ZUF). ZUF is a Naga armed group operating mostly in Manipur and has been demanding a separate State for the Zeliangrong Naga tribe (Mongolian race) for more than a decade. The armed group is the follower of Rani Gaidinliu, freedom fighter from Manipur, who was jailed by the British for 14 years.
- The peace pact is significant in fulfilling the PM's vision of 'Insurgency free and prosperous North East'.

What are the Reasons for Rise of Insurgency in Manipur?
- **Forced Merger:** The rise of separatist insurgency in Manipur mainly attributed to perceived discontent over alleged "forced" merger of Manipur with the Union of India and the subsequent delay in granting it full-fledged statehood.
- While the erstwhile Kingdom of Manipur was merged with India on 15th October, 1949, it became a state only in 1972.
- **Rise of Militancy:** The later years saw a slew of militant outfits being formed, including the People's Liberation Army (PLA), People's Revolutionary Party of Kangleipak (PREPAK), Kangleipak Communist Party (KCP), and Kanglei Yawol Kanna Lup (KYKL), among others.
- These valley-based outfits have been demanding an independent Manipur.
- Spillover Effect of Greater Nagalim Demand: The Naga movement in neighbouring Nagaland spilled over into Manipur's hill districts with the NSCN-IM controlling most of it while pressing for "Nagalim" (Greater Nagaland), which is perceived in the valley as a "threat" to Manipur's "territorial integrity".
- **Valley-Hills Conflict:** While the hills account for nine-tenths of Manipur's geographical area, they are sparsely populated, with most of the state's population concentrated in the valley.
- The Meitei community forms a majority in Imphal valley, while the surrounding hill districts are inhabited by Nagas and Kukis.
- **Naga-Kuki Conflict: In** the early 1990s, the ethnic clashes between Nagas and Kukis led to the formation of several Kuki insurgent groups, which have now scaled down their demand from a separate Kuki state to a Territorial Council.

- The further continuance of insurgency led to the formation of smaller outfits like the Zeliangrong United Front (ZUF), People's United Liberation Front (PULF) and other splinter groups.

What are the Steps Taken by the Government?

Military Action:

- **AFSPA:** In 1980, the Centre declared the entire Manipur as a "disturbed area" and imposed the controversial Armed Forces Special Powers Act (AFSPA) to suppress the insurgency movement, which remains in force till date.
- **Operation All Clear:** Assam Rifles and the army had conducted operation "All Clear" in the hill areas, most of the militants' hideouts had been neutralised, with many of them having shifted to the valley.

Ceasefire Agreement:

- The NSCN-IM entered a ceasefire agreement with the Government of India in 1997, even as peace talks between them have still been continuing.
- The **Kuki** outfits under two umbrella groups, the Kuki National Organisation (KNO) and United People's Front (UPF), also signed the tripartite Suspension of Operation (SoO) pacts with the Governments of India and Manipur on August 22, 2008.
- Many of their smaller outfits have however entered the SoO agreement with the state government, which has launched rehabilitation programmes for such groups.
- However, major valley-based militant outfits (Meitei groups) such as the UNLF, PLA, KYKL etc. are yet to come to the negotiating table.

What are the Challenges in Restoring Peace in Manipur?

- Many Conflicting Demands: The central government's approach of a peaceful settlement with the militant outfits has proved counterproductive.
- Since, the demands of many of the outfits conflict with each other, any conventional agreement with one group becomes a cause for agitation by other groups.
- **Proxy Groupings:** Given that peace talks are on with the insurgents groups, there has been a tendency for the groups to continue the armed rebellion by another faction, with merely a change in nomenclature or by forming a new group.

North East India Map

- **Politician-Insurgents Nexus:** The nexus between the politicians and insurgents and criminals adds to the woes of the state.
- Some of the outfits operate as criminal gangsters thriving on extortion, kidnapping and contract killings.
- Nonetheless, miscreants take advantage of the unrest and extort funds, disguising themselves as insurgents.
- Besides, most of the security issues are politicised by the political parties to gain mileage for vote banks by enhancing controversies.
- **Border State:** Manipur being a border state, with a porous international border in a hostile jungle environment, the inflow of arms and trans-border movement of insurgent outfits who rely on external countries for training and other required logistics support are continuing.

Way Forward:

- **Good Governance:** Good governance needs to be instituted in the state through a transparent government, fair judiciary system, respect for the rule of law, and the provision of the minimum basic amenities like hospitals, schools, police stations, etc.
- There is a need for **political sincerity** coupled with proper distribution of funds for the development of the state, both in the valley and the hills.
- This should be followed by economic development through government, semi-government and private entrepreneurship participation.
- **Border Management:** Before initiating any kind of counter-insurgency policy/operations, the Indo-Myanmar international border needs proper management.
- **Engaging With People:** The connectivity and intermingling amongst the diverse communities of Manipur with mainland India should be made more effective to encourage national integration.
- For this, Non-Governmental Organisations (Ngos), women's associations, along with games and cultural programmes could be best utilised for restoring confidence among the valley and hill masses.

3. **Veer Guardian 2023 Exercise:**
- India and Japan will hold their first bilateral air exercise from January 12 to 26, in reflection of the growing defence ties amid increasing concerns over China's military muscle-flexing in the Indo-Pacific region.
- The exercise 'Veer Guardian-2023' involving the Indian Air Force (IAF) and Japan Air Self Defence Force (JASDF) will be held at Japan's Hyakuri air base.
- The IAF deployment at the exercise will include four Su-30 MKI jets, two C-17 aircraft and one IL-78 plane.
- The JASDF will be participating with four F-2 and four F-15 aircraft.

Features:
- The joint exercise will also include multi-domain air combat missions in a complex environment allowing the air warriors to exchange their best practices. Additionally, experts from both sides will also hold discussions to share their expertise on varied operational aspects.
- Relevance
- It will promote Air Defence cooperation between India and Japan.
- It will fortify the long-standing bond of friendship and enhance the avenues of defence cooperation between the two air forces.

4. **Indian Navy Launches INS Arnala:**
- Arnala' for Indian Navy was launched at M/s L&T, Kattupalli, Chennai.

- It is the first of 08 x ASW SWC Project
- Arnala class of ships will replace the Abhay class ASW Ships of Indian Navy

- The ship has been named Arnala to signify the strategic maritime importance accorded to the island of Arnala (located about 13 Km north of Vasai, Maharashtra) by the great Maratha warrior, Chhatrapati Shivaji Maharaj.
- Built by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata.
- They are designed to undertake anti-submarine operations in coastal waters and Low Intensity Maritime Operations (LIMO) including subsurface surveillance in littoral waters.
- The 77.6m ASW SWC ships have a displacement of 900 tons with a maximum speed of 25 knots and endurance of 1800 NM.
- The ASW SWC ships will have over 80% indigenous content, ensuring that large scale defence production is executed by Indian manufacturing units thereby generating employment and capability build up within the country.

5. **Surya Kiran XVI:**
- The 16th Edition of Indo-Nepal joint training Exercise "Surya Kiran" between India and Nepal is being conducted at Saljhandi, Nepal.
- It is a military exercise conducted annually between India and Nepal.
- The objective of this exercise is to:
- Establish military relations in inaccessible mountainous areas by the soldiers of both countries,
- Provide humanitarian assistance under disaster management,
- Get training in anti-terrorist operations,
- Build interoperability and sharing expertise between the two countries.
- The 15th edition of Surya Kiran took place at Pithoragarh in Uttarakhand, India.

6. **INS Mormugao:**
- Recently, defense Minister Rajnath Singh today commissioned INS Mormugao into the Indian Navy.
- It is a P15B stealth-guided missile destroyer.
- It is the second of the four 'Visakhapatnam' class destroyers that has been designed by the Indian Navy's Warship Design Bureau.
- It has over 75% indigenous content and was built by the Mazagon Dock Shipbuilders Limited.
- It is equipped with surface-to-surface and surface-to-air missiles besides modern surveillance radar that provides target data to the weapon systems.

- The warship, measuring 163 metres by 17 metres, displacement of 7300 tonnes
- It is named after the historic port city of Mormugao in Goa.
- Propelled by four powerful gas turbines, the warship can achieve speeds of over 30 knots.
- It is said to feature state-of-the-art weapons, stealth features and sensors.
- It has a total atmospheric control system (TACS) that protects crew from nuclear, biological, and chemical threats.
- It undertook its first sea sortie in 2021, marking 60 years of Goa's liberation from Portuguese rule.

7. PMLA Amendments:

- In its recent amendment, the Central Government listed 15 government bodies that are required to share information with the Enforcement Directorate under the Prevention of Money Laundering Act (PMLA). The list was amended in accordance with Section 66 of the PMLA.

Which are the agencies that were recently included in the list?

- The government entities that were recently included to share information with the Enforcement Directorate are:
- ✓ National Investigating Agency (NIA)
- ✓ Serious Fraud Investigation Office (SFIO)
- ✓ State Police
- ✓ Director General of Foreign Trade (DGFT)
- ✓ Ministry of External Affairs (MEA)
- ✓ National Intelligence Grid
- ✓ Central Vigilance Commission (CVC)
- ✓ Defence Intelligence Agency
- ✓ National Technical Research Organisation (NTRO)
- ✓ Military Intelligence
- ✓ Wildlife Crime Control Bureau
- ✓ Competition Commission of India (CCI)
- Under Section 66 of the Act, 15 entities are bound to disclose and share case information to the ED if the investigation falls under its jurisdiction. The information shared can be used by the Enforcement Directorate to file a case under the PMLA when it deems fit.
- Before this notification, only the Director (Financial Intelligence Unit, India, under the Union Finance Ministry;s Revenue Department), Cabinet Secretariat (RAW), National Security Council Secretariat, Intelligence Bureau, Economic Offences Wing of Central Bureau of Investigation (CBI), Chief Secretaries of State governments, RBI, Department of Company Affairs, and SEBI were required to share information with the Enforcement Directorate.
- The Special Investigation Team (SIT) set up by the Finance Ministry and inquiry appointed under the Civil Services Rules or Public Services Inquiry Act or any other preliminary enquiry appointed with the approval of Central Vigilance Commission are also included in this list.

What is Enforcement Directorate?

- The **Enforcement Directorate (ED)** comes under the aegis of the Finance Ministry's Revenue Department, is an economic intelligence agency responsible for combating economic crimes in India and enforcing economic laws.

- Its origins can be traced back to the Enforcement Unit, which was set up under the Foreign Exchange Regulation Act, 1947 to combat violations of Exchange Control Laws. The Enforcement Unit was renamed as the Enforcement Directorate in 1957.

Geography

1. **Amrit Bharat Station Scheme:**
- Recently, the Ministry of Railways has formulated a new policy for modernization of stations named "Amrit Bharat Station" scheme.
- The Amrit Bharat Station scheme envisages development of stations on a continuous basis with a long term vision.

Key features of these proposed stations include following:
- ➢ Provisions for roof top plazas,
- ➢ Longer platforms,
- ➢ Ballastless tracks, and
- ➢ 5G connectivity.

Upgradation & redevelopment:
- ➢ Under the Amrit Bharat Station Scheme, stations will be equipped with facilities inspired by the mega-upgradation of marquee stations such as New Delhi and Ahmedabad.
- ➢ The scheme will subsume all previous redevelopment projects where work is yet to begin.

Facilities Planned under Amrit Bharat Station Scheme:
- ➢ Provision for Roof Plaza to be created in future.
- ➢ Free Wi-Fi, space for 5G mobile towers.
- ➢ Smooth access by widening of roads, removal of unwanted structures, properly designed signages, dedicated pedestrian pathways, well planned parking areas, improved lighting etc.
- ➢ High level platforms (760-840 mm) at all stations with a length of 600 metres
- ➢ Special amenities for the disabled.

Broad:

Master Plans:
- The scheme aims at the preparation of Master Plans of the Railway stations and the implementation of the Master Plan in phases to enhance the facilities including and beyond the Minimum Essential Amenities (MEA).

Budgetary plans:
- Plans and consequent budgets will only be approved on the basis of factors such as footfall and inputs from stakeholders.

Selection of stations:
- Zonal railways have been given the responsibility of selecting stations, which will then be approved by a committee of senior railway officials.

New amenities & upgradation:
- The scheme shall cater for introduction of new amenities as well as upgradation and replacement of existing amenities.

5G connectivity:

- The ministry hopes to leverage the participation of private telecom operators for 5G connectivity as all these stations will have free Wi-Fi facility and escalators for easy mobility.

2. Mangdechhu Hydroelectric Power Project:

- India-assisted Mangdechhu hydroelectric project in Bhutan has been awarded the prestigious Brunel Medal for excellence in civil engineering by the UK-based Institute of Civil Engineers.

About:
- The Mangdechhu hydroelectric project (HEPP) is a 720MW run-of-river power plant built on the Mangdechhu River in Trongsa Dzongkhag District, central Bhutan.
- A part of the Indian Government and the Royal Government of Bhutan, Mangdechhu Hydroelectric Project Authority (MHPA), developed the project.
- Mangdechhu is one of the ten hydroelectric projects being developed as part of the Royal Government of Bhutan's initiative to generate 10GW of hydropower by 2020 with support from the Indian Government.
- The two governments signed an agreement for the construction of Mangdechhu HEPP for Rs28.96bn ($434m) in April 2010.
- The Indian Government funded the project through a 70% loan and a 30% grant. India approved a revised cost estimate of Rs40.20bn ($602.7m) for the project in 2016.
- Bharat Heavy Electricals Limited (BHEL) supplied the underground powerhouse of the Bhutanese hydroelectric project with four 180MW Pelton turbines.
- India's state-owned National Hydroelectric Power Corporation (NHPC) acted as a design and engineering consultant for the Mangdechhu hydropower plant.

Background:
- Indo-Bhutan hydropower cooperation began in 1961 with the signing of the Jaldhaka agreement. The Jaldhaka project is situated on the Indian side of Indo-Bhutan border in West Bengal.
- A landmark development in the history of Indo-Bhutan hydro-relations took place in 1987 with the commissioning of the 336 MW Chukha Hydropower Project (CHP).

Conclusion:
- The traditionally unique bilateral relations between India and Bhutan is characterized by trust and understanding which have matured over the years. Cutting across regime lines on both sides, India and Bhutan have enjoyed an all-weather relationship.
- The special relationship has been sustained by the tradition of regular high level visits and dialogue between the two countries.
- India's support in the development of the hydropower sector in Bhutan is the centrepiece of Bhutan-India economic cooperation and is one of the main pillars of bilateral cooperation. The cooperation in the hydropower sector is full of opportunities and has been recognized by both Bhutan and India as being mutually beneficial.
- This sustainable win-win situation for both sides makes the relationship between the two nations even stronger and long lasting.

3. Bomb Cyclone:

- Recently, a Bomb cyclone hit the United States and Canada, which triggered road accidents that results in the death of more than 30 people.
- A bomb cyclone is a large, intense midlatitude storm that has low pressure at its center, weather fronts and an array of associated weather, from blizzards to severe thunderstorms to heavy precipitation.

- Bomb cyclones put forecasters on high alert because they can produce significant harmful impacts.
- Reasons for the Formation:
- Storms form when a mass of low-pressure air (warm air mass) meets a high-pressure mass (cold air mass). The air flows from high pressure to low, creating winds.
- It occurs when a midlatitude cyclone rapidly intensifies, dropping at least 24 millibars over 24 hours.
- A millibar measures atmospheric pressure.
- This quickly increases the pressure difference, or gradient, between the two air masses, therefore making the winds stronger.
- The formation of this rapidly strengthening weather system is a process called bombogenesis.

How does a Bomb Cyclone Differ from a Hurricane?

- Hurricanes tend to form in tropical areas and are powered by warm seas. For this reason, they're most common in summer or early fall, when seawater is warmest.
- Bomb cyclones generally occur during colder months because cyclones occur due to cold and warm air meeting.
- During the summer, there's generally not much cold air across the atmosphere; this means a bomb cyclone is much less likely to occur.
- Hurricanes form in tropical waters, while bomb cyclones form over the northwestern Atlantic, northwestern Pacific and sometimes the Mediterranean Sea.

4. **Cold Waves in North India:**

- Delhi and other parts of northwest India have been reeling under a Cold Wave since the beginning of 2023.
- The lowest minimum temperature recorded this month was 1.9 degrees Celsius on January 8, the second-lowest minimum temperature in January in 15 years.
- Fog and low cloud coverage brought severe cold day conditions to the region, when temperatures remained below normal over parts of Delhi, Punjab, Haryana, Chandigarh, Himachal Pradesh, Rajasthan, Uttar Pradesh and Madhya Pradesh.

What Factors are Responsible for this Cold Wave?

Large Scale Fog:

- One of the major factors contributing to colder than normal temperatures over north India in January 2023 is the large-scale fog cover, according to India Meteorological Department (IMD).
- Fog has been lasting for longer durations, preventing sunlight from reaching the surface and affecting the radiation balance. There is no heating in the day time, and then there is the impact of the night.

Foggy Nights:

- Foggy or cloudy nights are usually associated with warmer nights, but if the fog remains for two or three days, cooling begins even at night.

- Light winds and high moisture near the land surface have been contributing to the formation of a blanket of fog over large swathes of the Indo-Gangetic plains in the morning.

Westerly Winds:
- Since there has not been any significant impact of western disturbances over the region, cold northwesterly winds have also been contributing to low temperatures.
- Westerly and northwesterly winds of around 5 to 10 kmph in the afternoon have also been contributing to the dip in temperature

What is Cold Wave?
- A cold wave is a rapid fall in temperature within 24 hours to a level requiring substantially increased protection to agriculture, industry, commerce, and social activities.

Cold Wave Conditions:
- For the plains, a cold wave is declared when the minimum temperature is 10 degrees Celsius or below and is 4.5 degrees Celsius (C) less than normal for two consecutive days.
- A "severe" cold day is when the maximum temperature is at least 6.5 notches below normal.
- For coastal stations, the threshold value of minimum temperature of 10 degree Celsius is rarely reached. However, the local people feel discomfort due to the wind chill factor which reduces the minimum temperature by a few degrees depending upon the wind speed.
- A wind chill factor is a measure of the cooling effect of the wind on the temperature of the air.

India's Core Cold Wave Zone:
- India's 'core cold wave zone' covers Punjab, Himachal Pradesh, Uttarakhand, Delhi, Haryana, Rajasthan, Uttar Pradesh, Gujarat, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, West Bengal, Odisha and Telangana.

Causes of Cold Wave in India:
- **Absence of Cloud Cover in the Region:** Clouds trap some of the outgoing infrared radiation and radiate it back downward, warming the ground.
- Snowfall in the upper Himalayas that has blown cold winds towards the region.
- Subsidence of Cold Air over the Region: Subsidence is the downward movement of cold and dry air closer to the surface.
- **La Nina:** Prevailing La Nina conditions in the Pacific Ocean. La Nina is the abnormal cooler sea surface temperatures reported along the equatorial Pacific Ocean and it is known to favour cold waves.
- During La Nina years, the severity of cold conditions becomes intense. The frequency and area covered under the grip of a cold wave becomes larger.
- **Western Disturbances:** Western disturbances can cause cold waves in India. Western disturbances are weather systems that originate in the Mediterranean Sea and move eastward, bringing cold winds, precipitation and cloud cover to the northwest regions of India. These disturbances can lead to a drop in temperature and cause cold wave conditions. However, not all western disturbances bring cold wave conditions.

What is the India Meteorological Department?
- IMD was established in 1875.

- It is an agency of the Ministry of Earth Sciences of the Government of India.
- It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

5. "Global Status of Black Soils" Report:

- The Food and Agriculture Organization (FAO) marked World Soil Day 2022 (5th December) with the launch of its first Global Status on Black Soils, which are at greater risk than ever due to the climate crisis, biodiversity loss and land use change.

What are the Findings?

Significance of Black Soil:
- The ability of the soils to remove carbon from the atmosphere and lock it up in soil organic matter (called carbon sequestration) has been proposed as an important solution to mitigate human-induced climate change.
- The inherent fertility of the soils makes them the food basket for many countries and are considered essential to the global food supply.
- Black soils have the potential to provide 10% of the total Soil Organic Carbon (SOC) sequestration globally if they receive proper attention.
- Europe and Eurasia have the highest potential at over 65% and Latin America and the Caribbean at around 10%.
- Black soils were home to 2.86% of the global population and had 17.36% of cropland, 8.05% of global SOC stock and 30.06% SOC stock of global cropland.
- However, despite representing a small portion of the world's soils, black soils were key for food security and the global economy.
- Globally in 2010, 66% of sunflower seeds, 51% of small millet, 42% of sugar beet, 30% of wheat and 26% of potatoes were harvested from black soils.

Status of Black Soils:
- Black soils are quickly losing their SOC stocks. They have lost 20 to 50% of their original SOC stock, with the carbon being released into the atmosphere mostly as carbon dioxide, exacerbating global warming.
- Causes of Losses in Black Soil:
- Land-use change, unsustainable management practices and excessive use of agrochemicals are to blame.
- Most of the black soils suffered from moderate to severe erosion processes, as well as nutrient imbalances, acidification and biodiversity loss.

Food and Fertilizer Crisis:
- Smallholder farmers, particularly from vulnerable countries across Africa, Latin America and Asia, lack access to organic and inorganic fertilizers and are currently facing a 300% increase in fertilizer prices.
- Today, reduced availability and soaring fertilizer prices are driving increased food prices and food insecurity.

Suggestions:
- Preserving natural vegetation on black soils such as grasslands, forests and wetlands and adopting sustainable soil management approaches on cropped black soils are needed.

- There is a need to work together to produce safe, nutritious and micronutrient-rich food in a sustainable way that avoids soil degradation, reduces greenhouse gas emissions and decreases agrifood systems pollution."

What is Black Soil?

- Black soils are characterised by a thick, dark-coloured soil horizon rich in organic matter.
- They are found in Russia (327 million hectares), Kazakhstan (108 M ha), China (50 M ha), Argentina, Mongolia, Ukraine etc.
- Black soils are extremely fertile and can produce high agricultural yields due to their elevated moisture storage capacity.
- Black soils are rich in iron, lime, calcium, potassium, aluminum and magnesium but deficient in nitrogen, phosphorous.
- They constitute 5.6 % of global soils and contain 8.2 % of the world's SOC stocks, approximately 56 billion tonnes of carbon.
- Soil organic carbon is a measurable component of soil organic matter, which makes up just 2–10% of most soil's mass and has an important role in the physical, chemical and biological function of agricultural soils.
- SOC refers only to the carbon component of organic compounds.
- This signifies their importance for climate change mitigation and adaptation.
- With their inherent fertility, they are the food basket for many countries and are considered essential to the global food supply.

What is World Soil Day (WSD)?

- It was recommended by the International Union of Soil Sciences (IUSS) in 2002.
- The FAO has supported the formal establishment of WSD as a global awareness-raising platform under the leadership of the Kingdom of Thailand within the framework of the Global Soil Partnership.
- 5th December 2014 was designated as the first official WSD by the UN General Assembly (UNGA).
- The day was chosen because it corresponds with the official birthday of H.M. King Bhumibol Adulyadej, the King of Thailand, who officially sanctioned the event.
- World Soil Day enjoins individuals to consider sustainably managing soil resources. The main goal of the day is to increase public awareness of the significant environmental issues that soil degradation can lead to, such as erosion, the loss of organic matter, and a drop in soil fertility.
- The theme for World Soil Day 2022 is "Soils, where food begins".

What are the Initiatives to Improve Soil Health?

- Soil Health Card Scheme
- Organic Farming
- Paramparagat Krishi Vikas Yojana
- Fertilizer Self-Sufficiency
- Digital Agriculture
- Carbon Farming
- The Nutrient Based Subsidy (NBS) Scheme

6. **More than 100 Million People Displaced in 2022:**
- According to the United Nations Development Program (UNDP) report "Turning the tide on internal displacement: A development approach to solutions", for the first time ever, more than 100 million people were forcibly displaced in 2022, most of them within their own countries.

What are the Findings of the Report?

Statistics:
- At the end of 2021, there were over 59 million people forcibly displaced within their own countries due to conflict, violence, disasters and climate change.
- Before the war in Ukraine, 6.5 million people are estimated to have been internally displaced.
- By 2050, climate change may force more than an estimated 216 million people to move within their own countries.
- Disaster-related internal displacement is even more widespread, with new displacements recorded in over 130 countries and territories in 2021.
- Around 30% of professional lives became unemployed and 24% were not able to earn money the same way as before. 48% of the internally displaced households earned less money than before displacement.

Impact:
- The internally displaced persons struggle to cover their basic needs, find decent work or have a stable source of income.
- Female and youth-headed households are more impacted.
- Sub-Saharan Africa, the Middle East and North Africa and parts of the Americas are the mostly affected regions from forced displacement.
- The direct impact of internal displacement globally is estimated at over USD 21.5 billion in 2021 in the form of the financial cost of providing every internally displaced person with housing, education, health and security, and accounts.
- Lack of Proper and Commonly Accepted Statistics about displacement has led to a lack of policies for displaced people.

Suggestions:
- Longer-term development action is needed to reverse record levels of internal displacement, with millions more people predicted to be uprooted by climate change.
- Humanitarian aid alone cannot overcome record levels of internal displacement globally. There is a need to devise new ways to address the consequences of internal displacement through a development approach.
- Five key pathways to development solutions can be adopted, which are,
- Strengthening governance institutions
- Boosting socio-economic integration through access to jobs and services
- Restoring security
- Enhancing participation
- Building social cohesion

What is United Nations Development Program?
- The United Nations Development Programme (UNDP) is the UN's global development network.
- UNDP is based on the merging of the United Nations Expanded Programme of Technical Assistance and the United Nations Special Fund.

- The UNDP was established in 1965 by the United Nations General Assembly, and became operational in January 1966.
- It provides expert advice, training and grants support to developing countries, with increasing emphasis on assistance to the least developed countries.
- The UNDP Executive Board is made up of representatives from 36 countries around the world who serve on a rotating basis.
- It is funded entirely by voluntary contributions from member nations.
- UNDP is central to the United Nations Sustainable Development Group (UNSDG), a network that spans 165 countries and unites the 40 UN funds, programmes, specialized agencies and other bodies working to advance the 2030 Agenda for Sustainable Development.
- **UNDP Publication:** Human Development Index.

7. **State of Global Water Resources Report:**
- Recently, WMO (World Meteorological Organization) has released its first annual State of Global Water Resources Report 2021.

What is this Report About?
- The aim of this annual report is to support monitoring and management of global freshwater resources in an era of growing demand and limited supplies.

The report focuses on three major areas:
- Streamflow, the volume of water flowing through a river channel at any given time.
- Terrestrial water storage (TWS) — all water on the land surface and in the sub-surface.
- The cryosphere (frozen water).

What are the Findings of the Report?
Overview:
- Between 2001 and 2018, UN-Water reported that a staggering 74% of all natural disasters were water-related.
- The recent UN climate change conference, COP27, in Egypt, urged governments to further integrate water into adaptation efforts, the first-time water has been referenced in a COP outcome document in recognition of its critical importance.
- 3.6 billion people have inadequate access to water at least one month per year and this is expected to increase to more than five billion by 2050.
- Large areas of the globe recorded drier-than-normal conditions in 2021, which was a year in which precipitation patterns were influenced by climate change and a La Niña event.
- The area with below-average streamflow was approximately two times larger than the above-average area, in comparison to the 30-year hydrological average.

Region wise Streamflow:
- Drought: Areas that were unusually dry included South America's Rio de la Plata area, where a persistent drought has affected the region since 2019.
- Below Normal: In Africa, major rivers such as the Niger, Volta, Nile and Congo had below-average water flow in 2021. The same trend was observed in rivers in parts of Russia, West Siberia and in Central Asia.

- Above Normal: On the other hand, there were above-normal river volumes in some North American basins, the North Amazon and South Africa, as well as in China's Amur River basin, and northern India.

Terrestrial Cover:
- Below Normal: Aside from river flow variations, overall terrestrial water storage was classified as below normal on the west coast of the United States, in central South America and Patagonia, North Africa and Madagascar, Central Asia and the Middle East, Pakistan and North India.
- Above Normal: It was above normal in Central Africa, northern South America – specifically the Amazon Basin – and northern China.

Cryosphere:
- Mountains are often called natural "water towers" because they are the source of rivers and freshwater supplies for an estimated 1.9 billion people.
- Changes to cryosphere water resources affect food security, human health, ecosystem integrity and maintenance, and lead to significant impacts on economic and social development.

What is the Scenario of India?
- There is more evidence of the worsening impact of global warming on the Indo-Gangetic Plain (IGP) that straddles eastern Pakistan, northern India, southern Nepal and the whole of Bangladesh.
- The Ganga-Brahmaputra and Indus basins that form the Plain, recorded more water flowing in the river channels due to glacial melt even as their total water storage declined in 2021.
- This will be extremely worrying news since the IGP supports nearly half a billion people across the four countries.

What are the Recommendations?
- There is insufficient understanding of changes in the distribution, quantity, and quality of freshwater resources, there is a need to fill that knowledge gap and provide a concise overview of water availability in different parts of the world.
- There is a need for the development of end-to-end drought and flood early warning systems.
- The long-term projections of glacier run-off and the timing of peak water, should be key inputs to long-term adaptation decisions.
- There is a need to accelerate the availability and sharing of hydrological data, including river discharge and transboundary river basin information.

What is the World Meteorological Organization (WMO)?
- The World Meteorological Organization (WMO) is an intergovernmental organization with a membership of 193 Member States and Territories.
- India is a member of **WMO**.
- It originated from the International Meteorological Organization (IMO), which was established after the 1873 Vienna International Meteorological Congress.
- Established by the ratification of the WMO Convention on 23rd March 1950, WMO became the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.'
- WMO is headquartered in Geneva, Switzerland.

History, Art and Culture

1. U Kiang Nangbah:

- Recently, Meghalaya commemorated the 160th death anniversary of U Kiang Nagbah on December 30, 2022.
- U Kiang Nangbah is an Indian freedom fighter from Meghalaya, famed for leading an uprising against the British colonial government.
- He was hanged publicly by the British on December 30, 1862, in Jowai town in the West Jaintia Hills district.
- He started the revolt against the British when Khasi-Jaiñtia Hills region was not part of India.
- Kiang Nangbah belonged to the Jaintia tribal ethnic community.
- He was a farmer who went on to become one of the leaders of the resistance movement against the British India.
- His popularity led him to become the leader of the resistance movement of the Jaintias.
- He led military-style attacks against the British. These attacks were so powerful that they threatened to topple the British colonial powers.
- However, he was captured and hanged by the British due to the betrayal of one of his own people.

Why did Jaintias start a resistance movement against the British?

- In the year 1860, income tax were levied along with the house tax. There were also concerns regarding additional taxes being levied on betel and betel nuts. These taxes created a widespread financial burden amongst the Jaintias. This triggered an uprising in 1862.
- The Jaintias' rebellion was led by U Kiang Nongbah. In the first rebellion, the identity of U Kiang Nongbah remained anonymous and this avoided his incarceration. He became famed for his efficient organizational capabilities. He coordinated all the rebellion activities, including making contacts with the Dolois and Sirdars, without causing any suspicion.
- However, superior capabilities of the British forces defeated the rebellion group led by U Kiang Nongbah. This resulted in hundreds of Jaintias losing their lives and U Kiang Nongbah being betrayed.

2. Ratnagiri's Rock Art:

- Recently, experts have raised concerns that the construction of a petrochemical refinery in Barsu village of Maharashtra's Ratnagiri district might damage around 250 prehistoric geoglyphs found in the area.
- Geoglyphs are a form of prehistoric rock art, created on the surface of laterite plateaus by removing a part of the rock surface through an incision, picking, carving or abrading.
- They can be in the form of rock paintings, etchings, cup marks and ring marks.
- Ratnagiri's prehistoric rock art
- Clusters of geoglyphs are spread across the Konkan coastline in Maharashtra and Goa, spanning around 900 km.
- Ratnagiri district has more than 1,500 pieces of such art, also called "Katal shilpa," spread across 70 sites.

- Age: According to carbon dating, these sites are believed to be over 12,000 –20,000 years old.
- The sites are protected by the Archaeological Survey of India (ASI).

Figures depicted in the geoglyphs:
- The figures depicted in the geoglyphs include humans and animals such as deer, elephant, tiger, monkey, wild boar, rhinoceros, hippopotamus, cattle, pig, rabbit, and

  monkey.
- They also include a high number of reptilian and amphibian creatures such as tortoises and alligators, aquatic animals such as sharks and stingrays, and birds like peacocks.

Significance of Ratnagiri's rock art:
- Ratnagiri's rock art is evidence of the continued existence of human settlements from the Mesolithic (middle stone age) to the early historic era.
- The geoglyphs also show the existence of certain types of fauna that are no longer present in the region today.
- Imagery from these sites shows how people "adapted to ephemeral wetlands in a dry-arid plateau having shallow rock pools, streams and watercourses".

Inclusion in UNESCO's Tentative List:
- In April 2022, these sites in the Konkan region were added to a tentative list of UNESCO's world heritage sites.
- The UNESCO listing mentions "Konkan geoglyphs." However, elsewhere, the term petroglyph (literally, "rock symbol/character") is also used.
- **UNESCO's** tentative world heritage list mentions seven sites with petroglyphs in **Ratnagiri** district - Ukshi, Jambharun, Kasheli, Rundhe Tali, Devihsol, Barsu and Devache Gothane, one in Sindhudurg district –Kudopi village, and nine sites at Phansamal in Goa.

3. **States with Encroached Centrally Protected Monuments:**
- India has a total of 3,695 Centrally Protected Monuments or Sites at present with UP having the highest number at 743.
- Centrally Protected Monuments are protected by Archaeological Survey of India (ASI) under Ancient Monuments and Archaeological Sites and Remains (Amendment) Act, 2010.

Encroachment of Centrally protected monuments:
- Uttar Pradesh has the largest number (75) of Centrally Protected Monuments which have been encroached upon, followed by Tamil Nadu (74).

Archaeological Survey of India (ASI):
- ASI was founded in 1861 by a British Army engineer, Alexander Cunningham who was appointed as its first Director–General.
- It is currently existing as an attached office under the Department of Culture (Ministry of Culture).
- ASI is India's premier organization for the archaeological research, scientific analysis, excavation of archaeological sites, conservation and preservation of protected monuments.
- It helps in regulation of all archaeological activities in the country under the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958.

Ancient Monuments and Archaeological Sites and Remains Act, 1958:
- The **AMASR** Act has been enacted for the preservation of ancient and historical monuments and archaeological sites and remains of national importance.
- Government proposed amendments to remove the ban on construction within 100 metres of a monument and only regulate construction within 100-200 metres.
- Section 20 of the 'Ancient Monuments and Archaeological Sites and Remains' Act:
- The Act prohibits construction in 'prohibited area', an area of 100 meters around protected monument over 100 years old.
- It does not permit construction in such prohibited areas even if it is for public purposes, except under certain conditions.

4. **Sylhet-Silchar Festival:**
- The first festival celebrated the linguistic and cultural ties between the Barak Valley region of Assam and the Sylhet segment of Bangladesh recently.
- The festival coincides with the 75th year of India's independence and the 50th anniversary of the liberation of Bangladesh from Pakistan.

About Sylhet-Silchar festival:
- Organised by the India Foundation and has been supported by the Union Ministry of Culture and the Assam government in association with the Bangladesh India Friendship Society and India-Bangladesh Chamber of Commerce and Industry.
- The festival underlines the commonalities between India and Bangladesh, specifically the Sylheti variant of the Bengali language and the Sylheti culture.

Significance:
- The aim of the **Sylhet-Silchar** festival is to revisit the common values and shared heritage of the twin cities and their people separated by international borders.

- The festival will showcase tribal culture, cuisine, literature, arts, and crafts.
- The festival will also bring together eminent people from public and social life, industrialists, artists, scholars, and practitioners from both sides to discuss and deliberate on issues of mutual growth and opportunity.
- In addition, the festival will also provide a platform to explore multi-disciplinary trade opportunities in sectors such as healthcare, tourism, education, and digital infrastructure.

First Sylhet-Silchar Festival Celebrating Indo-Bangla ties opens