Current Affairs
MONTHLY

MAY 2023

By CivilsTap Himachal

For HPAS & Other Competitive Exam in Himachal Pradesh

Mains

CivilsTap Himachal

Contents

GENERAL STUDIES 1.

GEOGRAPHY

EL NINO

Context: Many climate models have forecasted an **El Nino** in May 2023.
- A **record three-year La Nina event ended in March 2023** and currently, the **equatorial Pacific Ocean is at normal temperatures,** known as the **neutral phase.**

What do the Climate Models Say About Upcoming El Nino?
- **Impact on India:**
  - **Weak Monsoon for India:** The development of an El Nino in May or June 2023 may cause weakening of the **southwest monsoon season,** which brings around 70% of the total rainfall India receives and on which most of its farmers still depend.
    - However, **sub-seasonal factors such as the Madden-Julian Oscillation (MJO)** and monsoon low-pressure systems **can temporarily enhance rainfall** in some parts as witnessed in the year 2015.
  - **Hot Temperatures:** It may also cause **heatwaves** and **droughts** in India and other regions around the world such as South Africa, Australia, Indonesia and the Pacific Islands.
- **Heavier Rainfall in the West**: It brings heavy rainfall and flooding to other regions such as California in the United States and could cause **bleaching and death of coral reefs.**
- **Rising Global Average Temp:** The El Nino in 2023 and going into 2024 may push the global average temperature towards 1.5°C warmer than the preindustrial average.
  - The warming of the oceans is also one of the major impacts of an El Nino event.
    - This is when ocean heat content is already at a record high, according to the **World Meteorological Organization (WMO).**
- **Previous Such Occurrences – Impacts:**
  - In the 2015-2016, there were **widespread heatwaves in India that killed around 2,500 people** in each of the years.
    - Coral reefs around the world also suffered from bleaching and the **sea level rose by 7 millimetres** due to thermal expansion.
  - The El Nino, along with global warming, had made **2016 the warmest year on record.**
  - **El Nino events of 1982-83 and 1997-98** were the **most intense** of the 20th century.
    - During the 1982-83 event, **sea surface temperatures in the eastern tropical Pacific were 9-18°C above normal.**

How does ENSO Affect India?
- The influence of ENSO on India's climate is most pronounced during the monsoon season. During an El Niño event, **India experiences below-average rainfall.**
  - The El Niño also leads to a rise in temperatures, exacerbating heat waves and causing heat-related health issues.
- On the other hand, during a La Niña event, **India experiences above-average rainfall.**
  - This can lead to flooding and landslides, damaging crops and infrastructure. However, La Niña also brings cooler temperatures, which can provide relief from heat waves.

EXTREME HEAT WAVES AND MITIGATION

Context: For last few years, heat wave during the summer season is increasingly affecting morbidity and mortality in the country. Heat waves are a growing concern for disaster management in India, causing widespread health and environmental impact.

Extreme weather events have become more frequent globally, requiring communities to understand and cope with heat waves.

From the view of hazard mitigation, rising number of heat wave related deaths is expected to serve as danger signal and corroborate the need to develop innovative methods to control summer-time losses.

What is Heat Wave?
- Heat wave as a hazard causing disaster scenario, is little more than the physical phenomenon of high heat conditions and is **characterized as** a **complex of hydro-climatic risks** coupled with **social, occupational and public health risks.**
- **Definition:**
  o As such there is **no universal definition for heat wave.**
  o It is **generally defined as a prolonged period of excessive heat.**
- **Indian Meteorological Department (IMD) Criteria:**
  o Heat Wave **need not be considered till maximum temperature** of a station **reaches** at least **40°C for Plains** and at-least **30°C for Hilly regions.**
  o If the **normal maximum temperature** of a station is **less than or equal to 40°C**, then **an increase of 5°C to 6°C** from the normal temperature is considered to be heat wave condition.
    ▪ Further, **an increase of 7°C or more** from the normal temperature is considered a **severe heat wave condition.**
  o If the **normal maximum temperature** of a station is **more than 40°C**, then an **increase of 4°C to 5°C** from the normal temperature is considered to be heat wave condition. Further, **an increase of 6°C or more is considered a severe heat wave condition.**
    ▪ Additionally, if the **actual maximum temperature remains 45°C or more** irrespective of normal maximum temperature, **a heat wave is declared.**

To What Extent Heat Wave is the Problem?
- **Heat Stress:**
  o **350 million** Indians **exposed to strong heat stress** between **April and May 2022**
- **Temperature Trends:**
  o **Summer temperatures** have **risen by 0.5-0.9°C** across districts in Punjab, Haryana, Uttar Pradesh, Bihar, and Rajasthan **between 1990 and 2019.**
  o **54% of India's districts** have seen a similar **rise in winter temperatures.**
  o Maximum temperature is **expected to rise by 2-3.5°C** in **100 districts** and by **1.5-2°C** in around **455 districts between 2021 and 2050.**
- **Urban Heat Island Effect:**
  o Rising temperatures **lead to urban heat island** effect with temperatures **4-12°C higher than rural area.**
- **Climate change** exacerbates **local weather patterns,** leading to **weather variability and losses in agriculture.**

What are the Causes?
- **Sparse Pre-Monsoon Season Showers:**
  o **Less moisture** in many areas, **leaving** large parts of **India arid and dry.**
  o The **sudden end of pre-monsoon rain showers,** an uncommon trend in India, has **contributed to the heat waves.**
- **El Nino Effect:**
  o **El Nino** often **increases temperatures in Asia**, combined with the weather pattern to **create record high temperatures.**
  o **Trade winds** coming from South America normally blow westward towards Asia during **Southwest Monsoon** and warming of the Pacific Ocean results in weakening of these winds.
    ▪ Therefore, **moisture and heat content get limited** and **results in reduction and uneven distribution of rainfall** across the Indian sub-continent.

What are the Impacts of Heat Waves?
- **Health Impacts:**
  o Heat rash:
    ▪ Also **known as sunburn** phenomenon with **pinkish skin** resulting in burning of skin and pain sensation.
  o **Heat syncope:**
    ▪ Giddiness, vertigo **headache and sudden onset drowsiness/unconsciousness.**
  o **Heat Cramps:**
    ▪ **Edema (swelling) and Syncope (Fainting)** are generally accompanied by **fevers below 39°C i.e.,102°F.**
  o **Heat Exhaustion:**
    ▪ Fatigue, weakness, dizziness, headache, nausea, vomiting, muscle cramps and sweating.
  o **Heat Stroke:**
    ▪ Body temperatures of 40*C i.e., 104*F or more along with delirium, seizures or coma. This is a potentially fatal condition.
- **Impact on Labor and Productivity:**
  o Heat exposure **leads to a loss of 162 hours per year** for laborers doing heavy work, impacting productivity.
  o About **50% of India's workforce** is estimated to be **exposed to heat during their working hours**, including marginal **farmers,** construction **workers,** and street **vendors.**
- **Impact on Agriculture Sector:** Crop **yields suffer** when **temperatures exceed** the ideal range.
  o Farmers in Haryana, Punjab and Uttar Pradesh have reported losses in their wheat crop in the past rabi season.
  o **Livestock** is also **vulnerable** to heatwaves.
- **Food Insecurity:**
  o The concurrence of heat and **drought events** are causing **crop production losses and tree mortality.**
  o The risks to health and food production will be made more severe from the sudden food production losses exacerbated by heat-induced labour productivity losses.
  o These interacting impacts will **increase food prices, reduce household incomes,** and lead to **malnutrition** and **climate-related deaths,** especially in tropical regions.
- **Impact on Energy Demand:**
  o Average Daily peak demand rises due to increased heat.

What Should be Mitigating Strategies?
- **Urban Greening:**
  o **Greener** and more **permeable urban surfaces** can help **reduce urban heat.**
  o Development plans for Tier 2 and Tier 3 cities can set up a mandate to increase the density and area of urban forests.
  o **Natural landscapes** in urban areas, such as **trees, parks, and vegetation,** can help in cooling.
- **Infrastructure:**
  o Greater usage of permeable materials in **civic infrastructure and residential construction can reduce** the urban heat island effect.
  o Encouraging **cleaner cooking fuels** such as **Biogas, Compressed Natural Gas**, **liquified Petroleum Gas** will reduce indoor air pollution and urban heat.
  o Improving **public transportation and reducing personal vehicle** usage can help in reducing extreme heat waves.
- **Waste Management:**
  o Reducing the size of **landfills, waste segregation, and solid waste** management at the source can reduce methane production and fires that exacerbate urban heat.
- **Policies and Guidelines:**

- o **Policies and guidelines on weather variability and urban heat management** are needed at various levels.
- o Expanding **wetlands and restoring ponds and lakes** may also help.
- **Building Design:**
  - o Promoting the use of **green roofs and cool roofs** in buildings, increasing ventilation, and setting up green spaces.
  - o **Passive cooling techniques** such as natural ventilation, shading, and thermal insulation can significantly reduce indoor temperatures and energy consumption.
  - o **High-albedo roofs** and pavements in the buildings.
- **Renewable Energy:**
  - o Promoting the use of renewable energy sources such as **solar** and **wind energy** for cooling and electricity needs.
- **Public Awareness:**
  - o Educating the public about the risks of heatwaves, how to stay cool, and the importance of reducing carbon footprint.
- **Agricultural Adaptation:**
  - o Supporting farmers with resilient farming practices that take into account the risks of heatwaves, **droughts**, and water scarcity.
  - o Crop diversification, Agroforestry, mulching, crop rotation, and cover cropping, drip irrigation and sprinkler systems can be helpful.
- **Disaster Management:**
  - o Developing emergency response plans for heatwaves, including providing cool shelters and adequate medical facilities.
  - o **In the short-term:**
    - ▪ It is essential to establish an effective early warning system that can provide timely and accurate information to people at risk.
    - ▪ This system should be integrated with public health services and local governments and should be able to mobilize resources quickly in response to a heat wave.
  - o **In the long-term:**
    - ▪ Structural infrastructure measures are required to help Indians adapt to extreme heat.
- **Green Transport:**
  - o Encouraging the use of public transport and bicycles to reduce vehicle emissions and traffic congestion.
  - o **Bicycles, Electric Vehicles** etc. can be helpful.

AVALANCHE

Context: Recently, a massive **Avalanche** hit Sikkim's Nathu La.
What is Avalanche?
- An avalanche is a sudden, rapid flow of **snow, ice, and debris down** a mountain or slope.
- It can be triggered by various factors such as heavy snowfall, rapid temperature changes, or human activity.
- Many regions that are prone to avalanches **have specialized teams that monitor and control avalanche risks** by using various methods such as explosives, snow barriers, and other safety measures.
- **Types:**
  - o Rock Avalanches (which consist of large segments of shattered rock),
  - o Ice Avalanches (which typically occur in the vicinity of a glacier),
  - o Debris Avalanches (which contain a variety of unconsolidated materials, such as loose stones and soil).
- **Causes:**
  - o **Weather Conditions:** Heavy snowfall, rapid temperature changes, strong winds, and rain can all contribute to avalanche conditions.
  - o **Slope Conditions**: The steepness, orientation, and shape of **a slope can contribute to the likelihood of** an avalanche occurring. Steep slopes with a convex shape are particularly prone to avalanches.

- o **Snowpack Conditions:** The structure and stability of the snowpack **can also contribute to avalanche conditions.** Weak layers of snow or ice within the snowpack can cause it to collapse and trigger an avalanche.
- o **Human Activity:** Skiers, snowmobilers, and other rec reational users can trigger avalanches by their movements on the slope.
- o **Natural Events:** Earthquakes, volcanic eruptions, and rockfalls can all trigger avalanches.

How are Avalanches different from Landslides?
- Avalanches and landslides are both types of mass movements, but they occur in different environments and involve different materials.
- An avalanche is a rapid flow of snow, ice, and debris down a mountain or slope, while a **landslide is a movement of rock**, earth, or debris down a slope or cliff.
- Avalanches typically occur in mountainous areas that have heavy snowfall and steep slopes. On the other hand, **landslides can occur in a wide range of environments and can be triggered by various factors** such as heavy rainfall, earthquakes, volcanic activity, or human activity.
- Both avalanches and landslides can be dangerous and potentially deadly, and it is important to take necessary precautions to avoid them.
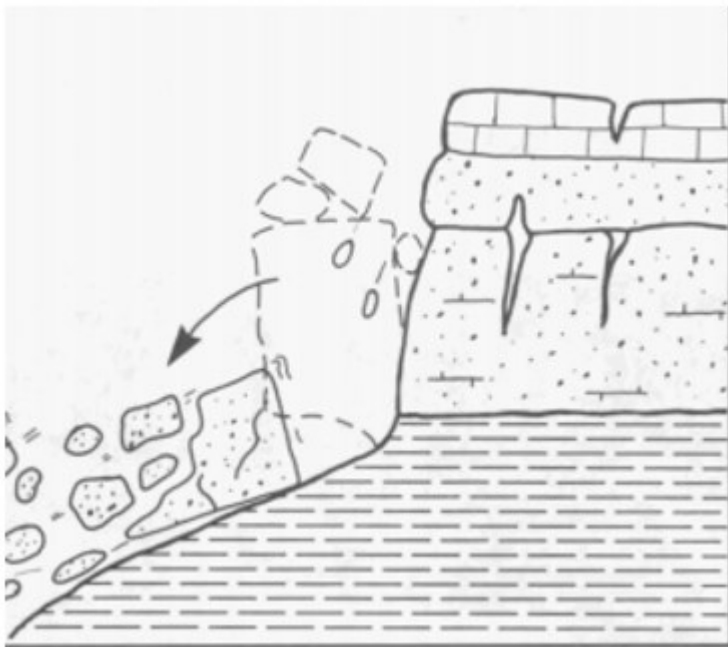
AGRICULTURAL

NATIONAL MISSION ON NATURAL FARMING

Context:

The Government of India has launched the **National Mission on Natural Farming (NMNF)** as a separate and independent scheme to promote **chemical-free and climate-smart agriculture.**

What is the National Mission on Natural Farming?
- **About:**
  - o The **National Mission on Natural Farming (NMNF)** has been formulated by upscaling the **Bhartiya Prakritik Krishi Paddhati (BPKP)** to promote natural farming across the country.
- **Coverage:**
  - o NMNF will cover a **7.5 lakh hectare area by developing 15,000 clusters.** The farmers willing to implement natural farming on their field will be **registered as cluster members,** each cluster shall comprise **50 farmers or more with 50-hectare land.**
    - ▪ Also, **each cluster can fall into one village** or spread across 2-3 nearby villages under the same gram panchayat.
- **Financial Assistance:**
  - o Under NMNF, farmers will receive a **financial assistance of ₹15,000 per hectare per year for three years** for the creation of on-farm input production infrastructure.
  - o However, the **incentives would be provided to farmers only when they commit to natural farming** and have actually taken it up.
    - ▪ If a farmer defaults or does not continue with natural farming, subsequent instalments shall **not be disbursed.**
- **Web Portal for Implementation Progress:**
  - o A **Web portal** has also been launched for the **promotion of natural farming with information on the implementation framework**, resources, implementation progress, farmer's registration, blog, and so on.
- **Master Trainers:**
  - o The agriculture ministry is undertaking large-scale training of **master trainers, 'champion' farmers and practising farmers** in the techniques of natural farming through the **National Institute of Agricultural Extension Management (MANAGE) and National Centre of Organic and Natural Farming (NCONF).**
- **Establishment of BRCs:**
  - o The Centre intends to set up **15,000 Bhartiya Prakritik Kheti Bio-inputs Resources Centres (BRCs)** to provide easy access to bio-resources wherein cow dung and urine, neem and biocultural play an important role.
    - ▪ These **bio-input resource centres** would be set up alongside the proposed **15,000 model clusters of natural farming.**

What is Natural Farming?
- **About:**
  - o **Natural farming** is a **chemical-free farming method** based on locally available resources.
    - ▪ It promotes **traditional indigenous practices**, which give freedom to farmers from externally purchased inputs.
  - o The major stress of natural farming is **on-farm biomass recycling with biomass mulching**, use of **on-farm desi cow dung-urine formulation**, managing pests through diversity, on-farm botanical concoctions, and exclusion of all **synthetic chemical inputs directly or indirectly.**
- **Significance:**
  - o **Ensures Better Health:** As Natural Farming does not use any synthetic chemicals; **health risks and hazards are eliminated.**

- Food has **higher nutrition density** and therefore offers better health benefits.
  - o **Increased Farmers' Income:** Natural Farming aims to make farming viable and aspirational by increasing net incomes of farmers on account of cost reduction, **reduced risks, similar yields, incomes from intercropping.**
  - o **Rejuvenates Soil Health:** The most immediate impact of **Natural Farming** is on the **biology of soil—**on microbes and other living organisms such as earthworms.
    - It improves soil health and in turn **increases productivity.**
- **Issues:**
  - o **Lack of Irrigation Facility:** Only **52% of <u>India's Gross Cropped Area (GCA)</u>** is irrigated at the national level. Even though India has made significant strides since independence, **many farms still rely on the monsoon for irrigation**, limiting their ability to plant more crops.
  - o **Lack of Readily Availability of Natural Inputs:** Farmers often cite the lack of readily available natural inputs as a **barrier to converting to chemical-free agriculture.** Not every farmer has the time, patience, or labour to develop their own natural inputs.
  - o **Lack of Crop Diversification:** In spite of the rapid commercialization of agriculture in India, most farmers assume cereals will always be their main crop (due to skewed **Minimum Support Prices** in favour of **cereals**) and **ignore crop diversification.**
- **Other Initiatives to Promote Natural Farming:**
  - o **Paramparagat Krishi Vikas Yojana (PKVY):**
    - The NMNF is an upscaling of the **<u>Bhartiya Prakritik Krishi Paddati (BPKP)</u>** which is a sub-scheme under **Paramparagat Krishi Vikas Yojana (PKVY).**
    - PKVY provides financial assistance to farmers who want to adopt organic farming practices and encourages them to use eco-friendly techniques for pest management and soil fertility management.
  - o **Climate Smart Agriculture:**
    - **Climate smart agriculture** is an integrated approach to managing landscapes-**cropland, livestock, forests, and fisheries**-that address the interlinked challenges of food security and climate change.
    - It aims to tackle three main objectives: **sustainably increasing agricultural productivity and incomes, adapting and building resilience to climate change**, and reducing **greenhouse gas emissions** wherever possible.

CULTURE OF INDIA

BUDDHISM AND INDIA'S SOFT POWER DIPLOMACY

Context: The government adopted **the Panchamrit principles to guide its foreign policy**, in actively promoting India's image as a rising global power. The fifth of these five principles is *sanskriti evam sabhyata* (cultural and civilisational links).

More about the soft power diplomacy
- **Meaning:**
  - Soft power is the capacity to influence other nations through the use of persuasion and attraction rather than coercion or force. Soft power relies on culture, arts, and science.
- **Proponent:**
  - Joseph Nye was the first to coin the term "soft power".

India's Soft Power tools
- **Beginning Post independence:**
  - From the time of Jawaharlal **Nehru's Panchsheel principles**, India has been guided by the ideals of peaceful co-existence.
  - The foreign policies of India have always been based on the objectives of **dialogue, peace, and building national and global agreements**.
    - It opts to predict better synergies with nations that have mutual goals such as **safeguarding civil treaties, and regulations, promoting global peace, combating terrorism and political violence,** and developing the fundamental foundations of a **peaceful and prosperous world**.
- **Art & culture:**
  - India makes a lot of **movies, music, books**, and other forms of art that are enjoyed all over the world. This has increased **India's cultural influence** in a big way.
- **Yoga:**
  - India has also been using **yoga diplomacy as a tool** for cultural exchange and international cooperation. The flagship activity is **International Yoga Day**.
- **Sciences, spirituality & faith:**
  - Sciences, spirituality, art and faith that **developed over millennia** in the subcontinent **found their way across other regions,** earning India a considerable amount of 'soft power' long before the term itself was coined.
  - Owing to this, present-day India is well poised to draw upon religious and faith-based associations with countries across the globe.
- **Religions:**
  - The Indian subcontinent has **given birth to a number of major religions** in the world and over time has assimilated into its social fabric numerous others.
  - One of the more novel manifestations of these initiatives has been **engagement in Buddhist diplomacy**.

India's soft power diplomacy through Buddhism
- **Significance of Buddhism:**
  - **Revival & international value:**
    - Buddhism's potential utility in foreign policy is derived to a large extent from the manner in which the faith was **revived in the aftermath of the Second World War**.
    - The revival of the faith had a decidedly **internationalist outlook to it**, and focused on **transgressing extant sectarian and geographical boundaries.**
  - **Pan-Asian presence:**

- Today, **97 percent of the world's Buddhist population** lives in the Asian continent, and a number of countries such as **Bhutan, Myanmar, Thailand, and Sri Lanka** conceive of Buddhism as intrinsic to their national values and identity.
- The Buddhist faith, due to its emphasis on **peaceful co-existence** and its **wide pan-Asian presence**, lends itself well to soft-power diplomacy.

- **The beginning:**
  - In 1952, under the prime ministership of Jawaharlal Nehru, India hosted the **International Buddhist Conference** in **Sanchi** which was attended by over 3,000 Buddhist nuns, monks, and historians.
  - At that time, this was **one of the largest gatherings of Buddhist preachers** and followers in the world.

- **The current scenario:**
  - **Diplomacy:**
    - In speeches made on **official international visits** such as to Sri Lanka and China, among others, India's Prime Minister has made a **conscious effort to emphasise shared Buddhist heritage**.
    - Additionally, on trips to foreign countries, the prime minister reserves one day for **visits to Buddhist temples** wherever possible.
  - **Tourism:**
    - India is currently **home to seven of the eight most significant Buddhist sites in the world**.
    - the **Ministry of Tourism** is promoting a **number of tourist circuits** that transgress national borders.
      - The holy places of Buddhism, where Lord Buddha was born and He taught, preached, and attained 'Enlightenment' and 'Nirvana', are termed as Buddhist Circuit.
  - **Organization of international conferences:**
    - International conferences have been organised and councils convened that facilitated interaction between members across sectarian and national boundaries.
    - **'Buddhism in the 21st Century' conference** that took place at **Rajgir** in 2017.
    - In October 2016, the **'5th International Buddhist Conclave'** was organised in **Varanasi** by the Ministry of Tourism
    - In **2015**, the **'Hindu-Buddhist Initiative on Conflict Avoidance'** was organised by the Vivekananda International Foundation and the Tokyo Foundation in **Bodh Gay**a, and inaugurated by Prime Minister himself.
  - **Nalanda University:**
    - The most important project in the domain of academia to have been undertaken is that of Nalanda University.
    - The launch of the university was a **pan-Asian initiative** that was **funded by numerous countries.**

- **Challenges:**
  - As in most other areas of political significance, India has found **competition from China** in the realm of Buddhist diplomacy.
  - The most prominent manifestation of India and China's rivalry in the sphere of Buddhist diplomacy relates to the **issue of the Dalai Lama**.
    - The **presence of the Dalai Lama and the Tibetan government-in-exile in Dharamshala in North India** has been a source of contention between India & China.

India's Diplomacy through other religions

- Examples of religious associations being used to augment foreign policy are not restricted to Buddhism.
- **Judaism:**
  - Around the time of Prime Minister Narendra Modi's historic visit to Israel in July 2017, observers made constant references to India's history with Judaism and its reputation for being a safe haven for Jews at a time of their prosecution in their native lands.
- **Islam:**
  - With respect to Islam, India has sought membership to the Organisation of Islamic Cooperation (OIC) on the grounds that it has the second-largest Muslim population in the world.

Suggestions & way ahead
- What **India has in its favour** at the moment is an **abundance of resources** by way of pilgrimage sites, the **presence of the Dalai Lama**, and **international goodwill**, as well as the **right intentions**.
- **Explore the unexplored Buddhist schools of thought:**
  o In terms of initiatives on the international level, the government must also ensure that it does not direct its efforts solely at **Tibetan Buddhism**, and make directed attempts at promoting connections with other Buddhist schools of thought such as **Nagarjuna Buddhism**, which largely remains unexplored in academic study.
- **Effective implementation of the Nalanda University project:**
  o The effective revitalisation of the Nalanda University project and encouragement of Buddhist studies in well-established universities across the country must take place.
- **Buddhist Circuit Project:**
  o In addition to the **advertisement**, proper **management of tourist sites** is a must for the effective valuation of the Buddhist Circuit Project.

GLOBAL BUDDHIST SUMMIT

Context: PM inaugurated the First Global Buddhist Summit hosted by the Ministry of Culture in collaboration with the International Buddhist Confederation.

About the Summit
- **Theme:** "Responses to Contemporary Challenges: Philosophy to Praxis".
- **Aim:** The Summit is an effort towards engaging the global **Buddhist Dhamma** leadership and scholars on matters of Buddhist and universal concerns, and to come up with policy inputs to address them collectively.
- **Highlights:**
  o The Summit witnessed the participation of **eminent scholars, Sangha leaders and Dharma practitioners** from all over the world.
  o PM also offered **monk robes (Chivar Dana)** to nineteen eminent monks.
  o **The discussions were held under four themes:**
    ▪ Buddha Dhamma and Peace;
    ▪ Buddha Dhamma: Environmental Crisis, Health and Sustainability;
    ▪ Preservation of Nalanda Buddhist Tradition;
    ▪ Buddha Dhamma Pilgrimage, Living Heritage and Buddha Relics: a resilient foundation to India's centuries-old cultural links to countries in South, South-East and East Asia.
  o The Prime Minister gave the example of Mission LiFE, an initiative by India which he said was influenced by the inspirations of Buddha.
  o On the occasion, an exhibition, the **Panch Pradarshanwas** was organised depicting the rich cultural legacy of Buddha manifesting in the heritage of Vadnagar city, Gujarat, travel accounts of Buddhist pilgrim Xuanzang, work of Buddhist religious leader and master Atisa Dipankara Srijana, and Digital Restoration of Ajanta Paintings.

Buddhism
- Siddhartha, also known as Gautama was the founder of Buddhism
  o Born: 563 BC in Lumbini (modern-day Nepal).
- He belonged to a small gana known as the Sakya gana, and was a kshatriya.
- He left his worldly possessions and princedom in search of knowledge. He wandered for several years, meeting and holding discussions with other thinkers.
- He attained enlightenment under the peepal tree in Bodh Gaya in Bihar and gave his first sermon at Sarnath near Varanasi which is known as Dharma-Chakra-Pravartana (turning of the wheel of law).
- He spent the rest of his life travelling on foot, going from place to place, teaching people, till he passed away at Kusinara.

Coverage

- Buddhism also spread to western and southern India, where dozens of caves were hollowed out of hills for monks to live in
- Buddhism also spread south eastwards, to Sri Lanka, Myanmar, Thailand, and other parts of Southeast Asia including Indonesia.

Teachings

- The Buddha taught that life is full of suffering and unhappiness .
  - o   This is caused because we have cravings and desires (which often cannot be fulfilled).
- He also taught people to be kind, and to respect the lives of others, including animals.
- He believed that the results of our actions (called karma), whether good or bad, affect us both in this life and the next.
- The Buddha taught in the language of the ordinary people, Prakrit, so that everybody could understand his message .

Its Relevance for Peace in World

- The concept of peace is central to Buddhism. Therefore, the Buddha is called the **"Santiraja" 'king of peace.**
- Leading a Buddhist way of life, is to maintain harmonious, untroubled good life, which consists of **"samacariya",** which literally means, a harmonious life or a peaceful way of living with one's fellow beings.
- The Buddha, with great compassion for the world, required his followers to practice the four boundless states (appamanna) **of loving kindness (metta), of compassion (karuna), of sympathetic joy (mudita), and of equanimity (upekkha).**
- This **practice of 'metta' or universal love,** begins by suffusing ones own mind with **universal love (metta)** and then pervading it to one's family, then to the neighbors, then to the village, country and the four corners of the Universe.

India's soft power diplomacy through Buddhism

- Buddhism's potential utility in foreign policy is derived to a large extent from the manner in which the faith was revived in the aftermath of the Second World War.
- The revival of the faith had a decidedly internationalist outlook to it, and focused on transgressing extant sectarian and geographical boundaries.
- The Buddhist faith, due to its emphasis on peaceful co-existence and its wide pan-Asian presence, lends itself well to soft-power diplomacy.
- In speeches made on official international visits such as to Sri Lanka and China, among others, India's Prime Minister has made a conscious effort to emphasise shared Buddhist heritage.

POPULATION AND ASSOCIATED DEMOGRAPHIC ISSUES

MAKE IN INDIA. INDIANS NEED IT

Context: The UN has projected that India would overtake China as the most populous country during April. This has led to debate over the benefits of high demographic dividend.

How can India utilize its demographic dividend?
- India's fertility rate has declined to replacement level last year. It has a median age of 28 years, significantly lower than 38 in the United States and 39 in China.
- Hence, **India can have the largest workforce in the world for at least the next 25 years.** However, India can only materialize if it **is able to generate jobs for the millions of youths.**
- According to **the McKinsey Global Institute 2020 report**, India needs to create at least 90 million new non-farm jobs to accommodate fresh entrants into the labor force by 2030.

What is the present situation of unemployment in India?
- **According to the Centre for Monitoring the Indian Economy**, the unemployment rate in March was 7.8%.
- This is an underestimate **because of the huge 'disguised unemployment'**. People who are involved in agriculture and other informal sectors on low wages are also counted as fully employed.
- Further, **the female labour force participation rate in India is not only low compared to other South Asian economies but is declining.**
- Moreover, it has become common in India for post graduates to apply for low-level government jobs. This highlights the quality of education and the problem of employment in India.

How can jobs be created and what are the challenges?
- There is a misconception that the software industry as a service provider has been a big job creator. In reality, **the large majority of jobs created in the services sector have been the low wage, low productivity type in the informal sector.**
- Further, there are views that India should focus on the services sector because the demand for services will grow as aging populations in rich countries will consume more services than goods.
- However**, along with skilling its labour force, India needs to focus on the growth of its manufacturing industry.** It has the potential to meet the job challenge and create millions of jobs for youths.
- In this regard, **the government's 'Make in India' campaign is the hope and expectation that India can replicate the China model of export to the rich world.**
- However, the development of robotics and machine learning are taking away jobs in the manufacturing sector and India is also looking for friend-shoring and reshoring of production.

What lies ahead?
- India imports goods worth over $100 billion annually from China. If even half of this can be made at home by productivity improvement, it will mean millions of jobs.
- Therefore, India should look forward to expand its manufacturing sector to reap the benefits of demographic dividend.

STATE OF WORLD POPULATION REPORT, 2023

Context: The **State of World Population Report, 2023** by the **UN Population Fund (UNFPA)** was recently released.

About the Report
- The State of World Population report is **UNFPA's annual flagship publication**.
- It has been published yearly **since 1978**.

- It shines a light on emerging issues in the field of sexual and reproductive health and rights, bringing them into the mainstream and exploring the challenges and opportunities they present for international development.

Report highlights
- **Population data:**
  - **India Overtaking China:**
    - India is set to overtake China to become the world's most populous country by the middle of 2023, according to data released by the United Nations.
    - India's population is pegged to reach **142.86 crore** against **China's 142.57 crore**.
      - This shows India will have **29 lakh more people than China**.

DEMOGRAPHIC INDICATORS

	Population	15-64 years	65+	TFR	Life expectancy
India	1,428.6 mn	68%	7%	2.0	72.5 yrs
China	1,425.7 mn	69%	14%	1.2	79 yrs
World	8,045 mn	65%	10%	2.3	73.5 yrs

UNFPA's State of World Population Report 2023

  - **Globally:**
    - The **world's population hit the 800-crore mark** in November 2022.
    - Just eight countries will account for half the projected growth in global population by 2050-
      - The Democratic Republic of Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and the United Republic of Tanzania
    - Two-thirds of people now live in a country where lifetime fertility corresponds with zero growth.
    - The **United States is a distant third**, with an estimated population of 34 crore.
- **Slowing of population growth:**
  - The report says that contrary to the alarm bells about exploding numbers, population trends everywhere point to slower growth and ageing societies.

Addressing changing demographies
- **Caution against family planning:**
  - The report called for a radical rethink on how countries address changing demographics and cautioned against use of family planning as a tool for achieving fertility targets.
  - It warned that global experience showed that family planning targets can lead to gender-based discrimination and harmful practices such as prenatal sex determination leading to sex-selective abortion.
- **Policy framing:**
  - The report strongly recommended that governments introduce policies with gender equality and rights at their heart, such as
    - Parental leave programmes,
    - Child tax credits,
    - Policies that promote gender equality in the workplace, and
    - Universal access to sexual and reproductive health and rights.
- **For India:**
  - **Opportunity:**
    - With close to 50% of its population **below the age of 25**, **India has a time-bound opportunity** to benefit from the demographic dividend, and that it must convert this into "economic benefits through

additional investments in health, education, and quality jobs for young people — including targeted investments in women and girls."

- o **India's population anxieties:**
  - ▪ There have been increasing calls for **imposing a two-child norm in India** by various political leaders, and some States such as Assam have issued an order in 2021 to **bar those with more than two children from government jobs**, the UN agency said its findings for India too had suggested that "population anxieties have seeped into large portions of the general public".
- o **Cautionary:**
  - ▪ Imposition of such targets can lead to imbalanced sex ratios, preferential health and nutrition for male children, denial of the paternity of female children, violence against women for giving birth to girl children, and coercion of women to have fewer or greater numbers of children.

Challenges for India

- • **Delayed Census**
  - o An authoritative assessment of India's current population has been hampered by an intriguing delay in carrying out the Census 2021 exercise & the government is yet to reveal its plans for Census 2021.
  - o The Census exercise produces basic input data for all sorts of indicators used for planning and policy implementation.
  - o In the absence of reliable indicators, based on solid numbers from the Census, the quality of these decisions could suffer.
- • **Focus on key areas:**
  - o A population of more than 1.4 billion will require the unflinching focus of policymakers on areas fundamental to human well-being — **education, nutrition, healthcare, housing, and employment**.
- • **Productivity and economy:**
  - o The youth will have to be equipped with **skills** that are indispensable to the knowledge **economy**.
  - o People's productivity will have to increase for any given per capita income.
  - o Will need policies to increase jobs so that labour force participation rate increases for both men and women.
- • **Climate change:**
  - o The **climate crisis** and other ecological imperatives will mean that the footprints of many activities are kept light.
- • **Democratic challenges:**
  - o Most importantly, the challenges will spur **debate, discussion, even dissension, and require that diverse voices** are heard.
  - o India's **democratic traditions** and the strength of its institutions will be needed to navigate the way forward from here.
- • **State-wise focus:**
  - o Much more needs to be done on this, of course, in large parts of the country, including in Uttar Pradesh, Bihar and Madhya Pradesh, whose TFR is higher than the national average and where gender discrimination has deep social roots.
- • **Choice to women:**
  - o To actually realise Population Control, educating women and giving them freedom to make choice and implement it, should be first to have attention by the Government.
  - o State must ensure contraceptives are accessible, affordable and available in a range of forms acceptable to those using them.

Way ahead

- • **India has a window of opportunity** well into the 2040s for reaping its "demographic dividend", like China did from the late 1980s until up to 2015.
- • However, this is entirely contingent upon the creation of **meaningful employment opportunities for a young population** — in the absence of which, the demographic dividend can well turn into a demographic nightmare.

MODERN INDIAN HISTORY, PERSONALITIES, ISSUES

THE GOAL OF BUILDING A POPULAR DALIT AGENDA

Context: M**odern liberal ideas**, **capitalist development** and **democratic churning** have made it possible that **Dalits** are now a well-recognised social and political force — a transformation made possible under the leadership of **R. Babasaheb Ambedkar**

- He is known as the **Father of the Indian Constitution** and was independent India's **first law minister.**

Dr. B R Ambedkar:

- He was born on **14 April 1891** in Mhow, Central Province (now Madhya Pradesh).
- He founded the **Bahishkrit Hitkarini Sabha (1923).**
- **Mahad Satyagraha:** He led the Mahad Satyagraha in March **1927** to challenge the regressive customs of the Hindus.
- **Round table conferences:** He participated in all three round-table conferences.

Major contributions:

- **Indian constitution:** Main Architect of Indian Constitution
- **Constitutional morality:** Effective coordination between conflicting interests of different people and administrative cooperation.
- **Social Reforms:** devoted his life to remove untouchability.
- **'Bahishkrit Hitkarini Sabha** (Outcastes Welfare Association)-1923
- **The temple entry movement** launched by Dr. Ambedkar in **1930** at Kalaram temple, Nasik.
- **Attended** all the **three Round Table Conferences (1930-32).**
- **In 1936:** founded the **Independent Labour Party.**
- **In 1990: Dr. B. R. Ambedkar,** was bestowed with **Bharat Ratna**.

Few important works of Dr. Ambedkar:

- Mook Nayak (weekly) **1920**
- Janta (weekly) **1930**
- The Annihilation of Caste **1936**
- The Untouchables **1948**
- Buddha Or Karl Marx **1956**

Current Issues faced by Dalits:

- **The government has been aggressive** in adopting neo-liberal economic policies that often undermine social justice safeguards meant for the emancipation of historically marginalized communities.
- **The ideological agenda** considers independent Dalit assertions as a challenge to the politics of cultural nationalism.
- **The threats and surveillance** against the Dalit socio-political movement have been accentuated, relegating it to a passive powerless location today.

Vision for social justice by Ambedkar:

- **Constitutional principles** allowed the untouchable castes in particular to raise their grievances effectively.
  - o **It prevented social elite leadership** for their exclusive exploitation of state power and social privileges.
- **The policy of job reservation or Dalit representation in legislative bodies:** It would induce the substantive democratization of political power and introduce Dalits as influential shareholders in modern institutions.
- **Ambedkar visualized that the non-political public spaces** (**educational institutions, media, culture and art industries)**: They should be democratized, allowing Dalits to play an effective role as entitled citizens.
- **The state should take effective measures** to cultivate a sensitive public culture and punish offenders who practiced caste or community-based discrimination.

- **Ambedkar believed that modernity should not be adored** only for elevating the untouchables as a special category that would require the perpetual assistance of the state.
- **Dalits must escape the burdened social identity** (by converting to Buddhism) and reduce their dependence on the state.

Dalit assertion:
- **Influenced** by Ambedkar's socio-political directives
- **Dalit intervention in the public sphere** has been to demand:
    o social dignity
    o independent cultural rights
    o political power.
- **The arrival of the Bahujan Samaj Party (BSP) in the 1980s** was possible due to the committed support of the Dalit middle class.
- **Social and cultural front:** Dalits introduced themselves as an assertive and independent alternative.
    o **Ambedkar's life-size statues** in many cities are a visible marker of the dignified presence of Dalits in public spaces.
- **Dalits organize impressive public events** (celebration of Constitution Day), or the birth anniversaries of revolutionary icons or the organization of massive gatherings at historic sites to showcase their elevated sense of equality and dignity in public life.
- **Dalits have introduced themselves** as the proponent of alternative cultural values and have democratized the public sphere.
- **Marginalization**: It is in electoral battles that Dalits have witnessed their growing marginalization.
    o **With the periodic decline of the BSP i**n Uttar Pradesh as a commendable mainstream party
        ▪ **The possibility that the national regime** can be governed under Dalit-Bahujan leadership has been derailed.

Ambedkar's Work:
- Association with the Simon Commission
- Representing the cause of the Depressed Classes in all three Round Table conferences,
- As labor member in the Viceroy's Council (1942-46)
- As chairman of the Constitution's drafting committee

Government's pro-poor stand:
- **The governance system** has been conditioned to adhere to Ambedkar's vision.
- Development of the Panch Tirtha
- Dr Ambedkar International Centre
- Implementation of pro-poor and people-centric policy measures to facilitate the ease of life of citizens.
- Stand-Up India
- Start-Up India
- PM Awas Scheme
- BHIM
- Mudra
- JAM trinity

Ambedkar's vision and relevance in present time:("politics in India is nothing but theology in action"(1928):
- **The recent observation of the Supreme Court**: The state is incapable of dealing with hate speeches and its sharp observation that the remedy to such speeches is nothing but the separation of politics from religion.
    o It vindicates Ambedkar
- **Ambedkar's warning in the Constituent Assembly in 1946** that leaders giving alarming statements against minorities must be kept in check.

Ambedkar's role in uplifting Dalit women;

- **Baby Kamble in Jine Amuche (Our Lives):** The message of Buddha filled with compassion came through Baba.
- **Ambedkar told the women:**
  o   Men and women are partners in a marriage
  o   Treat your husband with equality
  o   Send your children to school
  o   Wear clean clothes

Important contribution as policy maker:
- **Indian constitution:** Main Architect of Indian Constitution
- **Hindu Code Bill:**
  o   It revolutionized the Hindu domestic sphere.
  o   **Offering women the right to marry** by choice and across caste boundaries
  o   Given them the right to divorce
  o   Right to inherit property.

Way Forward
- **The affirmative action policies of the state** have helped a significant Dalit section to emerge as a crucial segment of the mainstream middle class, allowing them to enjoy the profits of urban life.
- **The post-Ambedkar Dalit activism** has surely enlarged its presence and democratized the social and political sphere substantially.
  o   **However, the conventional class** and caste relationships have not reformed much.
- **In modern institutions s**uch as universities, the judiciary, the media and cultural industries, there is a marginalization of Dalit participation.
- **The dignified public presence of Dalits may be visible,** but there are substantive issues about growing political marginalization
- **A rethinking is needed** to build a popular Dalit agenda that mobilizes the vulnerable and marginalized communities for a greater emancipatory project.
- **The dynamism to accept Ambedkar** "as he is" on the one hand, and emulating his values through actions on the other, is a fitting tribute to his contribution.

CivilsTap HImachal

GENERAL STUDIES 2.
POLITY AND CONSTITUTION

PREVENTIVE DETENTION

Context: The Supreme Court observed in a judgment that preventive detention laws in India are a colonial legacy and confer arbitrary power to the state.

Supreme Court's recent observation
- The judgment described preventive detention laws as "**extremely powerful**".
  - They have the ability to provide the state with **unfettered discretion.**

Preventive detention
- It means the detention of a person without trial. It refers to the detention at the will of the executive.
- In normal day-to-day life, we come **across punitive detention which seeks to** punish a person for what he or she has done after a trial in a court of law for the offence committed by him or her.
- On the other hand, the objective of **preventive detention** is to prevent a person from doing something, and the detention in this case takes place on the apprehension that he or she is going to do something prejudicial to the security of the State, public order, maintenance of supplies and services essential to the community, defence, foreign affairs or security of India.
- The legislative power to enact the law of preventive detention is divided by the Constitution between the Union and the State.

Issues
- Preventive detention looks like an effective tool in the hands of the government to deal with anti-social elements or subversives.
- But this provision has often been misused by the government.
- Both Central and state governments have abused such legislation, with even the judiciary being unable to effectively limit such abuses as the detention of individuals without cause, and the failure to follow even the minimal protections offered by **Article 22 of the Constitution**.

Safeguards
- **Article 22(3) of the Constitution** provides for preventive detention laws, Article **22(4)** contain the following safeguards against abuse of this power:
  - No law providing for preventive detention shall authorise the detention of a person for a longer period than three months. Detention beyond this 3-month period requires clearance from an Advisory Board.
- **The 44th Amendment Act of 1978** has reduced the period of detention without obtaining the opinion of an advisory board from three to two months. However, this provision has not yet been brought into force, hence, the original period of three months still continues.
- Presently, the following Central legislations which are in force provide for preventive detention:
  - The National Security Act, of 1980.
  - Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 [COFFPOSA].
  - Prevention of Black Marketing and Maintenance of Supplies of Essential Commodities Act, 1980.
  - Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988.

Suggestions
- There must be greater safeguards so that it may not be misused against people.
- The court must analyse cases arising from such laws with extreme caution and excruciating detail, to ensure that there are checks and balances on the power of the government.
- **Judges should ensure** that the government has followed every procedure of law while flexing preventive detention powers against individuals.
- Every lapse in procedure must give rise to a benefit to the case of the detenue.

HIMACHAL PRADESH SUKHASHRAYA ACT, 2023

Context: Himachal Pradesh passed Sukhashraya (Care, Protection, and Self-Reliance of Children of the State) Act, 2023 **to ensure the <u>welfare of orphans</u> and persons** with special needs.

What are the Key Details of Sukhashraya Act, 2023?

- **About:**
  - o The Act defines **orphans as those without biological parents or whose parents are incapacitated** and includes children in need of care and protection such as those without homes or those at risk of forced marriage, crime, or drug abuse.
  - o The Act offers **financial and institutional benefits to the beneficiaries between the age of 18-27 years,** along with vocational training, skill development, and coaching to help them become active members of society.
  - o The Act is a step towards ensuring the protection and care of the most vulnerable section of society.
- **Benefits under the Act:**
  - o A **Mukhya Mantri Sukhashraya Sahayata Kosh fund** of Rs 101 crore has been formed, and **a child welfare committee will be established in each district** to oversee the scheme.
  - o Orphans and persons with special needs will **become 'children of the state'.**
  - o **Financial benefits** include **Rs 5,000 in summer** and **winter, Rs 500** for major **festivals,** and **Rs 4,000 monthly allowance** for **daily expenses** in college.
  - o **Institutional benefits** include sponsored **train tickets** and **accommodation for 10 days** within the state, and **hostel fees** for beneficiaries in **ITI and government colleges.**
  - o The government will give **a fixed amount of money at the time of marriage and three biswas of land to build their own homes.**
  - o **Orphans** who wish to establish their own **start-ups will be given a token corpus** to incentivize entrepreneurial pursuits.
    - **Ph.D. students will also receive the monthly allowance.**
- **Other Safeguards Mentioned in the Act:**
  - o Ex-residents of child care institutions will be supported by the state government till the age of 21 years.
  - o **Recurring deposit accounts will be opened for each child and orphan**, and the state government shall make contributions to these accounts as per prevalent rates.
  - o The **child welfare committee will carry out surveys to identify orphans** and will look into the demands of children in need.

Note: As per the **Juvenile Justice (Care and Protection of Children) Act, 2015**, orphanand destitute children in the country are "Children in need of care and protection (CNCP). The primary responsibility of execution of the Act lies with the States/UTs.

What is the Similar Initiative of Union Government?

- **Child Protection Services (CPS) Scheme or "Mission Vatsalya":**
  - o Launched by Ministry of Women and Child Development.
  - o Under the provisions of the CPS, Central Government is **providing financial assistance to the States/UTs for undertaking a situational analysis of children** in difficult circumstances, inter-alia.
  - o Under the scheme institutional care to Children in need of care and protection and Children in Conflict with Law is provided in Child Care Institutions (CCIs).
  - o The scheme also **provides for non-institutional care** wherein support is extended for adoption, foster care and sponsorship.

RECOGNITION OF NATIONAL PARTY STATUS IN INDIA

Context: The Election Commission of India recently made significant changes in the political landscape by recognizing the Aam Aadmi Party (AAP) as a national party and revoking the national party status of

Trinamool Congress (TMC), Nationalist Congress Party (NCP), and the Communist Party of India (CPI). TMC is now considering legal options to challenge the EC's decision. The decision impacts each party's visibility, influence, and resources, reflecting the evolving dynamics of India's political scenario.

What are the most recent modifications to political party status made by the election commission?

- The Election Commission recently conducted a periodic review, upgrading the Aam Aadmi Party (AAP) to a national party. This decision was based on AAP's strong performance in Delhi, Punjab, Gujarat, and Goa.
- In contrast, the Nationalist Congress Party (NCP) and Trinamool Congress (TMC) lost their national party status. However, they were recognized as state parties in Nagaland and Meghalaya, respectively, due to their performance in recent assembly elections.
- Additionally, parties like Rashtriya Lok Dal in Uttar Pradesh and Revolutionary Socialist Party in West Bengal had their state party status revoked. Furthermore, the Lok Janshakti Party (Ram Vilas) was recognized as a state party in Nagaland, the Tipra Motha Party as a state party in Tripura, and the Voice of the People Party as a state party in Meghalaya.

About the history of national parties in India

- **Early History of National Parties in India**: In 1951-52, during the first general elections, there were 14 national parties, including the Indian National Congress, the Communist Party of India, and the All India Bharatiya Jan Sangh.
- **After the first general elections**, only four parties retained their national status: the Congress, the Praja Socialist Party, the Communist Party of India, and the Jana Sangh.
- Over the years, many parties have merged or ceased to exist, such as the Praja Socialist Party, which later merged with other parties to form the Janata Party.
- **The Bharatiya Janata Party (BJP)** was founded in 1980 and has become one of the major national parties in India. **The Bahujan Samaj Party (BSP)**, which focuses on the upliftment of marginalized communities, emerged as a national party in 1984. **The Communist Party of India (Marxist)** became a national party in 1964, advocating for socialism, secularism, and democracy.
- **The Aam Aadmi Party (AAP),** founded in 2012, was recognized as a national party in 2023 due to its electoral performance in several states.
- Currently, there **are six national parties in India**: the BJP, the Congress, the CPI (Marxist), the AAP, the BSP, and the National People's Party (NPP).

How does the EC recognize parties as either national or state parties?

- The Election Commission (EC) recognizes political parties as either national or state parties based on criteria laid down in the Representation of People Act 1951 and the Election Symbols (Reservation and Allotment) Order, 1968.
- Parties that have been newly registered, or have not contested an election since being registered, or have not secured the requisite votes/seats in a state or general election are categorised as registered unrecognised political parties (RUPPs). They don't enjoy all the benefits extended to recognized parties. The recognised party status is reviewed periodically by the EC.

When can a political party lose its national Party tag in India?

- A political party in India can lose its national party tag if it fails to meet the criteria specified under the Representation of People Act 1951 and the Election Symbols (Reservation and Allotment) Order 1968. A party must fulfil at least one of the following three conditions to maintain its national party status:
- **Lok Sabha Seats:** The party must win at least 2% of seats in the Lok Sabha from a minimum of three different states.
- Example: If a party wins less than 2% of Lok Sabha seats or fails to win seats in at least three different states, it may lose its national party status.
- **General Election Performance:** The party must secure at least 6% of votes in four states and win a minimum of four Lok Sabha seats in a general election.

- Example: If a party's vote share falls below 6% in four states or it wins less than four Lok Sabha seats, it risks losing its national party tag.
- **State Party Recognition:** The party must be recognized as a state or regional party in four or more states.
- Example: If a party loses its state party recognition in multiple states, reducing its presence to less than four states, it may lose its national party status. In recent events, the TMC, NCP, and CPI have lost their national party status because they failed to meet these criteria.

What is the significance of obtaining National Party status?
- **Reserved Symbol:** National parties are granted an exclusively reserved symbol for their candidates to use across the country, making it easier for voters to identify their preferred party on the ballot.
- **National Presence:** National party status allows a party to fight elections throughout India, fielding candidates in any state and thereby expanding its base, influence and nationwide presence.
- **Single Proposer:** Candidates from national parties need only one proposer when filing nomination papers, simplifying the nomination process and providing easier access to the voter list.
- **Star Campaigners:** National parties can have up to 40-star campaigners, whose expenditures are not included in the party candidate's election expenditure, allowing for more prominent figures to campaign without burdening the candidate's budget.
- **Government Land Allocation:** National parties receive government land allocation in New Delhi for their national president and office space at subsidized rates.
- **Free Airtime on Public Broadcasters:** National parties benefit from free airtime on public broadcasters like Doordarshan and All India Radio during general elections, helping them reach a wider audience and convey their message.

SETTLEMENT OF BORDER DISPUTE BETWEEN ASSAM AND ARUNACHAL PRADESH

Context: Recently, the **border dispute between Assam and Arunachal Pradesh**, which was going on since 1972 has **been resolved permanently.**
- Assam and Arunachal Pradesh share an 804-km long boundary.

What are the Major Highlights of the Agreement?
- The agreement is expected to settle the dispute relating to **123 villages covering over 700 kilometres of the border between the two states,** taking into account **historical perspective, demographic profile, administrative convenience, proximity to the border,** and aspirations of the residents.
  o This will be final agreement **neither of states will make any new claim in future** relating to any area or village
- A detailed survey will be conducted by the **Survey of India** in the presence of representatives from both state governments to **determine the boundaries after the agreement.**

What are the Other Border Disputes Between States in India?
- **Karnataka-Maharashtra:**
  o The border dispute over **Belagavi, Karwar and Nipani in North Karnataka** is long-standing. When state boundaries were redrawn on linguistic lines as per the **States Reorganisation Act of 1956,** Belagavi became part of the erstwhile Mysore state.
    - The **Act was based on the findings of the Justice Fazal Ali Commission** which was appointed in 1953 and submitted its report two years later.
    - **Maharashtra claims that parts of Belagavi,** where Marathi is the dominant language, should remain in Maharashtra.
  o In October 1966, the **Centre set up the Mahajan Commission** to resolve the border dispute in Maharashtra, Karnataka and Kerala.
    - The Commission recommended that **Belgaum and 247 villages remain with Karnataka.** Maharashtra rejected the report, and in 2004, moved the Supreme Court.
- **Assam-Mizoram:**

- o The border dispute between **Assam and Mizoram is a legacy of two British-era notifications of 1875 and 1933,** when Mizoram was called <u>Lushai Hills,</u> **a district in Assam.**
  - The **1875 notification differentiated Lushai Hills from the plains of Cachar** and the other demarcated boundary between Lushai Hills and Manipur.
- o While **Mizoram became a state only in 1987** following years of insurgency, it **still insists on the boundary decided in 1875.**
  - Assam, on the other hand, wants the **boundary demarcated in 1986 (based on the 1933 notification).**
- **Haryana-Himachal Pradesh:**
  - o The **Parwanoo region** has had the spotlight over the border dispute between the two states.
  - o It is next to the **Panchkula district of Haryana** and the state has claimed parts of the land in **Himachal Pradesh** as its own.
- **Himachal Pradesh-Ladakh:**
  - o **Himachal and Ladakh lay claim to Sarchu**, an area on the route between **Leh and Manali.**
  - o It is considered a major point where travellers stop when travelling between the two cities.
    - Sarchu is in between **Himachal's Lahul and Spiti district and Leh district in Ladakh.**
- **Meghalaya-Assam:**
  - o The problem between **Assam and Meghalaya started when the latter challenged the <u>North-Eastern Areas (Reorganisation) Act, 1971</u>** , which gave Blocks I and II of the **Mikir Hills or present-day Karbi Anglong district to Assam.**
  - o Meghalaya contends that both these blocks formed part of the erstwhile **United <u>Khasi and Jaintia Hills</u> district when it was notified in 1835.**
- **Assam-Nagaland:**
  - o It began **soon after Nagaland became a state in 1963.**
  - o The **Nagaland State Act of 1962** had defined the state's borders according to a 1925 notification when **Naga Hills and Tuensang Area (NHTA)** were integrated into a new administrative unit.
  - o Nagaland, however, does not accept the boundary delineation and has **demanded that the new state should also have all Naga-dominated areas** in North Cachar and Nagaon districts. S
  - o Tensions between **Assam and Nagaland** flared up soon after the latter was formed, resulting in the first border clashes in 1965.
    - This was followed by major clashes between the two states along the border in **1968, 1979, 1985, 2007 and 2014.**

What are the Other Methods of Resolution of Border Disputes in India?
- **Through Exclusive Original Jurisdiction of SC:**
  - o The Supreme Court has exclusive original jurisdiction as per **Article 131 of the Constitution of India,** which means no other court can hear these cases:
    - It can hear disputes between the Government of India and one or more States.
    - It can hear disputes between the Government of India and any State(s) on one side, and one or more other State(s) on the other.
    - It can hear disputes between two or more States if the dispute involves a question of law or fact on which the existence or extent of a legal right depends.
  - o **Limitations on Jurisdiction:** The Supreme Court's jurisdiction does not extend to **disputes arising out of treaties, agreements, covenants, engagements,** or similar instruments entered into **before the commencement of the Constitution and continuing in operation**, or if the instrument provides that the jurisdiction shall not extend to such disputes.
- **Through Inter-State Council:**
  - o **Article 263** of the Constitution empowers the President to establish an **Inter-state Council** if it appears that the **public interests would be served by such a Council.**
  - o It serves as a **forum for discussion and resolution of disputes between states**, as well as for investigating and discussing subjects of common interest among states or between the Union and one or more states.

- o   In 1990, **the Inter-state Council was established through a Presidential Order.**
  - ▪   In 2021, the **Council was reconstituted.**

50 YEARS OF KESAVANANDA BHARATI CASE AND ITS LEGACY

Context: The seminal ruling in Kesavananda Bharati, in which **the Supreme Court laid down the "basic structure" doctrine** on the **limits of Parliament's power** to amend the Constitution, recently completed 50 years.

Who was Kesavananda Bharati?
- Born in 1940, Kesavananda Bharati was the **head to the Edneer Mutt**, a **Hindu monastery in Kasargod, Kerala**
- He challenged the **Constitution (29th Amendment) Act, 1972,** which placed the **Kerala Land Reforms Act, 1963** and its amending Act into the 9th Schedule of the Constitution.
  - o   **The 9th Schedule:**
    - ▪   The 9th Schedule was added to the Constitution by the First Amendment in 1951 along with Article 31-B to provide a "protective umbrella" to land reforms laws in order to prevent them from being challenged in court.
- He argued that this **action violated his** fundamental **right to religion** (Article 25), freedom o**f religious denomination** (Article 26), and **right to property** (Article 31).

Kesavananda Bharati Vs. State of Kerala (1973)
- **The case:**
  - o   It involved a property dispute which was decided by a special bench of the Supreme Court of India consisting of 13 judges which ruled with a 7–6 majority on 24 April, 1973.
- **Judgment:**
  - o   While the court upheld the land ceiling laws that were challenged, **it struck down a portion of the 25th Amendment (1972)** which stated that "if any law is passed to give effect to the Directive Principles" it cannot "be deemed to be void on the ground that it takes away or abridges any of the rights contained in Article 14, 19 or 31".
  - o   The Court propounded what has come to be known as **the "Basic Structure of the Constitution"** which could not be abrogated even by a constitutional amendment".

About the 'Basic structure'
- **About:**
  - o   The phrase 'basic structure' was recognised for the first time in the historic case of Kesavananda Bharati v. State of Kerala in 1973 by the Supreme Court.
- **Meaning:**
  - o   Indian courts define basic structure as **inherent features** that are built on the **basic foundation**, i.e., the dignity and freedom of the individual and of supreme importance which cannot by any form of amendment be destroyed.
  - o   **Any law or amendment that violates these principles** can be **struck down** by the SC on the grounds that they distort the basic structure of the Constitution.
- **Important features/Basic structure of the constitution:**
  - o   Supremacy of the Constitution;
  - o   Republican and Democratic forms of Government.
  - o   Secular character of the Constitution;
  - o   Separation of powers between the Legislature, the executive and the judiciary;
  - o   Federal character of the Constitution.
  - o   Rule of law
  - o   Judicial review
  - o   Parliamentary system
  - o   Rule of equality
  - o   Harmony and balance between the Fundamental Rights and DPSP

- o Free and fair elections
- o Limited power of the parliament to amend the Constitution
- o Power of the Indian Supreme Court under Articles 32, 136, 142 and 147
- o Power of the High Court under Articles 226 and 227

Analysis of Basic structure doctrine

- **About:**
  - o Over the decades, the basic structure doctrine **has been criticised repeatedly** for
    - diluting the principle of separation of powers,
    - undermining the sovereignty of Parliament, and
    - as a vague and subjective form of judicial review.
  - o A scrutiny of the application of the doctrine over the past half-century reveals that although the highest **court has invoked "basic structure" sparingly**, it has **mostly struck down amendments** where **judicial powers have been curtailed**.
- **Application of the doctrine in 50 years:**
  - o Since 1973, the year of the Kesavananda Bharati judgment, the **Constitution has been amended more than 60 times**.
  - o In these five decades, the Supreme Court has tested constitutional amendments against the doctrine of basic structure **in at least 16 cases**.
    - In **nine of these 16 cases**, the Supreme Court has upheld constitutional amendments that had been challenged on grounds of violation of the basic structure doctrine.
    - **Six of these cases relate to** reservations — including the quota for Other Backward Classes (OBC) and Economically Weaker Section (EWS), and reservations in promotions.
- **NJAC:**
  - o The Supreme Court has struck down a **constitutional amendment entirely just once** — The **Constitution (Ninety-ninth Amendment) Act**, 2014.
    - The Act established the National Judicial Appointments Commission (NJAC), the body that would have been responsible for the appointment and transfer of judges, replacing the current Collegium system.
  - o The amendment was struck down by a five-judge Constitution Bench in 2015 on the grounds that it threatened "judicial independence", which the court ruled was a basic feature of the Constitution.
- **Partially struck down:**
  - o In six instances since 1973, including the Kesavananda ruling itself, the Supreme Court has "partially struck down" a constitutional amendment.
    - In all these cases, the provision that was struck down related to the denial of judicial review.
  - o **Just one of these six rulings** involve an amendment that was not made during the Indira Gandhi era — in **Kihoto Hollohan**, which dealt with the Tenth Schedule.
    - **Kihoto Hollohan vs Zachillhu And Others (1992):**
    - The Supreme Court upheld The Constitution (Fifty-second Amendment) Act that introduced the Tenth Schedule or the so-called "anti-defection law" in the Constitution.
    - The only portion of the amendment that was struck down was the one that stated that the decisions of the Speaker relating to disqualification cannot be judicially reviewed.
  - o In 2021, a three-judge Bench of the court struck down a portion of The Constitution **(Ninety-seventh Amendment) Act, 2011**, but **on procedural — not basic structure — grounds**.
    - The amendment changed the legal regime for cooperative societies

Way ahead

- Proponents of the basic structure doctrine **consider it to be a safety valve against majoritarian authoritarianism**.
  - o Without it, it is plausible that **Indira Gandhi's 1975 Emergency** could have had far more deleterious effects on the health of Indian democracy.
- However, **opponents claim** that the doctrine **amounts to judicial overreach** over the legislature – something that itself is undemocratic.

MANDAL COMMISSION

Context: The second phase of the **caste survey** beginning in Bihar and several other political debates have brought Mandal Politics once again in news.

What is Mandal Politics and Mandal Commission?

- **About:**
  - Mandal politics refers to a **political movement that emerged in the 1980s,** advocating for the inclusion of socially and economically disadvantaged communities, particularly the Other Backward Classes (OBCs), in government jobs and educational institutions.
  - The movement was **named after the Mandal Commission.**
- **Mandal Commission:**
  - The Mandal Commission or **the second Socially and Educationally Backward Classes Commission,** was established in India in 1979 with a mandate to "identify the socially or educationally backward classes" of India.
    - It was **headed by B. P. Mandal** and submitted its report in 1980 and was **implemented in 1990.**
  - The Commission reported that 52% of the country's population was comprised of OBCs. Initially, the commission argued that the percentage of reservations in government service should match this percentage.
    - However, this would have gone against the Supreme Court ruling in **M.R. Balaji vs State of Mysore case (1963) which had laid down a limit of 50% on.** There was already a 22.5% reservation for SCs and STs.
  - Therefore, the figure of reservation for OBCs was capped at 27% which when added to keep the reservation below the 50% mark.
    - The Commission also identified backward classes among non-Hindus.
- **Recommendations of Mandal Commission:**
  - OBCs must be **provided a reservation of 27% in public sector** and government jobs.
  - They should be **provided with the same 27% reservation in promotions** at all levels of public services.
  - The reserved quota, if unfilled, should **be carried forward for a period of 3 years.**
  - OBCs should be provided age relaxation similar to SCs and STs.
  - Reservations to be made in PSUs, banks, private sector undertakings receiving government grants, colleges, and universities.
  - The government to make the necessary legal provisions to implement these recommendations.
- **Impact of Mandal Commission:**
  - Implementation of Mandal Commission by the government resulted in a widespread protest where students committed self-immolation in protest when the government showed its intent to implement it.
  - The implementation was finally challenged in **Indra Sawhney vs Union of India case.**

What are the Merits of Mandal Commission?

- **Increased Representation:** The Mandal Commission helped in increasing the representation of SEBCs in government jobs and educational institutions.
  - According to Ministry of Social Justice and Empowerment, OBC representation against total appointment through direct recruitment was consistently above 27% during 2014-2021.
- **Access to Education**: The reservation policy enabled many OBC students to gain access to higher education. This resulted in a significant increase in the number of OBC students in universities and colleges.
  - According to the Ministry of Social Justice during the period of 2014-2021, the enrolment of OBCs in Higher Educational Institutions has been consistently increasing since 2014-15.
- **Social Justice:** The Mandal Commission's recommendations were based on the principles of social justice and aimed at providing equal opportunities to all sections of society, especially those who have been historically disadvantaged.

What are the Demerits of Mandal Commission?

- **Limited Impact on Upliftment:** The impact has been limited to a very few communities. According to the **Justice Rohini G. Commission**, out of almost 6,000 castes and communities in the OBCs, only 40 such

communities had gotten 50% of reservation benefits for admission in central educational institutions and recruitment to the civil services.

- **Politicisation:** The politicians have often used the **Reservation as their vote bank politics.** During 1980s, the Mandal Commission was highly politicized giving a new form of Politics- Mandal politics.
  - Even today, it is used as a political tool. Recently, a politician while campaigning in Karnataka has demanded to lift 50% limit on SC/ST/OBC reservation.
- **Negative Impact on Merit:** The reservation policy led to a negative impact on merit as **many deserving candidates were left out,** and the **seats were filled by candidates with lesser merit.**

Way Forward
- **Periodic Review of Reservation Policy**: The policy must be reviewed periodically to assess its impact as directed by the Supreme Court in Indira Sawhney vs Union of India case (1992).
- **Improve Early Level of Education:** The government must improve education at earlier levels so that the reservations at higher levels could easily be phased out.
- **Increase Job Opportunities in Private Sector:** The government should thrive to increase job opportunities in private sector to reduce dependence on public sector and reservation for employment

GOVERNOR INACTION OVER BILLS

Context: The recent controversy surrounding the Tamil Nadu **Governor's** actions regarding the passage of Bills in the **State Assembly** has **led to a resolution being passed** urging the **President** of India to intervene. **Several Bills passed by the Assembly** have been **pending as the Governor has not made** any decision.

The Assembly **passed a resolution urging the President** of India to **fix a timeline for assent** to be given to Bills passed by the Assembly.

This has raised questions over discretionary power of governor with respect to unlimited delay in giving assent to the bills which are duly passed by state legislature.

Can the Governor withhold His Assent to a Bill in Exercise of His Discretionary Powers?
- While a plain reading of **Article 200** suggests that the **Governor can withhold his assent, experts question** whether he can do so only on the advice of the Council of Ministers.
- The **Constitution provides** that the **Governor can exercise** his executive powers only on the advice of the Council of Ministers **under Article 154.**
- The larger question is why a Governor should be allowed to withhold assent when the Bill is passed by the Assembly.
  - The **Supreme Court of India** recently **addressed the issue of Governors sitting on Bills** that they do not agree with, leading to an indefinite delay in State Legislative Assemblies. The Court **referred to the provision of Article 200** of the Constitution, which mandates that Governors should not delay over Bills sent to them for assent after they had been passed by Legislative Assemblies.

What are the Issues with Pending Bills?
- **Delay in Decision-Making:**
  - The Governor's failure to take a decision on the Bills passed by the legislature **leads to a delay in decision-making, which affects the effective functioning** of the state government.
- **Delay in Implementation of Policies and Laws:**
  - When the Governor fails to make a decision on a Bill passed by the assembly, it **delays the implementation of policies** and laws.
  - This delay can have **significant consequences,** especially when the Bill is related to **public welfare**.
- **Undermines the Democratic Process:**
  - The Governor, who is appointed by the Centre, can use his powers **to delay or reject Bills passed by state assemblies** for political reasons, which undermines the **democratic process.**
- **Public Perception:**
  - The public often views pending Bills with the Governor as a **sign of inefficiency or even corruption in the state government**, which can **damage the government's reputation.**
- **Constitutional Ambiguity:**

- There is ambiguity in the Constitution regarding the Governor's power to withhold assent.
- Although the Constitution grants the Governor the power to withhold his assent, it is **unclear whether he can do so only** on the advice of the Council of Ministers.
- **Lack of Accountability:**
  - When the Governor withholds assent, he **does not provide any reason** for his decision.
  - This lack of accountability **undermines the principles of transparency and accountability** in governance.

Way Forward:
- **Timeframe for assent:**
  - The **Supreme Court can consider fixing a reasonable time frame** for Governors to take a decision on a Bill passed by the Assembly, **in the larger interest of federalism** in the country.
  - This **can prevent undue delay** and ensure that governance of the state is carried out in accordance with constitutional provisions.
- **Dialogue between the Centre and States:**
  - There is a **need for a dialogue between the Centre and States** to address this issue and ensure that the constitutional provisions are upheld.
- **Public awareness and activism:**
  - It is **important to raise public awareness** and **activism** on this issue and demand that the constitutional provisions are **followed in a transparent, fair, and timely manner.**
- **Civil society groups, media, and citizen forums** can play a **crucial role** in this regard by highlighting the issue and **putting pressure on the authorities to act** in the public interest.

CRIMINALIZATION OF POLITICS

Context: Citizens have reconciled to a failed criminal justice system and thus not only do they elect MPs and MLAs with criminal records but also applaud extra judicial killings.

Criminalization of Politics
- **Meaning:**
  - It means the participation of criminals in politics. This means that persons with criminal backgrounds contest in the election and get selected as a member of parliament or state legislature
- **Major Reasons:**
  - Criminalization of political parties is a result of the connection between criminals and politicians and vote-bank politics
  - Lack of enforcement of laws and judgments
  - lack of ethics, and values, and loopholes in the function of the election commission.
  - It is also linked to political control of state machinery and corruption
  - The political system is unwilling to change the law or the system.

Issues of Criminalization of Politics
- **Elected members with criminal records:**
  - Nearly 40 percent of members of the current Parliament have criminal cases pending against them.
  - Most of them do not feel vulnerable or threatened as they are aware that it will take years for trials to conclude.
- **Question of safety & security:**
  - The main purpose of governance is to provide safety and security to citizens who elect their representatives for this role.
  - But if the elected members themselves have criminal records, would they be interested in a criminal justice system that is prompt and efficient?
- **Low conviction rate:**
  - As per the National Crime Records Bureau's 2021 report, only 10,416 cases of murder were disposed of during the year with just a 42.4 percent conviction rate.
  - The Law minister has admitted to more than 4.7 crore cases pending in various courts.

- **Situation in police stations:**
  - Politicians play a very powerful role at police stations, compromising both integrity and impartiality of field staff.
  - In due course, ordinary criminals graduate to be dreaded ones and form gangs extorting money, grabbing land, threatening witnesses in criminal cases, etc.

Various Initiatives were taken in this context

- Over the years, there have been some attempts at decriminalizing politics and alarm calls raised with regard to the imperative need for reform.
- **Vohra Committee:**
  - The Vohra Committee set up by the Centre in 1993 sounded a note of warning saying that "some political leaders become the leaders of these gangs/armed senas and, over the years, get themselves elected to local bodies, state assemblies, and the national Parliament."
- **Law Commission's 179th report:**
  - The Law commission in its 179th report recommended an amendment to the Representation of people act 1951.
    - It suggested the people with criminal backgrounds should be disqualified for five years or until acquittal.
    - It also recommended that the person who wants to contest the election must furnish details regarding any pending case, with the copy of the FIR/complaint, and also furnish details of all assets.
      - But no action was taken on the recommendation by the government due to a lack of consensus amongst the political parties.
- **Supreme Court's judgments & orders:**
  - In 2002, the Supreme Court ruled that every candidate contesting election has to declare his criminal and financial records along with educational qualifications.
  - In 2005, the Supreme Court ruled that a sitting MP or MLA will be disqualified from contesting the election if convicted and sentenced to imprisonment for two years or more by a court of law.
  - In 2014, the apex court accepted the Law Commission recommendations and passed an order directing that trials against sitting MPs and MLAs should be concluded within a year of charges being framed and conducted on a day-to-day basis.
    - As a follow-up to these directives, in 2017, the Union government started a scheme to establish 12 special courts for a year to fast-track the trial of criminal cases against MPs and MLAs.
  - The apex court in 2021 directed the political parties to upload on their websites and social media platforms the details of pending criminal cases against their candidates and the reasons for selecting them as also for not giving tickets to those without criminal antecedents.

Suggestions

- **Rightful demands:**
  - In this bleak scenario, our reaction as citizens should be to demand more courts, judges and judicial infrastructure and not to encourage "encounters", which we seem to be applauding.
- **Stopping the electability of criminals:**
  - Checking the nexus between crime, money, and muscle power will be among the first few steps required to be taken.
  - The growing dependence of political parties on criminals for muscle power and "electability" must be stopped.
  - It is high time all political parties came together and developed a consensus on keeping criminals — some with serious charges including kidnapping, rape, murder, grave corruption, and crimes against women — out of the system.
- **Vigilant voters:**
  - Voters also need to be vigilant about the misuse of money, gifts, and other inducements during election.
- **Efficient Use of technology:**

- o The use of technology as often stated by the current Chief Justice of India, is a potent weapon to ensure speedy trials.
- o Citizens need to build up public opinion for the introduction of online court hearings at all levels.
  - ▪ Courts shall curtail frequent adjournments and reduce the trial duration. Court production of jail inmates can also be online and relieve police from escort duties.
  - ▪ For minor ailments, telemedicine facilities can be used for persons in custody.
  - ▪ This will result in more police persons being available on the ground.
- **Regular training of Police force:**
  - o Police officers need to be regularly trained about the Constitution and human rights so that they do not resort to their guns.
    - ▪ It is unfortunate that after their basic police training, very few officers undergo in-service courses either in law or investigation.
  - o **Online training**:
    - ▪ Of late, online training is becoming popular in many state police organisations.
    - ▪ As per the Bureau of Police Research and Development, vacancies in police all over the country range at around 20 percent. Police station officers are thus reluctant to relieve their field staff for training in police academies.
    - ▪ Online training modules can bridge the gap.

Way ahead
- The road ahead is long and winding. Sane voices against unconstitutional methods are not only being ignored but decried.
- Technology and public pressure is required for an efficient criminal justice system to be the civilised alternative to the gung-ho gun culture.
- It is in the interest of the most populous country in the world to invest in training its law enforcers and equip its judiciary with sufficient resources.

HUMAN DEVELOPMENT THROUGH PANCHAYATI RAJ INSTITUTION

Context: Decentralized governance has gained importance in the development paradigm with over 123 countries, including India, amending their legislations. This involves transferring authority and responsibility for public functions from central government to subordinate organisations.

India has a historical background of decentralised governance, but the legal framework was established through the 73rd and 74th Constitutional Amendments in 1992. The 73rd Amendment made it mandatory to establish a three-tier Panchayat system in rural areas. This is expected to enhance human development and improve the welfare of the rural population through administrative and political devolution.

What is human development?
- Human development refers to the process of improving people's lives by expanding their freedoms, opportunities, and capabilities, enabling them to lead lives they value. It encompasses a wide range of factors such as health, education, economic growth, gender equality, social inclusion, and environmental sustainability.
- The goal of human development is to create an environment where people can fully realise their potential and participate in the decision-making processes that affect their lives.

How is Human Development brought within the ambit of Panchayati Raj Institutions (PRIs) in India?
- Panchayati Raj Institutions (PRI) was first recommended by the Balwantrai Mehta committee in 1957, and their role in rural development has been emphasized in subsequent government plans and committees. The 73rd Constitutional Amendment formalized PRI as a three-tier system in rural areas and mandated citizen participation in the planning process.
- PRI is also responsible for implementing plans related to economic development, social justice, service delivery, infrastructure development, and livelihood development for rural people. The 11th Schedule of the Constitution specifies 29 subjects to be placed under the purview of PRI.

- This decentralization of power to PRI has helped to promote participatory governance in rural areas and improve human development indicators. PRI can also play a crucial role in addressing climate change and disaster risk management in rural areas.

How do Panchayati Raj Institutions contribute to decentralized governance?

- **Public Participation in Decision-Making:** Panchayati Raj Institutions (PRIs) foster public participation in decision-making processes at the local level. By involving community members in planning, monitoring, and evaluating various schemes and service delivery programs, PRIs ensure that governance becomes more responsive to the needs and priorities of the people.
- **Promoting Social Equity and Inclusiveness:** PRIs promote social equity and inclusiveness through the reservation of seats for women and weaker sections of society. This ensures that traditionally underrepresented groups have a voice in local governance, contributing to more equitable and inclusive decision-making. In the case of Madhya Pradesh, the involvement of PRIs in managing education led to a narrowing of the gender gap in primary school enrollment.
- **Empowering Local Communities:** PRIs empower local communities by transferring responsibilities and decision-making authority from higher levels of governance to the grassroots level. This allows for better-tailored policies and services that address the specific needs and concerns of rural populations.
- **Addressing Climate Change and Disaster Risk Management:** PRIs can play a crucial role in addressing climate change and disaster risk management at the local level. As immediate providers of public services and natural connectors to local communities, PRIs can raise awareness about climate change, foster disaster preparedness, and help train communities in adaptive and mitigation strategies. This approach to community preparedness can sometimes be more effective than costly public investments in disaster risk reduction.

What is the role of PRI in human development, particularly in rural areas?

In India, PRI plays an important role in enhancing human development, like

- **Improvement in education:** Panchayats play a vital role in improving access to quality education in rural areas. They collaborate with Village Education Committees to monitor and enhance educational services at the village level. For instance, in Madhya Pradesh, the transfer of school management responsibilities to Panchayati Raj Institutions led to increased enrollment, especially for girls and disabled children, between 2003-04 and 2006-07.
- **Healthcare and Social Welfare:** Panchayats contribute to the improvement of healthcare and social welfare services in rural areas. They participate in the implementation of health and family welfare programs, such as maternal and child health initiatives, which directly impact human development outcomes. Panchayats also support the implementation of social welfare schemes targeting marginalized communities, including scheduled castes and tribes.
- **Livelihood Enhancement and Poverty Alleviation:** Panchayats are involved in implementing livelihood enhancement and poverty alleviation programs, such as the National Rural Livelihood Mission (NRLM) and Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). These programs aim to provide self-employment and wage employment opportunities, helping to improve the economic well-being of rural populations.
- **Community Participation and Empowerment:** Panchayats encourage community participation and empower local communities by organizing Gram Sabha and Ward Sabha meetings. These spaces enable villagers to voice their concerns, influence policies, and hold local authorities accountable. For example, studies have shown that Gram Sabha meetings in South India allowed disadvantaged groups to influence resource allocation in their favor.

How do PRIs contribute to education in rural areas?

- **Decentralization of School Management:** PRIs have enabled the decentralization of school management in rural areas, empowering communities to make education more responsive to their needs. In Madhya Pradesh, the management of school education was transferred to Panchayati Raj Institutions, leading to the

creation of Standing Committees on Education and Parent-Teacher Associations with administrative and financial powers.

- **Increased Enrollment:** The involvement of PRIs in education management has led to a significant increase in enrollment, particularly for girls and disabled children. In Madhya Pradesh, girl enrollment at the primary stage rose from 46.6% in 2003-04 to 47.5% in 2006-07, demonstrating the impact of PRIs on education accessibility.
- **Community Participation:** PRIs encourage community participation in school management, fostering local ownership and accountability. Through Village Education Committees and Parent-Teacher Associations, community members can provide valuable input on how to improve educational outcomes in their area.
- **Addressing Out-of-School Children:** Despite the progress made through PRIs, challenges remain, such as the issue of out-of-school children. However, PRIs are well-positioned to identify and address the barriers that prevent children from attending school, ensuring that no child is left behind in their pursuit of education.

How has the shift towards decentralized governance impacted India's rural development strategies?

- **Increased Participation:** Decentralized governance through PRIs has led to greater community participation in the planning, monitoring, and evaluation of various schemes and service delivery programs, resulting in improved service quality tailored to local needs.
- For instance, in the state of Madhya Pradesh, Village Education Committees were established at the Gram Panchayat level, promoting community involvement in managing school education and leading to a significant increase in enrollment rates.
- **Enhanced Accountability and Transparency:** The shift towards decentralized governance has promoted better accountability and transparency in local decision-making processes, ensuring that public resources are utilized effectively and efficiently for rural development.
- A prime example is the creation of Parent-Teacher Associations (PTAs) in Madhya Pradesh, which were granted administrative and financial powers to manage schools, leading to more effective resource allocation and improved educational outcomes.
- **Empowering Women and Marginalized Groups:** The reservation of seats for women and marginalized groups in PRIs has helped increase their representation in decision-making processes, giving them a voice in shaping policies that directly affect their lives.
- In Kerala, the Kudumbashree initiative empowered women by involving them in PRI activities, which led to improved access to resources and increased economic opportunities for women.
- **Local-Level Planning and Implementation:** Decentralization has facilitated local-level planning and implementation of development projects, enabling PRIs to address specific needs and priorities of rural communities more effectively. In the context of climate change and disaster risk management, PRIs have been instrumental in raising awareness and promoting community preparedness.
- **For example,** in Odisha, PRIs played a crucial role in disaster management during Cyclone Phailin, which helped save countless lives and minimize property damage.

OPERATION KAVERI

Context: Recently, India airlifted 754 of its stranded citizens from Sudan.

More about Operation Kaveri
- **Sudan's conflict:**
    - **Sudan** has been witnessing **deadly fighting between the country's army** and a **paramilitary group** that has reportedly left around 400 people dead.
- **About Operation Kaveri:**
    - Under Operation Kaveri, India has been rescuing its citizens in buses from **conflict zones in Khartoum** and other **troubled areas to Port Sudan** from where they are being taken to **Jeddah** in Indian **Air Force's transport aircraft** and **Indian Navy's ship**s.
    - From Jeddah, the Indians are being brought home in either commercial flights or IAF's aircraft.
    - India has set up **separate control rooms** in **Jeddah** and **Port Sudan** and the India embassy in Khartoum has been coordinating with them and the MEA's headquarters in Delhi.

- **Indian diaspora in Sudan:**
  - As per official estimates, the total number of Indians in Sudan is around 3,400 with around 1,000 PIOs (Persons of Indian Origin) who have been residing in Sudan for generations.
- **Challenges:**
  - Many Indians working for the **oil and gas industry** stay in distant places and it is **not easy to find out about them** in the given circumstances.
  - This is likely to be a more challenging part of the operation as many are caught up in places like **El Fashir in Darfur** which is **highly volatile at the moment**.
  - The **focus of Operation Kaveri is now shifting** to those groups of Indians who live in distant parts of Sudan away from Khartoum.

More about the Conflict in Sudan

- **Background:**
  - The roots of the ongoing conflict go back to **April 2019,** when Sudan's **long-serving authoritarian President Omar al-Bashir** was **overthrown** by military generals following a countrywide uprising against him.
  - Despite Bashir's ouster, civilians continued their demonstrations seeking democratic elections.
    - It led to an **agreement between the military and the protesters** under which it was decided to constitute the **Sovereignty Council**, a **power-sharing body of military officers and civilians**, and **elections at the end of 2023**.
  - But, the new arrangement was short-lived as the military overthrew the government in October 2021, and **Lt Gen Abdel Fattah al-Burhan** became de-facto leader of the country.
    - Burhan announced that the **military would hold power** until elections are held in July 2023.
  - Over the past few weeks, the **RSF (Para-military which was formed in 2013)** was redeployed around the country, which the army saw as a provocation and threat.
    - With both sides on edge, a ferocious battle broke out.
- **Reason of recent crisis:**
  - Clashes erupted after heightened tensions between the **Rapid Support Forces (RSF), a paramilitary group** led by **Mohamed Hamdan Dagalo** — also known as **Hemedti** — and the **military**, headed by **Lt Gen Abdel Fattah al-Burhan**.
  - The two generals disagree over the proposed transition to civilian rule in Sudan.
- **Repercussions for Sudan:**
  - The third largest country in Africa by size has seen **repeated pro-democracy protests** since the 2021 coup.
  - Some experts fear the tussle could transform into a wider conflict leading to the country's collapse.
  - Sudan's economy is struggling, battered by **hyperinflation** and crippled by **massive foreign debt**.
  - Billions of dollars given in international support and debt relief, were frozen after the ouster of the government.

THE WOMEN'S RESERVATION BILL CANNOT WAIT ANY LONGER

Context: It is disheartening to witness that even 75 years after Independence, Parliament lacks substantial representation of women, with women holding just 14% of the seats.

What are the contributions of women in the field of politics?

- Women played a crucial role in India's fight for independence, by organising demonstrations, leading rallies, and raising awareness. There were numerous female representatives in the Constituent Assembly as well.
- Just a decade ago, three of India's largest States, West Bengal, Tamil Nadu, and Uttar Pradesh, were in the spotlight for being led by women Chief Ministers.
- While Sushma Swaraj led the Opposition in the Lok Sabha, Sonia Gandhi served as both President of the Congress Party and Chairperson of the United Progressive Alliance. Also, India had its first woman President, Pratibha Patil around the same time.

What have been the major developments in India related to women representation in politics?

- The discourse on women's reservation in India originates from the pre--Independence era. Several women's organisations demanded political representation for women.
- In 1955, a government appointed committee recommended that 10% of seats in the Lok Sabha and State legislative assemblies should be reserved for women.
- During the 1980s, the demand for women's reservations gained momentum. The National Perspective Plan for Women (1988) recommended that 30% of seats in all elected bodies should be reserved for women.
- This recommendation was reiterated in the National Policy for the Empowerment of Women, which was adopted in 2001.
- In 1993, the Panchayati Raj Act was amended to reserve 33% of all seats in local government bodies for women.
- In 1996, the Women's Reservation Bill was introduced in the Lok Sabha. The Bill proposed to reserve one third of seats in the Lok Sabha and State legislative Assemblies for women. However, facing strong opposition from some political parties.
- It gained more momentum again in the early 2000s. On March 9, 2010, the Bill was approved in the Rajya Sabha.

What are the global examples of women representation in politics?
- Around the world, women leaders are outperforming their male counterparts.
- The Scandinavian countries have implemented policies and governance structures that support gender equality and women's empowerment. It includes women's representation in political and leadership positions.
- Moreover, countries led by women have best policies and governance practices. The deep scars in Rwanda, from the genocide, are being healed by a leadership that comprises women. This has also resulted in key social reforms.
- Norway implemented a quota system in 2003 that required 40% of seats on corporate boards to be occupied by women.

What is the way forward for proper representation of women in politics?
- Babasaheb Ambedkar was of the opinion that the progress of a community can be measured by the degree of progress which women have achieved.
- Women have been waiting for too long for their right to govern. Women's leadership qualities are not hidden from anyone. So, the denial of opportunity for political representation represents grave injustice.
- As India strives to become a Vishwa Guru, it cannot overlook the pivotal role women can play in nation building and development. The women's reservation Bill must be passed.

GOVERNANCE

SWACHH BHARAT MISSION-URBAN

Context:

The Minister for Housing and Urban Affairs recently said that **Swachhata has become a foundational tenet in not just every govt scheme but also in the way of life of citizens.**

- The **Swachh Bharat Mission – Urban (SBM-U)** was the first large-scale programme to instil the principle of **Jan Bhagidari.**
- Also, **'Swachhotsav - 2023: Rally for Garbage Free Cities'** was held in New Delhi as part of **India's celebration of the International Day of Zero Waste 2023.**

What is International Day of Zero Waste?

- The **International Day of Zero Waste**, observed for the first time on **30 March 2023** and is jointly facilitated by **UNEP** and **UN-Habitat.**
  - It aims to **raise awareness of the importance of zero waste and responsible consumption** and production practices and **urban waste management** contributing to achieving **sustainable development.**
- The day calls on **rethinking our practices and for embracing a circular economy** as a key for **addressing the triple planetary crisis of climate change**, nature loss and pollution, and **putting the planet, and humanity, on a path to health and prosperity.**

What is the Status of Swachh Bharat Mission-Urban?

- **Achievements:**
  - **Open Defecation Free (ODF):**
    - Urban India has become **Open Defecation Free (ODF)**, with all **4,715 Urban Local Bodies (ULBs)** completely ODF.
    - **3,547 ULBs are ODF+** with functional and hygienic community and public toilets, and **1,191 ULBs are ODF++ with complete faecal sludge management.**
  - **Waste Processing:**
    - **Waste Processing in India** has gone up by over **4 times from 17% in 2014 to 75% in 2023**, aided through **100% door-to-door waste collection in 97% wards** and **source segregation** of waste being practised by citizens across almost **90% wards in all ULBs in the country.**
  - **Garbage Free Cities:**
    - The **Garbage Free Cities (GFC)-Star rating protocol launched in January 2018** has increased from only **56 cities in the first year to 445 cities till date,** with an ambitious target of having at least **1,000 3-star GFC by October 2024.**
      - The **2023-24 budget** has reinforced India's commitment to building a circular economy through an enhanced focus on **scientific management of dry and wet waste.**
  - **Women in Spotlight:**
    - **Rally for Garbage Free Cities:**
      - The **Rally for Garbage Free Cities** is a **women-led Jan Andolan,** where lakhs of citizens have taken on the **responsibility of cleaning their streets, neighbourhoods, and parks.**
    - **'Stories of Change' Compendium:**
      - The **'Stories of Change' Compendium** captures some of the amazing on-ground successes of more than **300 women Self-Help Group members** who have travelled across cities to learn **various waste management models.**
      - **4 lakh women are directly engaged in sanitation and waste management as an enterprise in urban India,** providing dignity and livelihood opportunities for women.
- **Challenges:**

- o **Lack of Waste Management Infrastructure:** India has a shortage of infrastructure and resources to manage waste effectively. Many cities lack adequate **landfill sites, waste processing facilities, and waste collection systems.**
  - ▪ For example - the **Ghazipur landfill in Delhi,** which has exceeded its capacity **causing air and water pollution** and posing a health hazard to nearby residents.
- o **Unsustainable Packaging:** The popularity of online retail and food delivery apps, though restricted to big cities, is contributing to the rise in **plastic waste.**
  - ▪ **E-commerce** companies too have come under **fire for excess use of plastic packaging.**
  - ▪ Also, there are usually **no disposal instructions included with packaged products.**
- o **Lack of Data Collection Mechanism**: India lacks **time series data or panel data in connection with solid or liquid waste.**
  - ▪ So it is very difficult for the waste planners of the country to **analyse the economy of waste management.**

Way Forward

- **City Composting Centers:** Composting centres can be established in cities to **reuse organic waste**, which will **enhance soil carbon content and eliminate the need for chemical fertilisers.**
  - o Compost will also help in **carbon dioxide sequestration** by storing carbon back into the soil.
- **Extended Producer Responsibility:** There is a need to devise the mechanism for **Extended Producer Responsibility** in India to ensure that **product manufacturers are made financially responsible for various parts of the life cycle** of their products.
  - o It includes **take-back, recycling and final disposal at the end of their useful life,** in a way promoting circular economy.
- **Behavioural Change Towards Waste and Waste-Pickers: Waste is often viewed as useless, and waste collectors are often isolated.** There is a need to change this perception and look at proper waste management.
  - o Also, **ULBs should reward waste pickers by providing incentives** and spreading awareness to the public regarding their social inclusion.
  - o The **inclusion of waste pickers is crucial not only for their own health and livelihoods, but for the economies of municipalities** as well.

PROMOTING COOPERATIVES IN INDIA

- **Context:** Cooperatives have a **rich history in India and have been an integral part of the country's development** since Independence. With over **10 lakh cooperatives, of which 1.05 lakh are financial cooperatives,** India's cooperative movement has enormous potential to promote growth, formalize the economy, and reduce inequality.
- However, **there are issues with the current system of dual control over cooperative banks,** leading to jurisdictional disputes that have hindered their orderly growth. Despite this, **cooperatives remain a crucial element of India's economic landscape** and are a key tool for improving the standard of living of the poor.
- In order to thrive in a **competitive landscape, cooperative banks need to improve their governance.** Alternatively, **State governments should focus on supporting non-financial cooperatives** instead of getting involved in conflicts over financial cooperatives.

What are the Challenges with the Financial Cooperatives in India?

- **Regulation and Supervision:**
  - o The **regulatory and supervisory framework for financial cooperatives in India is fragmented,** with different types of cooperatives being governed by different authorities. This can lead to inconsistencies and gaps in regulation and supervision, which can create vulnerabilities in the financial system.
    - ▪ When it comes to **cooperative banks** (both urban and rural) **there is dual control leading to jurisdictional disputes.**
    - ▪ While incorporation, management, audit, supersession of board and liquidation are administered by the Registrar of Cooperatives, banking licence, prudential regulation, capital adequacy, etc., are prescribed by the RBI.

- **Governance and Management:**
  - Many financial cooperatives in India are **plagued by poor governance and management**, which can lead to mismanagement, fraud, and **corruption.** There have been instances where cooperatives have failed due to poor governance, resulting in losses for depositors.
    - Poor corporate governance has been the main reason behind the **failure of many cooperative banks.** Since 2004-05, there were 145 mergers of non-scheduled **Urban Cooperative Banks(UCBs)**, nine in 2021-22.
    - The collapse of the **Punjab and Maharashtra Cooperative (PMC) Bank in 2019** was mainly due to financial irregularities, failure of internal control, and under-reporting of exposures.
- **Capital Adequacy:**
  - Financial cooperatives in India **often struggle to maintain adequate levels of capital,** which can affect their ability to absorb losses and continue operating during periods of financial stress. This can also limit their ability to expand their operations and offer new products and services.
- **Credit Risk Management:**
  - Financial cooperatives in India typically lend to **Small and Medium-Sized Enterprises (SMEs)** and individuals who may have limited credit history or collateral. This makes credit risk management a critical challenge for cooperatives, as defaults and loan losses can significantly impact their financial stability.
- **Technology and Innovation:**
  - Many financial cooperatives in India **lag behind in terms of technology and innovation,** which can limit their ability to compete with larger banks and fintech firms. Cooperatives need to invest in modern technology and digital infrastructure to enhance their operational efficiency and offer new products and services to their customers.
- **Competition:**
  - Financial cooperatives in India face **intense competition from other financial institutions, including commercial banks, small finance banks, and fintech companies**. This makes it challenging for cooperatives to attract and retain customers, especially those who are looking for more advanced and sophisticated financial services.

What is the Need to Focus on Non-Financial Cooperatives?
- **Promoting Equality and Democratic Participation:**
  - Non-financial cooperatives are based on the **principle of "one member, one vote,"** which means that all members have an equal say in the decision-making process. This **promotes democratic participation and helps to ensure that everyone has an equal voice,** regardless of their financial resources.
- **Encouraging Community Development:**
  - Non-financial cooperatives often **serve specific communities or groups of people,** such as local farmers or small business owners. By providing goods or services to these communities, non-financial cooperatives can help to support local economic development and build stronger communities.
- **Fostering Sustainable Practices:**
  - Non-financial cooperatives are often **focused on promoting sustainable practices, such as fair trade or organic farming.** By prioritizing environmental and social sustainability, non-financial cooperatives can help to create a more just and equitable society.
- **Empowering Workers and Consumers:**
  - Non-financial cooperatives are **often owned and controlled by workers or consumers,** giving them a greater sense of ownership and control over their work or consumption. This can **help to promote worker empowerment and consumer rights**, leading to a more equitable and just society.

How Government Plans to Develop Non-Financial Cooperatives?
- **Ministry for Cooperation:**
  - The Government has recently created a **separate Ministry for Cooperation to promote and develop the cooperative sector** in the country. The Ministry is mandated to provide a supportive policy and

regulatory environment for cooperatives, strengthen the cooperative movement, and increase their reach across the country.

- **Fiscal Incentives for FPOs:**
  - o The Government provides **fiscal incentives such as tax exemptions, credit guarantee schemes**, and subsidies for **Farmer Producer Organisations (FPOs).**
- **Schemes for Handicrafts and Handlooms:**
  - o The Government has **launched several schemes to promote and develop the handicrafts and handloom sector,** which is an important source of livelihood for rural artisans.
- **Government's Electronic Marketplace (GeM):**
  - o After the electronic national agriculture market (eNAM), the **Government's electronic Marketplace (GeM),** version 4, is a successful innovative online platform dedicated to the marketing of several goods and services produced by MSMEs and non-financial cooperates.
    - As of now, more than 62,000 government buyers, 49 lakh sellers, 10,000 products, and 290 services are registered on this platform.
- **One-District-One-Product Scheme:**
  - o It aims to promote the unique products of each district in the country and develop them as brands.
- **Welfare Schemes for Dairy Development:**
  - o Government has launched **several welfare schemes for dairy development and fisheries**, which are important sources of livelihood for rural households.
    - Milk cooperatives are a grand success in India.
- **Cooperatives as a Business Model:**
  - o Cooperatives can be **pursued as a business model in several areas** such as post-harvest processing, warehousing, and packaging.
- **Use of Technology:**
  - o The Government has the **vision to use technology for rural development** under several schemes such as **Digital India**, **BharatNet**, and **e-Governance.**
- **Growing Opportunities for Start-ups:**
  - o Opportunities are growing for **start-ups** in rural areas, which can be pursued under non-financial cooperates.

Way Forward:

- **Embrace Technology:**
  - o In today's digital age, **it's important for financial cooperatives to keep up with technology trends** and offer digital services such as mobile banking, online account opening, and remote deposit capture. This can **help attract new members and retain existing ones,** especially younger generations who are more tech-savvy.
- **Expand Services:**
  - o Financial cooperatives can **expand their services beyond traditional savings and loans to include investment products,** insurance, and financial education.
  - o This can help members achieve their financial goals and strengthen their loyalty to the cooperative.
- **Collaborate with other Cooperatives:**
  - o Financial cooperatives can **collaborate with other cooperatives, including credit unions, to share resources, expertise, and best practices.** This can help improve efficiency and reduce costs.
- **Focus on Non-Financial Cooperatives:**
  - o While financial cooperatives, **such as credit unions and microfinance institutions, are also important for providing access to credit and other financial services**, they can sometimes become a source of conflict and controversy.
  - o Given the potential benefits of non-financial cooperatives, **it may be more productive for state governments in India to focus on supporting these types of organizations,** rather than getting involved in conflicts over financial cooperatives.
    - This could **involve providing funding and technical assistance to help establish and grow non-financial cooperatives,** as well as promoting these organizations through public education and outreach campaigns.

REVOLUTIONIZING LEGISLATION THROUGH AI

Context: Artificial Intelligence (AI) has been increasingly used in various industries to automate and streamline processes. In recent years, **there has been a growing interest in using AI tools to enhance legislative procedures.** These tools can help legislators analyze large amounts of data, identify patterns and trends, and make more informed decisions.

However, there are also **concerns about the ethical implications of using AI in legislative procedures,** particularly around issues of bias and transparency. Also, there are **challenges with current laws in India, which are complex and opaque**, making it difficult for AI to function effectively.

- Therefore, it is important to carefully consider the benefits and potential drawbacks of using AI in legislative procedures.

What Role Artificial Intelligence can play in Legislation?

- **Enhance Legislative Procedures:**
  - o AI tools can **assist parliamentarians in preparing responses for legislators, enhancing research quality, obtaining information about any Bill,** preparing briefs, providing information on particular House rules, legislative drafting, amendments, interventions, etc. This can help to streamline legislative processes and make them more efficient.
    - ▪ The House of Representatives in the United States has **introduced an AI tool to automate the process of analysing differences between Bills,** amendments and current laws.
- **Research Quality:**
  - o AI can assist in **conducting thorough research by analyzing large volumes of data, identifying patterns and trends, and presenting the results** in a comprehensive manner. This **can help lawmakers to make informed decisions** based on reliable data and evidence.
- **Assist in Decision-Making:**
  - o AI can provide **decision-making support to lawmakers by analyzing various factors and making predictions** about the potential outcomes of different policy options. This can help to improve the accuracy of decision-making and minimize the risk of unintended consequences.
- **Analysing Citizens' Grievances:**
  - o Compared to western democratic nations, in India, **parliamentarians manage constituencies with a huge population.**
  - o AI can **analyse citizens' grievances and social media responses,** and flag issues and priorities that need immediate attention.
  - o It can also assist parliamentarians in seeking citizen inputs for public consultation of laws and preparing a manifesto.
- **Simulate the Potential Effects of Laws:**
  - o The **use of AI in legislative procedures can help in modelling various datasets** such as the **Census**, data on household consumption, taxpayers, beneficiaries from various schemes, and public infrastructure to uncover potential outcomes of a policy.
  - o It can also **help in flagging laws that are outdated in the present circumstances** and which require amendment.
  - o For example, during the **Covid-19 pandemic**, it became evident that 'the **Epidemic Diseases Act, 1897'** failed to address the situation adequately, highlighting the need to revisit and update outdated laws.
  - o Several provisions in the **Indian Penal Code (IPC)** are also controversial and redundant, such as **Article 309 (attempted suicide),** which continues to be a criminal offence.
  - o AI can help identify such outdated laws and streamline the legislative process by focusing on more relevant laws and policies.
    - ▪ There are several pieces of criminal legislation that were enacted more than 100 years ago that are of hardly any use today, such as the **Press and Registration of Books Act, 1867,** the Public Gambling Act, 1867, and the Prisons Act, 1894.

What are the Concerns with the use AI in Legislative Procedures?
- **Lack of Transparency:**
  - AI models **can be highly complex, and it may be difficult to understand how they are making decisions.** This lack of transparency could undermine the democratic process if legislators and the public are unable to understand the reasoning behind legislative decisions.
- **Bias:**
  - AI models are **only as objective as the data they are trained on.** If the data used to train an AI model is biased, the model may replicate and even amplify that bias in its decisions.
    - This could lead to discriminatory outcomes, such as laws that disproportionately impact certain groups.
- **Accountability:**
  - If AI is used in legislative decision-making, **it may be difficult to hold anyone accountable for the outcomes.** This could pose a challenge to the democratic process, as accountability is a critical component of representative governance.
- **Cybersecurity:**
  - Legislative procedures often **involve sensitive and confidential information.** If AI systems used in these procedures are not properly secured, they could be vulnerable to cyberattacks that could compromise this information.
- **Dependence:**
  - Overreliance on AI in legislative procedures could reduce the human element in decision-making and could lead to a loss of expertise and judgment that comes from human interaction and debate.

What are the Related Steps taken around the World?
- **Netherlands's "Speech2Write" System:**
  - The Netherlands House of Representatives, for instance, has **implemented the "Speech2Write" system which converts voice to text** and also "translates" voice into written reports.
  - "Speech2Write **comprises automatic speech recognition and automated editing capabilities** that can remove filler words, make grammatical corrections and propose editing decisions."
- **Japan's AI Tool:**
  - It assists in the preparation of responses for its legislature and also helps in the automatic selection of relevant highlights in parliamentary debates.
- **Brazil's Ulysses:**
  - Brazil has **developed an AI system called Ulysses** which supports transparency and citizen participation.
- **India's Approach:**
  - India is also **innovating and working towards making parliamentary activities** digital such as the **'One Nation, One Application'** and the National e-Vidhan (NeVA) portal.

What Should be the Way forward?
- **Codify Laws and Regulations:**
  - The government **should continue its efforts to codify laws and regulations in a comprehensive and accessible manner.** This will provide a solid foundation for AI-based solutions to work with.
- **Develop a Unified Platform:**
  - A unified platform **should be developed that provides a complete view of all laws, regulations, and notifications**. This platform should be accessible to all stakeholders, including citizens, businesses, and government officials.
- **Encourage Collaboration:**
  - AI-based **solutions for legislation should be developed through collaboration between various stakeholders,** including government agencies, legal experts, technology companies, and civil society organizations.
- **Ensure Transparency and Accountability:**

- o AI-based solutions **should be designed to be transparent, explainable, and accountable.** Citizens should be able to understand how the AI arrived at a particular decision or recommendation.
- **Focus on Citizen-Centric Solutions:**
  - o AI-based **solutions should be designed to meet the needs of citizens.** The solutions should be user-friendly and accessible to all, including those with disabilities or limited digital literacy.
- **Making Laws Machine-Consumable:**
  - o There is a need to **make laws machine-consumable with a central law engine**, which can be a single source of truth for all acts, subordinate pieces of legislation, gazettes, compliances, and regulations.
  - o **For Example:**
    - AI can tell us if an **entrepreneur wants to open a manufacturing unit in Maharashtra** and what acts and compliances are applicable.
    - If a citizen wants to check the eligibility for welfare schemes, AI can recommend which schemes are eligible, based on details provided by citizens.

AMENDMENT TO IT RULES AND REGULATING FAKE NEWS

- The Ministry of Electronics and Information Technology (MeitY) notified the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023, which are an amendment to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021. The Amendment to IT Rules has generated intense debate, with some arguing that they could curtail freedom of speech and expression online, while others believe that they are necessary to prevent the spread of fake news and other harmful content.

About the recent Amendment to IT Rules

- **Introduction of Fact-Check Bodies**: The recent amendment to IT Rules introduces the creation of fact-check bodies to identify whether information related to the Central government is accurate or not.
- **Regulation of Social Media Intermediaries**: The new amendments also regulate social media intermediaries like Facebook and Twitter to take down posts and internet service providers to block URLs marked as fake, failure to do so could lead to social media platforms losing safe harbor protections.
- **Identification and Removal of Fake News:** The amendment aims to identify and remove fake news to prevent its spread, especially during tumultuous times where it can incite violence and cause panic.
- **Ensuring Accountability of Online Platforms:** The amendment seeks to ensure accountability of online platforms by requiring them to follow a code of ethics and take measures to prevent the misuse of their platforms.
- **Addressing National Security Concerns:** The amendment aims to address national security concerns by allowing the government to take down online content that threatens the sovereignty and integrity of India.
- **Providing a Legal Framework for Tech Regulation:** The amendment provides a legal framework for tech regulation and clarifies the responsibilities of online platforms, social media intermediaries, and the government in regulating online content.

What is the rationale behind the recent amendment to IT Rules?

- The recent amendment to IT Rules aims to regulate social media platforms, online news publishers, and other digital media outlets.
- **Regulating Fake News**: One of the primary reasons behind the amendment is to regulate the spread of fake news and misinformation through social media platforms and other digital media outlets. For instance,

recently, a malicious disinformation campaign led to law-and-order issues in Tamil Nadu. The news spread false claims about violence against migrant workers from Bihar and was propagated through social media.

- **Non-liability of Intermediaries**: Section 79 of the IT Act states that an intermediary (Digital media and OTTs) shall not be liable for any third party information, data, or communication shared on their platforms. They enjoy a safe harbour regime.
- **Amount of Internet users in the country**: The user base of digital media companies and the online gaming industry has expanded rapidly since the pandemic. India, with about 658 million users as of January 2022 has the second-highest number of Internet users, after China. Hence, without proper regulation, the information going on them might trigger national security issues and other challenges.

What are the advantages of amendment to IT Rules?
- The amendments to the IT Rules bring some advantages, including:
- **Addressing the issue of fake news**: The creation of a fact-checking body can help to address the issue of fake news and misinformation on online platforms, which can potentially cause harm to society.
- **Improved accountability:** The amendments provide for increased accountability of social media intermediaries, which are required to remove content marked as fake or misleading. This can help to prevent the spread of harmful content and ensure that intermediaries are more responsible for the content on their platforms.
- **Protection of citizens' rights:** The rules provide for an appeals process for citizens who feel that their content has been wrongly flagged as fake or misleading, ensuring that their rights to freedom of speech and expression are protected.
- **Cybersecurity:** The rules provide for the mandatory appointment of a chief compliance officer, a nodal contact person, and a resident grievance officer by social media intermediaries. This can help to improve cybersecurity and prevent the misuse of online platforms for illegal or harmful activities.
- **Ensuring Compliance**: It seeks to ensure compliance with Indian laws, including those related to national security and public order. This helps to prevent the misuse of social media platforms and other digital media outlets to incite violence or spread hate speech.
- **Promoting Self-Regulation**: Finally, it aims to promote self-regulation among social media platforms and other digital media outlets. This encourages these platforms to take proactive measures to prevent the spread of fake news and other malicious content, rather than waiting for the government to take action.

What are the challenges associated with the amendment to IT Rules?
- Some of the challenges associated with the amendment:
- **Lack of clarity on what constitutes "fake or false or misleading" information:** The amendment does not provide a clear definition of what types of information qualify as "fake or false or misleading." This lack of clarity creates ambiguity and can lead to arbitrary censorship by the government.
- **Censorship and Freedom of Speech:** The fact-check unit of the central government has been given unprecedented power to censor any content that they deem to be fake or false or misleading, which could potentially infringe upon the freedom of speech and expression of citizens.
- **Lack of transparency and accountability:** The proposed amendments do not provide any criteria or guidelines for the government to declare information as 'fake' or 'false', leading to potential misuse of power. Moreover, the lack of due process, notice and hearing for the originators and creators of information may lead to arbitrary takedowns and a lack of accountability.
- **Burden on intermediaries:** The proposed amendments increase the compliance burden on intermediaries, who may have to take down content based on government orders without any clarity on the criteria for declaring information as 'fake' or 'false'. The additional layer of censorship through the Grievance Appellate Committees may further increase the burden on intermediaries.
- **Impact on digital media and online news portals:** The proposed amendments do not apply directly to news websites, which are not classified as intermediaries. This may lead to differential treatment of news websites and other online platforms, and potential challenges to the independence of digital media.

- **Constitutional concerns:** Some critics argue that the fact-checking powers granted to the government under the IT Rules, 2023 may infringe on the constitutional right to freedom of speech and expression guaranteed under Article 19(1)(a) of the Constitution of India.
- **Short-circuiting established legal procedures:** The amendments short-circuit **a)** The procedures, safeguards and conditions laid out in Shreya Singhal v. Union of India or under Section 69A of the IT Act, **b)** Madras High Court ruling in T M Krishna v. Union of India and the Bombay High Court ruling in Agij Promotion of Nineteen One Media Pvt. Ltd. & Ors. v. Union of India put a hold on the rules which provided the government with a wider say on content on OTT or digital media platforms.
- **Chilling Effect:** The mere existence of the fact-check unit and its power to censor content could have a chilling effect on free speech, as people may be hesitant to express their opinions online for fear of being censored or facing legal consequences.
- **Potential for Misuse:** The fact-check unit's power could be misused by the government to silence dissenting voices or criticism of government actions, which could have serious implications for democracy and human rights.
- **Opposition from civil society and media organizations:** The Editors Guild, the Indian Newspaper Society, and other civil society and media organizations have spoken out against the amendment, stating that the determination of "fake news" should not be in the sole hands of the government and that it could allow the government to proscribe any criticism of its actions.
- **Conflict of interest**: The role played by the fact-checking unit has a significant conflict of interest as it plays the role of judge, jury and executioner.

What should be done?
- **Need develop a more transparent and participatory process**: The government should work with civil society, media organizations, and other stakeholders to develop a more transparent and participatory process for determining what content should be considered fake or misleading.
- **Need an independent and non-partisan fact-checking body:** The government should ensure that anybody tasked with fact-checking is independent and non-partisan, with clear guidelines for how decisions are made.
- **According to judicial guidelines:** The government should ensure that any takedown requests are made in accordance with the procedures and safeguards laid out in Shreya Singhal v. Union of India or under Section 69A of the IT Act, which defines and restrict the conditions under which government can take down online content.
- **Need to find a balanced approach:** The government should engage in dialogue with social media platforms and other intermediaries to find a balanced approach to tackling fake news and misinformation, which takes into account the need to protect freedom of expression and the rights of media organizations, journalists, and readers.
- **Need regularly reviewed and updated:** The government should also ensure that any regulations or guidelines are regularly reviewed and updated to reflect the evolving nature of online content and the challenges associated with regulating it.

ONLINE DISPUTE RESOLUTION FOR EASE OF BUSINESS

Context: At the Delhi Arbitration Weekend in February 2023, Union Law Minister emphasised the need for institutional arbitration to enhance the ease of doing business. India has shown tremendous improvement in the **World Bank's Ease of Doing Business report** (**now World bank stopped publishing) rising from the 142nd rank among 190 countries in 2014 to 63rd in 2019.**
However, India is still struggling in terms of enforcing contracts, with a **rank of 163rd out of 190 countries.** While India may have missed the bus in becoming an international arbitration hub, **there is potential for the country to catch up with Online Dispute Redressal (ODR).**
- With the current issue of cases pending for prolonged periods, **Online Dispute Resolution (ODR) has the capability to provide accessible justice to everyone,** thereby tackling the problem.

What is India's Current Position in Institutional Arbitration?
- India has made significant progress in institutional arbitration in recent years.
- The Indian government has taken **several measures to promote institutional arbitration**, including the establishment of the **Mumbai Centre for International Arbitration (MCIA)** and the **Delhi International Arbitration Centre (DIAC).** These institutions aim to provide a world-class platform for conducting international arbitration in India.
- In 2022, to speed up dispute resolution, Finance Minister **announced the setting up of an international arbitration centre at GIFT City.**
- In addition to these institutions, the **Indian government has also enacted the Arbitration and Conciliation (Amendment) Act, 2019**, which seeks to streamline the arbitration process in India and make it more time-bound and cost-effective.
  - o The **Act provides for the establishment of the Arbitration Council of India (ACI)** to promote the development of arbitration in India and to regulate the conduct of arbitrators.

How Online Dispute Redressal can improve India's Business Environment?
- **Faster Resolution of Disputes:**
  - o The traditional legal system in India is known for its slow and cumbersome process. ODR can **help resolve disputes faster as it is based on technology-enabled processes** and does not involve physical presence.
- **Cost-Effective:**
  - o Litigation can be an expensive affair, and small and medium enterprises (SMEs) often find it difficult to bear the high costs. ODR can help reduce costs by eliminating the need for physical hearings, travel, and other related expenses.
- **Access to Justice:**
  - o India is a diverse country with a large population, and many people in remote areas do not have easy access to courts. ODR can help bridge this gap by providing a platform for remote dispute resolution.
- **Increased Efficiency:**
  - o ODR can be **more efficient than traditional dispute resolution methods** as it uses technology to streamline the process. This can lead to faster resolution of disputes and reduce the burden on the judiciary.
- **Better Compliance:**
  - o ODR can **help improve compliance as it provides a structured process for dispute resolution.** This can help businesses avoid disputes in the first place by ensuring that contracts are clear and that all parties are aware of their obligations.

What are the Challenges with Online Dispute Redressal?
- **Lack of Physical Presence:**
  - o ODR takes place entirely in the digital realm, which makes it challenging to verify the identity of the parties involved in a dispute. This **lack of physical presence can also make it difficult to enforce judgments,** as there is no way to physically seize assets or property.
- **Jurisdictional Issues:**
  - o Online transactions can **involve parties from different countries,** which can create jurisdictional challenges. Different countries have different laws, and it can be difficult to determine which laws apply to a particular dispute. This can make it challenging to enforce judgments, as there may be conflicting laws or no legal framework in place for cross-border enforcement.
- **Privacy Concerns:**
  - o ODR platforms **must balance the need for privacy with the need for transparency.** Parties may be hesitant to share sensitive information online, which can hinder the resolution process. Additionally, online platforms must comply with data privacy laws, which can be challenging in cross-border disputes.
- **Technology Limitations:**

o   ODR platforms **rely on technology, which can be vulnerable to technical glitches or cyber attacks.** Technical issues can delay or disrupt the resolution process and cyber-attacks can compromise the security of sensitive information.

- **Limited Access to Justice:**
  o   Not all parties have **equal access to ODR platforms, which can exacerbate power imbalances.**
    - For example, **parties with limited financial resources may not be able to access the necessary technology** or legal support to participate in ODR. This can result in unequal outcomes and undermine the legitimacy of the ODR process.

Way Forward:
- **Incentivise use of ODR:**
  o   **Government can incentivise use of ODR by way of legislative measures** such as **setting ODR as a default dispute resolution tool** for categories of disputes arising out of online transactions, fast-tracking enforcement of ODR outcomes, and exempting or reducing stamp duty and court fees.
- **Solving Infrastructural Challenges:**
  o   Government **needs to address the Infrastructural challenges, curb the digital divide**, and catalyse ODR's growth by optimising existing setups such as **Aadhaar kendras** to also function as ODR kiosks.
  o   Each court can have an **ODR cell along with supplemental technical and administrative support.**
  o   On the lines of the finance minister allocating Rs. 7,000 crore for the third phase of the **e-Courts project** in the **Union Budget 2023** (aimed at digitising the justice system), **a dedicated fund must be set up for furthering ODR.**
- **Exploring ODR as a Grievance Redress Mechanism:**
  o   Government departments should **explore ODR as a grievance redress mechanism.**
  o   Proactive use of ODR by government entities **will not only increase trust in the process but also ensure that citizens have access to a convenient** and cost-effective means of resolving disputes with the government.

BHU-AADHAAR

Context: By March 2024, India aims to digitise 100 per cent of its land records and the land registration process and give a unique 14-digit alpha-numeric identity, also called Bhu-Aadhaar.

ULPIN (Unique Land Parcel Identification Number)/ Bhu-Aadhaar
- **About:**
  o   **Department of Land Resources (DoLR)** along with the **Ministry of Electronics and Information Technology, the Department of Science and Technology** and the **National Remote Sensing Centre** came up with the Unique Land Parcel Identification Number system.
- **Digital India Land Record Modernisation Programme (DILRMP):**
  o   DILRMP, which integrates the computerisation of land records, strengthening of revenue administration, and updating of land records.
  o   Once this has been done and the system is cleaned up, every plot/parcel of land (both urban and rural) can get the **14-digit alpha-numeric ULPIN (Unique Land Parcel Identification Number)** which is also named as **Bhu-Aadhaar.**
- **Key aspects:**
  o   **Data mapping:**
    - The Unique Land Parcel Identification Number (ULPIN) or Bhu-Aadhaar will have the **longitude and latitude coordinates of the land parcel** and is based on **detailed surveys** and **geo-referenced cadastral maps**.
    - It will cover all land parcels **rural as well as urban**.
  o   **Language processing:**
    - Currently, the Records of Rights in each state and Uion territory are **maintained in local languages**.

- ▪ The Digital India Land Records Modernisation Programme will also **process transliterating the Records of Rights** to any of the **22 languages recognised by the Constitution**.
- **How?**
  - o **Technology** helps and **hand-held devices** can lock in **latitude-longitude coordinates** and marry land records with satellite imagery.
  - o Computerisation and strengthening revenue administration is the easier part and there are efficiencies because of **a standard template throughout the country for registration and record of rights**, including addressing of the multilingual issue.
- **Implementation:**
  - o The Bhu-Aadhaar project **has been introduced in 26 states** and is currently being implemented in the remaining states, **except for Meghalaya**.
    - ▪ Meghalaya's tradition of communal land ownership has resulted in the project not being implemented in the state.

Significance

- **Unified Nation wide ID:**
  - o So far, different states were using different methods for assigning unique IDs to land parcels in computerisation of land records.
  - o This made extraction of important information on farmers and their land difficult and cumbersome.
  - o In many instances, the land parcel numbers were repeated in each village, making it difficult to establish farmer-land relationships.
  - o A unique ID will help in sharing of land record data across departments, financial institutions and all stakeholders.
- **Prevention of Land Fraud:**
  - o The uniquely identified number will prevent land fraud, especially in rural India, where land records are outdated and often disputed.
- **Mitigating disputes pendency:**
  - o Once the digitisation process of land records and registration is complete, it is expected to mitigate the huge pendency of court cases involving land disputes.
- **Record for collateral:**
  - o It will also help farmers leverage their land and use it as a collateral to borrow money from banks.

Challenges

- **Issues with updating of land records:**
  - o Digitisation of **Cadastral maps** will typically not have latitude/longitude data. There could be **elevation and projection problems**.
  - o The **record we have of the title must reflect ownership**, with new registrations and mutation being automatic. With or without title insurance, this guarantees title and just as Aadhaar captures biometry, ULPIN captures everything about that plot/parcel. Which in all is a difficult process.
- **Difficulty in accomplishing target:**
  - o Given the history and the complex nature of land laws, it is claimed that this process certainly cannot be accomplished by March 2024 (or even March 2026), both target dates.
- **Feasibility and sustainability:**
  - o The feasibility and sustainability of the project have also raised concerns due to the cost of implementation, particularly considering the Department of Land Resources' restricted financial resources.

Way ahead

- **Need of overall modernisation:**
  - o As a cause of litigation, land/property issues are indeed important. But the quantitative case for modernisation of land records alone, in **absence of other changes** (such as **multiplicity of laws on land and rural/urban silos**), should not be overstated.
    - ▪ For instance, in a similar vein, Economic Survey 2014-15 tracked stalling of projects and found that land acquisition is not as much of an issue as is commonly made out.
- **Setting an example:**

- o There are parts where land titles and records are in a mess, cleaning up requiring a gargantuan effort. But there are parts where titles and records are clean.
  - o Those can readily have their ULPIN, those efficiency gains acting like a demonstration effect for others to come on board.
- **Definite potential:**
  - o Despite the challenges and controversies surrounding the Bhu Aadhaar project, it has the potential to bring significant benefits to India's land management system.

A HELP PROGRAM

Context: 'A HELP Program' launched in the State of Uttarakhand.

What is an A-HELP Program?
- **About:**
  - o The 'A-HELP' training programme is being run jointly by the **Union Ministry of Rural Development and Ministry of Fisheries**, Animal Husbandry and Dairying.
  - o In the programme, members of **women self-help groups registered under State Rural Livelihood Mission**, who are helping in various animal husbandry activities in the form of **Pashu Sakhi**, will be trained as **'A-HELP' (Accredited Agent for Health and Extension of Livestock Production).**
- **Significance:**
  - o A-HELP are **community-based women activists**, who assist veterinarians in local departmental activities, help livestock farmers to take loans for entrepreneurship development, fill applications, mark the ear tagging of animals and register them in INAF portal and help with insurance etc.
  - o 'A-HELP' assistance can be taken in implementation of various schemes and in providing information to the farmers at grassroots level.

Rashtriya Gokul Mission
- The Rashtriya Gokul Mission (RGM) has been implemented for development and conservation of indigenous bovine breeds since December 2014.
- The scheme is also continued under the umbrella scheme Rashtriya Pashudhan Vikas Yojana from 2021 to 2026.
- **Objectives:**
  - o To enhance productivity of bovines and increase milk production in a sustainable manner using advanced technologies.
  - o To propagate use of high genetic merit bulls for breeding purposes.
  - o To enhance Artificial insemination coverage through strengthening breeding network and delivery of Artificial insemination services at farmers doorstep.
  - o To promote indigenous cattle & buffalo rearing and conservation in a scientific and holistic manner.

National Animal Disease Control Programme (NADCP)
- To vaccinate over 600 million cattle in the country in an effort to mitigate the two diseases namely, the Foot & Mouth Disease, & brucellosis.
- To control livestock diseases by 2025, and eradicate them by 2030.
- The livestock that will be covered under the programme includes cattle, buffalo, sheep, goats, and pigs against the FMD.
- The project will be **fully funded** by the Central Government.
- The programme envisages **100% ear tagging of the eligible animal population**.

Other Initiatives
- **Dairy Sahakar scheme:** It is an initiative of the Ministry of Agriculture and Farmers' Welfare, introduced in 2014-15, with the objective of sustainable development of livestock.

- **Animal Husbandry Infrastructure Development Fund (AHIDF):** Fund helps to increase milk and meat processing capacity and product diversification thereby providing greater access for unorganized rural milk and meat producers to organized milk and meat markets.
- **Pashu-Aadhar:** It is a unique ID on a digital platform for traceability for the
- animals.
- **National Digital Livestock Mission (NDLM)**
- **Livestock Health & Disease Control (LH&DC) Scheme:** It aims to reduce risk to animal health by prophylactic vaccination against diseases of animals, capacity building of Veterinary services, disease surveillance and strengthening veterinary infrastructure.
- **Dairy Processing and Infrastructure Development Fund (DIDF) Scheme:**
    - Launched: 21st December 2017
    - Objectives: To modernize the milk processing & chilling plants including value addition
- **E-GOPALA app**
- **Nationwide Artificial Insemination Programme**

IS THE CURRENT REGULATORY SYSTEM EQUIPPED TO DEAL WITH AI?

Context: The growth of Artificial Intelligence (AI) technologies and their deployment has raised questions about privacy, monopolisation and job losses.

Why AI is not a threat for the society?
- Technological change improves **aggregate productivity**. **Output of society** also goes up. People today are better off than they were because of technology.
- There is nothing special or different this time around with AI. This is just **another round of machines** being used to **increase productivity.**
- The primary risks emerging from AI happen to be the same risks with other digital technologies, like how political systems **integrate those technologies.**
- Some AI based systems are already operational and have been used for some time. AI is used today in **facial recognition in airports** in India and by law enforcement agencies.
- The human mind has **general intelligence.** They are able to think from scratch and be able to try to solve a problem. Machines don't know what to do.
- ChatGPT is just one **big, glorified database** of everything that has been written on the Internet.

What are issues related to the regulatory system to deal with the privacy and competition threats arising from AI?
- One important question in the field of technology policy in India is about **checks and balances**. There are questions related to the **kind of data** the government should own and its **surveillance powers** over us.
- There is also one big concern about the use of modern computer technology and its impact on our lives.
- There is also a need for laws for the **deployment of AI -based systems** to comply with the **Supreme Court right to privacy judgement** for specific use cases such as facial recognition.
- A lot of police departments and State governments are using this technology. It comes with **error rates.** This may result in **exclusion, harassment**. So, there needs to be a l**evel of restraint.**
- The government should pay greater attention to the **conversations happening in Europe** around AI and the **risk assessment approach.**
- The **presence or absence of competition** in this field is not cause of worry. On a global scale, there are many players. OpenAI and Microsoft collaborating on AI. Facebook is also building in this space. Google also has a big presence.
- This shows the extent to which **technical dynamism** generates **checks and balances** of its own. ChatGPT has raised a new level of **competitive dynamics** around Google Search.
- Indians are **spectators**. When it comes to issues such face recognition, nobody else is going to solve it for us. India is a poor country where **regulatory and state capacity** is very limited. So, the work done here will generally be of low quality.

- The tech landscape is dominated by Big Tech. They have a **computing power advantage, a data advantage, and a geopolitical advantage.**
- It is possible that the pre existing firms like Microsoft, Google, Meta may deepen their domination in AI.

How India 's handling of AI can be compared with China's authoritarian use of AI?
- China has built a **Chinese firewall** and cut off users in China from the Internet. The people connected with the ruling party in China get **monopoly powers** to build products that look like global products.
- They steal ideas and then design and make local versions in China. But it also comes at the price of **mediocrity and stagnation.** They're just copying things and not at the frontier. It will not lead to the development of **genuine scientific and technical knowledge.**
- So far in India, there is **decent political support for globalisation, integration into the world economy and full participation by foreign companies** in India. **Economic nationalism** is not yet a dominant impulse here. So, there is fundamental superiority in the Indian way.

Will AI completely replace all existing jobs?
- There should be focus on the **word 'productivity'**. It's good for society when human beings produce more output per unit hour as that makes us more prosperous.
- People who lose jobs will see job opportunities multiplying in other areas. The labour market does **relocation of jobs** every day.
- There were 12 million jobs operating an STD ISD booth in India. Then mobile phones came and there were apprehensions that millions of people would lose their jobs. In the end, the **productivity of the country** went up.

AGNIPATH SCHEME AND DOCTRINE OF PROMISSORY ESTOPPEL

Context: The **Supreme Court** has recently dismissed petitions challenging the **Delhi HC's judgement that upheld the Agnipath scheme for recruitment** to the armed forces.
- An argument on **Doctrine of Promissory Estoppel** was floated in the Supreme Court related to petitions of shortlisted candidates in the earlier recruitment process to Army and Air Force **which was cancelled when Agnipath scheme was notified.**

What is the Doctrine of Promissory Estoppel?
- **About:**
  o Promissory estoppel is a concept developed in **contractual laws. It prevents a "promisor" from backing out of an agreement** on the grounds that there is no "consideration."
  o The doctrine is invoked in court by a plaintiff **(the party moving court in a civil action) against the defendant** to ensure the execution of a contract or seek compensation for failure to perform the contract.
- **Related Case:**
  o In the **Chhaganlal Keshavalal Mehta v. Patel Narandas Haribhai (1981)** case, the **Supreme Court** listed out a checklist for when the doctrine can be applied.
    ▪ Firstly, there must be a **clear and unambiguous promise.**
    ▪ Secondly, the plaintiff must have **acted relying reasonably on that promise.**
    ▪ Thirdly, the **plaintiff must have suffered a loss.**
- **Current Stance of SC over Agnipath Petition:**
  o The Supreme Court pointed out that **"promissory estoppel is always subject to overarching public interest".**
    ▪ It also added that **"this is not a contract matter where promissory estoppel in public law was applied, it is a public employment"** and that "the question of applying this principle will not arise in this case".

What is the Agnipath Scheme?
- **About:**

- o It allows **patriotic and motivated youth to serve in the Armed Forces** for a period of **four years.**
  - ▪ The **youth joining the army will be called Agniveer.**
- o Under the new scheme, **around 45,000 to 50,000 soldiers will be recruited annually**.
  - ▪ However, after four years, **only 25% of the batch will be recruited back into their respective services,** for a period of 15 years.
- **Objectives:**
  - o It is expected to bring down the **average age profile of the** <u>Indian Armed Forces</u> **by about 4 to 5 years.**
    - ▪ The scheme envisions that the **average age in the forces is 32 years today, which will go down to 26 in six to seven years.**
- **Eligibility Criteria:**
  - o It is only for **personnel below officer ranks** (those who do not join the forces as commissioned officers).
    - ▪ **Commissioned officers** are the army's highest ranked officers. They hold an **exclusive rank in the Indian armed forces.** They often hold a **commission under the** <u>president's sovereign power</u> and are officially instructed to protect the country.
  - o Aspirants between the ages of **17.5 years and 23 years** will be eligible to apply.
- **Benefits for Agniveers:**
  - o Upon the completion of the 4-years of service, a **one-time 'Seva Nidhi' package of Rs 11.71 lakhs** will be paid to the Agniveers that will include their **accrued interest thereon.**
    - ▪ They will also get a **Rs 48 lakh life insurance cover for the four years.**
  - o In case of death, the payout will be over **Rs 1 crore,** including pay for the unserved tenure.
    - ▪ The government will help rehabilitate soldiers who leave the services after four years. **They will be provided with skill certificates and bridge courses.**

TARGETS FOR PM JEEVAN JYOTI BIMA AND PM SURAKSHA BIMA YOJANA

Context: Public sector banks (PSBs) have set a target for the sale of flagship government insurance schemes **Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY) in FY24**. They have also set goals for other financial inclusion schemes like <u>Mudra Yojana</u> and <u>StandUp India Scheme.</u>

Progress

- There are about 8.3 crore beneficiaries under PMJJBY and 23.9 crores under PMSBY, as of now.
- Since the launch of the schemes in 2015, 15.99 crore enrolment has taken place under PMJJBY, while 33.78 crores under PMSBY as of March 31, 2023.
- To achieve saturation under PMJJBY and PMSBY, the finance ministry launched a three-month campaign, starting April 1.
  - o Under the campaign, camps are being organised at the **Gram Panchayat** level across all **districts in the country by the banks**, with the active participation of the state administration and other ministries of the central government to ensure that the benefits of the two Jan Suraksha schemes reach the masses

About

- **Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY): It** is a one-year life insurance scheme renewable from year to year offering coverage for death due to any reason.
  - o **Eligibility**: Individuals in the age group of 18-50 years having a savings bank or a post office account are entitled to enroll under the scheme. People who join the scheme before completing 50 years of age can continue to have the risk of life cover up to the age of 55 years upon payment of the premium.
  - o **Benefits**: Life cover of Rs. 2 Lakh in case of death due to any reason against a premium of Rs. 330/- per annum.
    - ▪ the finance ministry revised rates from Rs 330 to Rs 436 under PMJJBY effective June 1, 2022.
  - o **Enrolment**: Enrolments under the scheme can be done by visiting the branch/ BC point or website of the bank of the account holder or at the post office in case of a post office savings bank account.

- The premium under the scheme is auto-debited every year from the subscriber's bank account based on a one-time mandate from the account holder.
- **Pradhan Mantri Suraksha Bima Yojana (PMSBY):It** is a one-year accidental insurance scheme renewable from year to year offering coverage for death or disability due to an accident.
  - o **Eligibility**: Individuals in the age group of 18-70 years having a savings bank or a post office account are entitled to enroll under the scheme.
  - o **Benefits**: Accidental death cum disability cover of Rs.2 lakh (Rs.1 lakh in case of partial disability) for death or disability due to an accident.
    - the finance ministry revised rates from Rs 12 to Rs 20 for PMSBY, effective June 1, 2022.
  - o **Enrolment**: Enrolment under the scheme can be done by visiting the branch/ BC point or website of the bank of the account holder or at the post office in case of a post office savings bank account.
    - The premium under the scheme is auto-debited every year from the subscriber's bank account based on a one-time mandate from the account holder.

UDAN 5.0 SCHEME

Context: Recently, the government has launched the fifth round of the Regional Connectivity Scheme – **UDAN (UDAN 5.0).**

What is UDAN (Ude Desh ka Aam Nagrik) Scheme?
- **About:**
  - o The scheme was **launched by the Ministry of Civil Aviation** for regional airport development and regional connectivity enhancement.
  - o It is **a part of the National Civil Aviation Policy 2016.**
  - o The scheme is applicable for a **period of 10 years.**
- **Objectives:**
  - o Improve the air connectivity to remote and regional areas of India.
  - o Development of remote areas and enhancing trade and commerce and tourism expansion.
  - o Enable common people to access air travel with affordable rates.
  - o Employment creation in the aviation sector.
- **Key Features:**
  - o Under the scheme, **airlines have to cap airfares for 50% of the total seats** at Rs. 2,500 per hour of flight.
  - o This would be achieved through:
    - A **financial stimulus in the form of concessions** from Central and State governments and airport operators and
    - **Viability Gap Funding (VGF)** – A government grant provided to the airlines to bridge the gap between the cost of operations and expected revenue.
      - **Regional Connectivity Fund (RCF)** was created to meet the viability gap funding requirements under the scheme.
  - o The partner State Governments (other than **UTs and NER states where contribution will be 10%)** would **contribute a 20% share to this fund.**
- **Previous Phases of the Scheme:**
  - o **Phase 1** was launched in 2017, with the objective of **connecting underserved and unserved airports** in the country.
  - o **Phase 2** was launched in 2018, with the aim of e**xpanding air connectivity to more remote and inaccessible parts** of the country.
  - o **Phase 3** was launched in November 2018, with the focus on enhancing air **connectivity to hilly and remote regions** of the country.
  - o **Phase 4 of the UDAN scheme** was launched in December 2019, with a focus on **connecting islands and other remote areas** of the country.
- **Key Features of UDAN 5.0:**
  - o It focuses on **Category-2 (20-80 seats)** and **Category-3 (>80 seats)** aircrafts.
  - o There is **no restriction on the distance between the origin and the destination** of the flight.

- o **VGF to be provided will be capped at 600 km** stage length for both Priority and Non-Priority areas; earlier capped at 500 km.
- o **No predetermined routes would be offered**; only Network and Individual Route Proposal proposed by airlines will be considered.
- o The **same route would not be awarded to a single airline** more than once, whether in different networks or in the same network.
- o **Exclusivity of operation provided to an airline will be withdrawn** if the average quarterly Passenger Load Factor **(PLF) is higher than 75% for four continuous quarters.**
  - ▪ This has been done to **prevent exploitation of the monopoly on a route.**
- o **Airlines would be required to commence operations within 4 months** of the award of the route; earlier this deadline was 6 months.
- o **Novation process** for routes from one operator to another has been **simplified and incentivized.**
  - ▪ Novation - The process of substituting an existing contract with a replacement contract, where the contracting parties reach a consensus.

What are Achievements under UDAN Scheme?
(As per the data released in Aug 2022 by the Ministry of Civil Aviation)
- The scheme has also been able to **provide a fair amount of air connectivity to Tier-2 and Tier-3 cities** at affordable airfares and has transformed the way travelling was done earlier.
- The number of operational **airports has gone up to 141 from 74 in 2014.**
- **68 underserved/unserved destinations** which include 58 Airports, 8 Heliports & 2 Water Aerodromes have been connected under UDAN scheme.
- With 425 new routes initiated, **UDAN has provided air connectivity to more than 29 States/ UTs** across the country.
- **More than one crore passengers** have availed the benefits of this scheme.

INTER-STATE WATER DISPUTE

Context: Odisha has complained to the Ministry of Jal Shakti under the Inter-State River Water Disputes (ISRWD) Act 1956 accusing Chhattisgarh of misleading the Mahanadi Water Disputes Tribunal (MWDT) by releasing water in Mahanadi river in the Non-Monsoon Season.
- The MWDT was formed in March 2018. The tribunal has been asked to submit its report by December 2025 by the Ministry of Jal Shakti.
- There is no inter-state agreement between Odisha and Chhattisgarh regarding Mahanadi basin water allocation.

What is the Concern of Odisha?
- Chhattisgarh has opened 20 gates at Kalma Barrage through which 1,000-1,500 cusecs of water is flowing into Mahanadi's low catchment area during the non-monsoon season.
- Chhattisgarh's reluctance to release water during non-monsoon seasons has often resulted in the non-availability of water in the lower catchment of Mahanadi.
- This also affects the Rabi crops and aggravates the drinking problem in Odisha.
- However, this time Chhattisgarh has released water without any intimation, which raised concerns over its management of Mahanadi River water.
- The state faced flood in upper catchment during monsoon and thus, opened gates without any intimation to Odisha.

What is the Mechanism for Inter-State River Water Disputes Resolution?
- As per Article 262, the Parliament has enacted the following:
- **River Board Act, 1956**: This empowered the GoI to establish Boards for Interstate Rivers and river valleys in consultation with State Governments. To date, no river board has been created.
- **Inter-State Water Dispute Act, 1956**: In case, if a particular state or states approach the Centre for the constitution of the tribunal, the Central Government should try to resolve the matter by consultation among the aggrieved states. In case, if it does not work, then it may constitute the tribunal.

- The Inter-State Water Dispute Act, 1956 was amended in 2002, to include the major recommendations of the Sarkaria Commission.
- The amendments mandated a one-year time frame to set up the water disputes tribunal and also a 3-year time frame to give a decision.

What are the Issues with Interstate Water Dispute Tribunals?

- Protracted proceedings and extreme delays in dispute resolution. Water disputes such as the Godavari and Cauvery disputes in India have faced long delays in resolution.
- Opacity in the institutional framework and guidelines that define these proceedings; and ensuring compliance.
- The composition of the tribunal is not multidisciplinary, and it consists of persons only from the judiciary.
- The absence of water data that is acceptable to all parties currently makes it difficult to even set up a baseline for adjudication.
- The growing nexus between water and politics has transformed the disputes into turfs of vote bank politics.
- This politicisation has led to increasing defiance by states, extended litigations and subversion of resolution mechanisms.

What Measures can be taken to Resolve Water Disputes?

- Bring Inter-state water disputes under interstate council constructed by the president under article 263 and need for consensus-based decision making.
- States must be motivated for water use efficiency in every domain and water harvesting and water recharging to reduce the demand on river water and in situ water source.
- Need of a single water management agency for both ground and surface water on scientific basis and also for technical advice on union, river basin, state and district level for water conservation and water management.
- Tribunals must be fast track, technical and also have a verdict enforceable mechanism in a time bound manner.
- A central repository of water data is necessary for informed decision making. It is important for the central government to take a more active role in resolving inter-state water disputes.

INDIA'S PUSH TO ERADICATE DRUGS

Context: The Ministry of Home Affairs (MHA) is making an aggressive push to eradicate drugs in the country. In the past three years, over 89,000 football fields of opium and cannabis cultivation have been destroyed across several states in the country. The government aims to make India "drug-free" by 2047.

What is the Extent of Drug Abuse in India?

- India is facing a serious challenge of drug abuse and trafficking, which affects the health, well-being, and security of millions of people, especially the youth.
- According to World Drug Report 2022, India has the 4th largest quantity of opium seized in 2020 at 5.2 tons, and the 3rd highest amount of morphine was also seized in the same year at 0.7 tons.
- According to the United Nations Office on Drugs and Crime (UNODC), India accounted for 7% of the global opium seizures and 2% of the global heroin seizures in 2019.
- India is also situated between two major drug-producing regions, the Golden Crescent (Iran-Afghanistan-Pakistan) and the Golden Triangle (Thailand-Laos-Myanmar), which makes it vulnerable to illicit drug trafficking.

What are India's Efforts in Eliminating Opium and Cannabis Cultivation?

- Opium and cannabis are two of the most commonly cultivated and consumed drugs in India.
- Opium is derived from the poppy plant and cannabis from the hemp plant. Both have psychoactive effects and can cause addiction and health problems.
- The government has intensified its crackdown on drugs with various measures such as destroying illegal crops, seizing drugs, arresting traffickers and creating awareness.
- Some of the achievements of the government in this regard are:

- According to the Narcotics Control Bureau (NCB), opium and cannabis cultivation in area the size of over 89,000 football fields has been destroyed in the past three years.
- The NCB said that in the past three years, 35,592 acres of poppy cultivation and 82,691 acres of cannabis cultivation have been destroyed across the country.
- The States where the crops were destroyed are Arunachal Pradesh, Assam, Manipur, Jharkhand, Madhya Pradesh, Himachal Pradesh, Jammu and Kashmir, Gujarat, Maharashtra, Odisha, Tripura, and Telangana.
- The NCB also said that it has seized over 6.7 lakh kilograms of drugs worth over Rs. 3,000 crore in the past three years.
- The seized drugs include heroin, opium, cannabis, cocaine, methamphetamine, MDMA (ecstasy), ketamine, etc.

How is the Government Tackling the Drug Problem?

Legislative Measures: The government has enacted various laws such as the Drugs and Cosmetics Act, 1940; the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985; and the Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act (PITNDPS), 1988

- To regulate and prohibit the manufacture, distribution, possession, and consumption of drugs.
- The NDPS Act provides for stringent penalties for drug offenses.

Institutional Measures: The government has created institutions such as the NCB, the Directorate of Revenue Intelligence (DRI), the Customs Department, etc.

- These institutions enforce drug laws and coordinate with other agencies at national and international levels.
- The NCB is also part of various bilateral and multilateral initiatives such as the SAARC Drug Offences Monitoring Desk (SDOMD).

Preventive Measures:

- The government has launched various schemes and programmes such as National Action Plan for Drug Demand Reduction (NAPDDR), Nasha Mukt Bharat Abhiyan (NMBA), etc. to
- These schemes prevent drug abuse and provide treatment and rehabilitation services to drug addicts.
- The NAPDDR aims to reduce drug demand through awareness generation, capacity building, de-addiction and rehabilitation.
- The NMBA aims to create awareness about harmful effects of drugs among school children.

NIDAAN and NCORD Portals:

- It is a database that contains the photographs, fingerprints, court orders, information and details of all suspects and convicts arrested under the NPDS Act which can be accessed by State and Central law enforcement agencies.
- On the National Narcotics Coordination portal (NCORD), the source and destination of drugs are highlighted and information up to the district levels is maintained.

What are the Challenges Associated with Drug Controlling in India?

- Lack of Adequate Infrastructure: There is a shortage of trained personnel, specialized equipment, and proper infrastructure to effectively combat drug trafficking and abuse.
- Proliferation of New Psychoactive Substances: The use of new psychoactive substances is on the rise in India, and these drugs are often not covered under existing drug control laws, making it difficult for law enforcement agencies to regulate them effectively.
- Dark Net Easing Drug Trafficking: As per NCB, the use of the 'dark net' and cryptocurrency in illegal drugs is increasing, and in 2020, 2021 and 2022, the agency investigated 59 such cases.
- Poor Awareness and Education: There is a lack of awareness and education about the dangers of drug abuse and addiction, especially in rural areas.
- High Demand: India has a large population, and there is a high demand for drugs, which fuels the drug trade.
- Social Stigmatization: Drug addiction is still highly stigmatized in Indian society, which makes it difficult for individuals to seek help and treatment.

What Measures can be Taken to Eradicate Drug-Abuse?

Strengthening Law Enforcement:

- Strengthening the implementation of the NDPS Act and PITNDPS Act by providing adequate resources, training and modern equipment to law enforcement agencies.
- Creating a more robust surveillance and intelligence gathering system to effectively curb drug trafficking along with improving coordination between agencies.

Enhancing Preventive Measures: Increasing the availability of affordable treatment and rehabilitation facilities for drug addicts and scaling up awareness campaigns to educate people about the dangers of drug abuse and the importance of seeking help.

Addressing Supply Reduction:

- Increasing the focus on intercepting drug supply chains by improving border controls, using advanced technology and increasing international cooperation.
- Reducing drug production through alternative livelihood programs for farmers engaged in illicit cultivation.
- Jharkhand State has launched an alternate livelihood scheme for farmers growing poppy illegally and provides cash incentives to destroy the illegal crops.

Strengthening International Cooperation:

- Strengthening cooperation with neighboring countries, especially those in the Golden Crescent and the Golden Triangle, to effectively curb drug trafficking.
- Strengthening partnerships with international organizations such as the UNODC and Interpol to exchange information and best practices.

Use of Technology:

- Big Data and analytics and AI to identify and track drug trafficking networks, monitor drug movements, and identify patterns related to drug abuse and trafficking.
- Drones and satellites, to monitor and detect illegal drug cultivation and provide high-resolution images of suspected areas.
- Develop an online reporting system where citizens can report drug abuse and trafficking activities.

SAME SEX MARRIAGE: STRUGGLE FOR EQUALITY

Context: Recently, the Supreme Court of India began hearing a series of petitions seeking solemnisation of same-sex marriage under the Special Marriage Act. The Special Marriage Act of 1954 provides a civil form of marriage for couples who cannot marry under their personal law.

In the proceedings the center advised the Supreme Court to defer the case to Parliament on the matter, stating that the law cannot be revised to permit same-sex marriage again.

In this context, there is a need to look into the matter of Same-sex marriage and its related issues.

What are Arguments Against the Same Sex Marriage?

- Religious Definitions of Marriage: Marriage has traditionally been between a man and a woman in many religions. The Special Marriage Act, 1954 was created to overcome the limitations of religious personal laws, not to create a new institution of marriage.
- **'Legitimate' Interest of State:** The state has a legitimate interest in regulating marriage and personal relationships, as seen in laws regarding age of consent, prohibited degrees of marriage, and divorce. The right to marry is not absolute and subject to state laws. Just like a parent cannot claim absolute control over their child's education, individuals cannot claim absolute control over their personal relationships.
- The state can claim legitimate interest to regulate, when to marry, how many times to marry, whom to marry, how to separate, and law on bestiality or incest.
- **The Right to Privacy:** In 2017, the Supreme Court recognized the right to privacy as a fundamental right and stated that sexual orientation is a crucial part of one's identity that must be protected without discrimination.
- However, privacy exists but it cannot be extended to marriage, which has a necessary public element. Consenting sexual relationships between adults are private, but marriage has a public aspect that cannot be ignored.
- **Legislation by Parliament:** Only Parliament has the authority to decide on same-sex marriage as it is a matter of democratic right and court should not legislate on the issue. There could be potential unintended

consequences in law and the complexity of dealing with the various permutations and combinations of genders falling under the LGBTQIA+ community (which has 72 categories).

- **Interpreting the Law:** The Special Marriage Act (SMA) cannot be interpreted to include same-sex marriage because the Act's entire architecture would need to be examined, not just a few words. For example, the Act provides specific rights to a wife, and it's unclear who would have these rights in a same-sex marriage. Additionally, allowing one party in a same-sex marriage to have a specific right could create a problem for heterosexual marriages.
- Law provides specific rights to a wife like "the law says that the wife acquires the domicile of the husband upon marriage. So, who will be the wife in a same-sex marriage?"
- Issue of divorce, under the SMA, a wife may seek divorce on the ground that her husband has been guilty of rape, sodomy, or bestiality.
- **Issues with Adoption of Childrens:** When queer couples adopt children, it can lead to societal stigma, discrimination, and negative impacts on the child's emotional and psychological well-being, especially in Indian society where acceptance of the LGBTQIA+ community is not universal.
- Gendered terms: Argument that gendered terms like 'mother' and 'father', 'husband' and 'wife' would be problematic in same-sex marriages.

What are Arguments in Favour of Same Sex Marriage?
- **Threat to Human Race:** Opposing same-sex marriage by saying it will end the human race is unreasonable because adoption is a solution for queer couples who want to raise children.
- **Elitist Concept:** The demand for marriage equality comes from less economically privileged people who need legal protection. Claiming that it's a matter for urban elites is deceptive. E.g. The story of Leela and Urmila, two policewomen who were suspended and locked up for getting married in 1987, shows the discrimination faced by LGBTQIA+ people in society.
- **Extend Special Marriage Act to Queer Indians:** The Special Marriage Act should be extended to include queer Indians by using gender-neutral language like "spouse" instead of "husband" or "wife". This would grant them the right to marry without asking for special rights.
- The Special Marriage Act allowed for a Bengali Hindu and an Anglo-Indian Roman Catholic to marry in 2006, and they hope this legislation will be extended to queer Indians.
- **Cohabitation as a Fundamental Right:** The Chief Justice of India (CJI) acknowledged that cohabitation is a fundamental right, and it is the government's obligation to legally recognize the social impact of such relationships.
- The justices suggested that recognition is needed for such relationships to receive certain benefits, but not necessarily as marriage. The CJI emphasized the importance of providing a sense of security and social welfare for people in such relationships.
- The court suggested labels like "contract" or "partnership" instead of "marriage". The government said there is no fundamental right to seek recognition of same-sex relationships as marriage.
- The Supreme Court of India discussed the recognition of cohabitation as a fundamental right for same-sex couples, which would entitle them to benefits without being equated to marriage.
- **Assimilation of same-sex couples:** The CJI has emphasized the need to assimilate same-sex couples into society rather than ostracizing them. The decriminalization of Section 377 of the IPC has recognized the existence of same-sex relationships.
- Government should address the practical issues faced by same-sex couples, such as joint bank accounts and entitlement to pension and gratuity.
- **Indian Culture and Value System:** In culturally rich India, where social norms and obligations wield significant influence, the acceptance of same-sex relationships still poses a challenge, even after legal recognition.
- It goes against the traditional values and beliefs of the Indian society. However, the recognition of same-sex marriage adds to the diversity of relationships that exist in society.
- **Human Dignity:** In Navtej Singh Johar vs. Union of India, the Supreme Court granted same-sex couples the freedom to lead a dignified private life.

- Biological gender is not 'absolute: The Supreme Court of India says that biological gender is not absolute, and that gender is more complex than just one's genitals. There is no absolute concept of a man or a woman.
- '**Bouquet of rights' being denied:** The LGBTQIA+ community is being denied important legal benefits like tax benefits, medical rights, inheritance, and adoption by not being allowed to marry. Marriage is not just about dignity, but also a collection of rights.

Way Forward:

- **Raise awareness:** The purpose of awareness campaigns is to promote equality and acceptance of all sexual orientations and expand public opinion about the LGBTQIA+ community.
- **Legal reforms:** Amends in the special marriage Act to allow same-sex couples to legally marry and enjoy the same rights and benefits as opposite-sex couples. Meanwhile bring the contract like agreement so the homosexual people can enjoy similar rights like heterosexuals.
- **Dialogue and engagement:** Engaging in a dialogue with religious leaders and communities can help bridge the gap between traditional beliefs and modern attitudes towards same-sex relationships.
- **Legal challenges:** The Indian LGBTQIA+ community can challenge the constitutionality of the current laws that prevent same-sex marriage in court. Such legal challenges can help establish a legal precedent that will pave the way for the legalization of same-sex marriage.
- The legalization of same-sex marriage requires a concerted effort from all stakeholders, including the LGBTQIA+ community, the government, civil society, and religious leaders. By working together, we can create a more inclusive society where everyone has the right to love and marry whomever they choose, regardless of their gender.

INTERNATIONAL RELATIONS

JAPAN'S NEW PLAN FOR A FREE AND OPEN INDO-PACIFIC

Context: Recently Japan unveiled **"Japan's New Plan for a Free and Open Indo-Pacific" (FOIP)** and exchanged views about deepening the **"Japan-India Special Strategic and Global Partnership"**.

Japan's New Plan for a Free and Open Indo-Pacific

- **Need of FOIP:**
  - Japan's FOIP underlines that given the current geopolitical landscape with the ongoing **Russia-Ukraine war**, growing **Chinese assertiveness in the South China Sea, East China Sea, the Indian Line of Actual Control** and the **Taiwan** Straits, there is a need to give a fresh push and momentum to this concept of "Free and Open Indo-Pacific".
- **Key highlights of FOIP:**
  - The New Plan for the FOIP lays stress on the need to uphold the **rules-based order** and respect each other's **territorial sovereignty**.
- **Role of India & other groupings:**
  - Japan's FOIP policy believes that a key for stability and prosperity in the international community is the dynamism that is created by combining **two continents - Asia and Africa** & **two oceans - the Pacific and Indian**.
  - The fact that Japan under the FOIP should work alongside other like-minded countries in the region has been mentioned, with **India being billed as an 'indispensable' partner**.
  - It also underlines the importance of the **Association of Southeast Asian Nations (ASEAN) centrality** and unity for the stability and prosperity of every country and the region as a whole.
- **Four pillars of cooperation:**
  - There is a realisation that Japan needs to do much more in the region, and towards this, 'four pillars of cooperation' under the new FOIP have been outlined:
    - Principles for peace and rules for prosperity;
    - Addressing challenges in an Indo-Pacific way;
    - Multi-layered connectivity; and
    - Extending efforts for security and safe use of the "sea" to the "air".

Elaborating on FOIP's Four pillars of cooperation

- **Principles for peace and rules for prosperity:**
  - In the first pillar, it has been pointed out that vulnerable **countries usually suffer** the most if there is an **erosion in the rule of law**.
  - Therefore, Japan wants to engage in **economic development programmes** such as promoting **the implementation of the G-20 Principles** for **"Quality Infrastructure Investment"**.
- **Addressing challenges in an Indo-Pacific way:**
  - Under the second pillar, Japan envisages the expansion of cooperation for the FOIP by incorporating **realistic and practical projects** in a wide range of areas, such as **climate change, food security, global health and cybersecurity**.
  - Japan has been working for long on connectivity projects bilaterally with many countries in the Indo-Pacific region.
- **Multi-layered connectivity:**
  - Under the third pillar, the three areas identified for introducing more such projects are **Southeast Asia, South Asia and the South Pacific/Pacific Island countries**.
    - Japan has made a new commitment of $100 million towards the **Japan-ASEAN Integration Fund;**
    - It will promote the **Bay of Bengal-Northeast India industrial value chain** concept in cooperation with India and Bangladesh, and

- The new **Palau International Airport Terminal project** (an archipelago in the western Pacific Ocean) supported by Japan has also taken off.
  - Its **major connectivity initiatives** involve the following:
    - **East-West Economic Corridor, Southern Economic Corridor (in South West Asia)**, **North East Connectivity Improvement Project (in India)**, **Bengal Bay Industrial Growth Zone, Mombasa/Northern Corridor,** etc.
- **Security and safe use of the "sea" to the "air":**
  - Under the fourth pillar, Japan will help in strengthening the capabilities of **maritime law enforcement agencies** in other countries.
  - Towards these objectives, Japan will
    - Implement the "**strategic use of Official Development Assistance (ODAs)**",
    - **Revise the Development Cooperation Charter** and Set forth **guidelines for ODA** for the next 10 years, and
    - Introduce **an "offer-type" cooperation** and a **new framework** for "private capital mobilization-type" grant aid.
  - Japan also announced that it would "mobilize" a total of more than $75 billion in **public and private funds in the Indo-Pacific region by 2030** in **infrastructure development**.

Challenges before the Indo-Pacific

- **Geopolitical:**
  - Japan's new policy focuses on the numerous challenges facing the Indo-Pacific such as the **Ukraine war, food security, and cyberspace** in addition to issues such as **ensuring the freedom of the seas**, and **connectivity** among others.
  - It identifies **piracy, terrorism, the proliferation of weapons of mass destruction (WMD)**, **natural disasters** and attempts to change the status quo as prominent challenges to the region.
- **Non-uniformity on international order:**
  - Another challenge highlighted is the lack of a united stand on "what the international order should be" the differing position of countries on the Russia-Ukraine war has brought this issue to the fore.
- **Growing Chinese belligerence:**
  - In the past, Japan' s PM had stated that "Ukraine today may be East Asia tomorrow", which shows Japan's concern about growing Chinese belligerence in the region.

Impact on India & way ahead

- **Japan's investment plans in India:**
  - At the **46th joint meeting of the India-Japan Business Cooperation Committee**, Japanese ambassador to India said, "**A Japan Bank for International Cooperation (JBIC)** worldwide survey has shown that **India tops the list for future investment targets** for mid- and long-term investment".
  - Japan's PM, in his recent visit, announced **plans to invest 5 trillion yen in India** over **five years**.
  - Japan is the fifth-largest investor in India, with around 1,450 Japanese companies already operating in the country today.
- **Cooperation & skill development:**
  - With Memorandums of Cooperation signed by the two countries on the **Technical Intern Training Programme (TITP)** as well as **Specified Skilled Worker (SSW)**, they are also cooperating in the areas of skill development and the movement of skilled workers.
- **Focus on Northeast India:**
  - Besides ASEAN, South Asia, especially Northeast India, has been the second area where Japan's policy focuses predominantly.
- **Resolve to lead:**
  - As Japan and India assume the Presidencies of the G7 and the G20 respectively, both countries have resolved to renew the pledge and do their utmost to lead the Indo-Pacific region and the world.

INDIA SLAMS OIC

Context: India slammed the **Organisation of Islamic Cooperation (OIC)** for its "communal mindset" and "anti-India" agenda.

- India's strong reaction came after the **OIC secretariat** issued a statement alleging targeting of the Muslim community in several states in India during Ram Navami processions.

India & OIC
- India has the **world's second-largest Muslim community**, and had been invited to the founding conference at Rabat in 1969, but was humiliatingly rejected at Pakistan's behest.
- In 2006, as **India turned the economic corner and improved ties with the U**S, Saudi Arabia invited Delhi to join as an observer
- However, **India refrained from joining citing** that it did not want to join an organisation founded on religion. Secondly, there was the risk that improving bilateral relations with individual member states would come under pressure in a grouping, especially on issues such as Kashmir.
- The OIC is mainly **controlled by Saudi Arabia, but Pakistan, as the only Islamic country** with nuclear weapons, has had a large say since its inception.

Changing terms
- After building close ties with powerful members such as UAE and Saudi Arabia, India has been confident of riding over any statement by the grouping.
- India has consistently underlined that **J&K is an "integral part of India and is a matter strictly internal to India"**, and that the OIC has no locus standi on the issue.
- In 2019, India made its maiden appearance at the OIC Foreign Ministers' meeting, as a **"guest of honour"**.

Significance of OIC for India
- OIC's growing economic and energy interdependence with India has become important in recent times.
- Individually, India has good relations with almost all member nations. Ties with the UAE and Saudi Arabia.

INVENTED NAMES: CHINA'S CLAIM OVER PARTS OF ARUNACHAL PRADESH

Context: Chinese Ministry of Civil Affairs said **it would "standardise" 11 place names** in what China calls **"South Tibet or Zangnan"**, an area consistently controlled by India.

China's renaming for places in Arunachal Pradesh
- **About:**
  - **China's Ministry of Civil Affairs** put out **names of 11 places in Arunachal Pradesh** in **Chinese, Tibetan and pinyin characters**.
  - The Chinese Ministry is acting in accordance with regulations on geographical names **issued by the State Council**, the **equivalent of the Chinese Cabinet**.
- **The places:**
  - These places include **two land areas, two residential areas, five mountain peaks and two rivers**.
  - It also **listed the category of places' names** and their subordinate **administrative districts**.
- **India's reaction:**
  - The Indian authorities said that they **rejected the move "outright"**.

Previous renaming attempts by China
- This isn't the first time that China has done something like this. It **released two different sets of "standardised" names** of places in **Arunachal Pradesh** back in **2017 and 2021**.
- **First list:**
  - The **six names on the first list then**, written in the Roman alphabet, were **"Wo'gyainling", "Mila Ri", "Qoidengarbo Ri", "Mainquka", "Bumo La"** and **"Namkapub Ri"**.
  - The latitude and longitude listed with the names showed those places as **Tawang, Kra Daadi, West Siang, Siang** (where Mechuka or Menchuka is an emerging tourist destination), **Anjaw,** and **Subansiri** respectively.
  - These six places spanned the breadth of Arunachal Pradesh **"Wo'gyainling" in the west, "Bumo La" in the east** and the **other four located in the central part** of the state.

- **Second list:**
  - o The second list included **eight residential areas, four mountains, two rivers, and a mountain pass**.
  - o Strongly reacting to the release of the second list, India at the time said **Arunachal Pradesh was, is, and will always be an integral part of India** and the "standardised" names were a **Chinese invention**.
    - ▪ This is exactly what India has reiterated after the Chinese authorities recently for the third time put out another set of names of places in the state.

Why is China giving names to places that are in India?

- China claims some **90,000 sq km of Arunachal Pradesh** as its territory.
- It calls the area "**Zangnan**" in the Chinese language and **makes repeated references to "South Tibet"**.
- **Chinese maps** show **Arunachal Pradesh as part of China**, and sometimes parenthetically refer to it as "so-called Arunachal Pradesh".
- China makes periodic efforts to underline this **unilateral claim to Indian territory**. Giving Chinese names to places in Arunachal Pradesh is part of that effort.

China's argument for claiming these areas

- **Background:**
  - o The People's Republic of China disputes the legal status of the **McMahon Line, the boundary between Tibet and British India** that was agreed at the **Simla Convention** officially **the 'Convention Between Great Britain, China, and Tibet'** of 1914.
    - ▪ The McMohan Line, named after Henry McMahon, the chief British negotiator at Shimla, was drawn from the eastern border of Bhutan to the Isu Razi pass on the China-Myanmar border.
  - o China was represented at the Simla Convention by a **plenipotentiary of the Republic of China**, which had been declared in 1912 after the Qing dynasty was overthrown.
  - o The present communist government came to power only in 1949, when the People's Republic was proclaimed. The **Chinese representative did not consent to the Simla Convention**, saying **Tibet had no independent authority to enter into international agreements**.
- **China's claims:**
  - o China claims territory to the south of the McMahon Line, lying in Arunachal Pradesh.
  - o China also bases its claims on the historical ties that have existed between the monasteries in Tawang and Lhasa.
  - • **Part of Chinese strategy:**
    - o It is a part of the Chinese strategy to assert its territorial claims over Indian territory. As part of this strategy, China routinely issues statements of outrage whenever an Indian dignitary visits Arunachal Pradesh.
    - o Beijing keeps harping on its "consistent" and "clear" position that the Indian possession of Arunachal Pradesh, though firmly established and recognised by the world, is "illegal", and asks New Delhi to stop taking actions to "complicate" the border issue.

Way ahead

- Laying aggressive claims to territories on the basis of alleged historical injustices done to China is **part of Beijing's foreign policy playbook.**
  - o The claim on Taiwan is one such example, as are the consistent efforts to change the "facts on the ground" in **several disputed islands in the South China Sea**.
  - o The aggression is at all times backed in overt and covert ways by the use of **China's economic and military muscle**.
- While **many rounds of talks have ensued**, and there has been disengagement at some standoff points, **political relations have not been resumed**.
- Until the government probes the reasons behind China's moves and the motivation for its persistent aggressions, **it will be hard to prepare for a future course of action,** even as it counters China's false narrative and a renaming of areas that are firmly within India's boundaries.

BHUTAN'S KING VISITS INDIA

Context: Bhutan's King visited India and met the Indian Prime Minister, where both leaders discussed bilateral cooperation and issues of **national and regional interests.**

What are the Key Highlights of the Meeting?
- **Bhutan's Development Plans:**
  o The focus was primarily on Bhutanese's Transformation Initiatives and Reforms Process, as well as India's support for Bhutan's development plans, including the **13th Five Year Plan** that starts from next year 2024.
  o Bhutan is set to graduate from the list of **Least Developed Countries** in 2023 and aims to turn into a developed country with a per-capita income of USD 12,000 in the next ten years.
- **Credit Facility and Financial Support:**
  o India has agreed to extend Bhutan a third additional standby credit facility and has also discussed financial support for reforms and institutional capacity building, infrastructure and connectivity projects, energy cooperation including hydropower and solar energy projects, as well as space cooperation, including the recent launch of the **India-Bhutan satellite.**
- **Power Tariff for Hydro-Electric Project:**
  o The Indian government has agreed to a long-pending demand from Bhutan to increase the power tariffs for the **Chhukha hydro-electric project,** which began operations with India's help in 1986.
  o Furthermore, India has agreed to discuss **buying power from the Basochhu hydel project** that was built with Austrian support in 2008.
- **Sankosh Hydel Project:**
  o The two sides will also try to expedite negotiations on the reservoir-based 2,500 MW Sankosh hydel project, which has been stuck for decades due to environmental and cost concerns.
- **Integrated Check Post:**
  o India is also examining the possibility of setting up the first **Integrated Check Post along the India-Bhutan border** at Jaigaon and expediting the proposed Kokrajhar-Gelephu rail link project.
- **Rail and Air Link:**
  o Bhutan is constructing its second international airport at Gelephu, near the border with India, and the rail link project would help build the southern Bhutanese city **into a hub for attracting international investment.**
- **Digital Infrastructure:**
  o Cooperation in newer areas beyond the traditional realms of cooperation such as new **STEM-based initiatives**, establishment of digital infrastructure such as the Third International Internet Gateway, integration of Bhutan's DrukRen with India's National Knowledge Network – a key cooperation in the domain of e-Learning, E-library project complementing Bhutan's efforts at digital transformation, e-learning, **were also discussed.**
- **Financial Cooperation:**
  o Under Financial Cooperation or Integration, the first phase of the RuPay project was launched, India's **Bharat Interface for Money (BHIM)** was also launched in July 2021.
  o The two sides will also review the implementation of the BHIM app in Bhutan.

How have been Indo-Bhutan Relationships?
- **Indo-Bhutan Treaty of Peace and Friendship, 1949:**
  o The Treaty provides for, among other things, perpetual peace and friendship, free trade and commerce and equal justice to each other's citizens.
  o In 2007 the treaty was re-negotiated, and provisions were included to encourage Bhutan's sovereignty, abolishing the need to take India's guidance on foreign policy.
- **Multilateral Partnership:**
  o Both of them share multilateral forums such as **South Asian Association for Regional Cooperation (SAARC)**, BBIN (Bangladesh, Bhutan, India, and Nepal), BIMSTEC (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation) etc.

- **Hydropower Cooperation:**
  - This hydropower cooperation comes under the 2006 Agreement on Cooperation in Hydropower. Under a protocol to this agreement, **India has agreed to assist Bhutan in the development of a minimum of 10,000 MW** of hydropower and import of surplus electricity from the same by 2020.
  - Four hydro-electric projects (HEPs)- Chhukha, Kurichu, Tala and Mangdechhu totaling 2136 MW are already operational in Bhutan and are supplying electricity to India.
  - Two HEPs namely, **Punatsangchhu-I, Punatsangchhu-II in Inter-Governmental mode** are under various stages of implementation
- **Trade:**
  - The trade between the two countries is governed by the **India Bhutan Trade and Transit Agreement 1972 which was last renewed in November 2016.**
  - In November 2021, the Indian government formalised the **opening of seven new trade routes for Bhutan's bilateral** and transit trade with India.
    - These new routes are expected to boost economic activity in the region and enhance connectivity between the two countries.
  - In addition to this, new market access has been provided to allow formal export of 12 agri-products from Bhutan to India, which is expected to provide a major boost to the country's agriculture sector.
- **Economic Assistance:**
  - India is Bhutan's leading development partner. Since the launch of the First Five Year Plan of Bhutan in 1961, India has been extending financial support to Bhutan's FYPs. India has allotted Rs 4500 crore to Bhutan's 12th FYP (2018-23).
- **Educational and Cultural Cooperation:**
  - A large number of college going Bhutanese students study in India. The Government of India provides a number of scholarships to Bhutanese students.

Way Forward
- The importance of environmental sustainability cannot be overstated in the context of Indo-Bhutan relations. Both India and Bhutan are blessed with abundant natural resources, and it is imperative that they **work together to preserve and protect these resources for future generations.**
- Therefore, it is crucial that India and Bhutan continue to prioritize environmental sustainability in their bilateral relations, and work towards achieving their shared goals of promoting sustainable development and protecting natural resources.

CHINA – RUSSIA RELATIONS AND ITS IMPLICATIONS ON INDIA

Context: The Chinese President's recent state visit to Russia highlights the growing strategic partnership between China and Russia, which has significant implications for India. Despite the Ukraine crisis, China remains committed to enhancing its partnership with Russia, as it sees the United States and its allies as determined to contain China. This growing China-Russia relations could have security, economic, and geopolitical implications for India.

Recent developments in China – Russia relations:
- China-Russia relations have been evolving rapidly in recent years, with both countries seeking to deepen their strategic partnership. Here are some recent developments:
- **Economic Ties**: China and Russia have been increasing their economic cooperation, particularly in the areas of energy and technology. For example, in the aftermath of the Ukraine invasion, Russia's trade with China in the Chinese yuan multiplied by an extraordinary 80 times.
- **Military Ties**: The two countries have also been increasing their military cooperation, with joint military exercises becoming more frequent. In November 2021, the two sides signed **a Road Map for Military cooperation for 2021-2025** to guide collaboration in this sphere.
- **Political Ties:** China and Russia have been aligning themselves more closely on the international stage, particularly in their opposition to the United States. For example, in 2021, China and Russia issued a joint statement condemning the United States for its interference in other countries internal affairs.

- **De- Dollarization Efforts**: Russia and China have a strong economic relationship and both countries are working together to reduce the global reliance on the US dollar. They believe that the current global economic system is too dependent on the US and seek to change this. Additionally, they are against the use of unilateral sanctions as a means of enforcing foreign policy.
- **COVID-19 Vaccine Cooperation**: China and Russia have also been cooperating in the development and distribution of COVID-19 vaccines. In 2020, Russia approved a Chinese COVID-19 vaccine for use within its borders, and in 2021, China approved the Russian Sputnik V vaccine for emergency use.

Implications of recent China – Russia relations on the US and its allies:
- **Strategic Competition**: The growing alignment between China and Russia poses a strategic challenge to the United States and its allies. The two countries' combined economic and military power could undermine U.S. influence in key regions, such as the Asia-Pacific and Europe.
- For example, Saudi Arabia and Iran announced they would re-establish full diplomatic ties and reopen their embassies in each other's countires after talks mediated in China. It indicates the decline of the USA's influence and boosts to Chinese influence.
- **Economic Competition:** The deepening economic ties between China and Russia could also create economic competition for the United States and its allies. For example, both sides committed to enhancing trade relationships, especially energy partnership and full completion of the 30-year, $300 billion gas pipeline called Power of Siberia, that was signed in 2014. It could threaten the United States' energy security.
- **Military Threat:** The growing military cooperation between China and Russia could also pose a military threat to the United States and its allies. If China and Russia continue to conduct joint military exercises and develop advanced military technology together, it could make it more difficult for the United States to defend its interests in key regions such as the Asia-Pacific.
- **Diplomatic Isolation:** The closer alignment between China and Russia could also isolate the United States diplomatically, making it more difficult for the United States to rally support from its traditional allies in the face of challenges posed by China and Russia.
- For example, Iran, Russia and China held naval exercises in the Gulf of Oman, along with a few other countries. It is opposite's to the United States' efforts to impose sanctions on Iran and North Korea could undermine the United States' diplomatic efforts to contain these countries.
- **Cybersecurity Threats:** The increased alignment between China and Russia also raises concerns about cybersecurity threats to the United States and its allies.
- For example, China and Russia could coordinate their efforts to launch cyberattacks on U.S. infrastructure and institutions. As China and Russia stand behind their No-limits partnership, announced last year and have embarked on a "New Era" of ties that will be a "model for major power relations.

Implications of recent China – Russia relations on India:
- The relationship between China and Russia has been growing stronger in recent years, with both countries seeking to increase their influence on the global stage. However, this alliance has significant implications for India.
- **Strategic implications**: The strategic implication is particularly in the areas of defense and security. India has been trying to counter China's growing military presence in the region, and a closer alliance between China and Russia could make this more difficult.
- **Geopolitical implications:** The closer alignment between China and Russia could also have geopolitical implications for India, particularly in terms of its relations with other countries in the region. India has been trying to strengthen its ties with countries such as Japan and Australia to counter China's influence, but a stronger China-Russia alliance could make this more difficult.
- **Military cooperation:** One of the main implications of the growing relationship between China and Russia for India is the potential for increased military cooperation between the two countries. This could lead to a greater military threat to India, particularly given the ongoing tensions between India and China over their border disputes.
- For example, the recent military exercises conducted by China and Russia in the Arctic region have raised concerns in India about the possibility of increased military cooperation between the two countries.

- **Regional politics:** China – Russia might work together on regional political issues, such as the ongoing conflict in Afghanistan. This could marginalize India's influence in the region and make it more difficult for India to pursue its foreign policy goals and undermine India's strategic interests in the region.
- **Economic competition:** The growing economic ties between China and Russia could also have implications for India. If China and Russia deepen their economic partnership, it could create a more formidable economic competitor for India in the global market.
- For example, both are in favour of using the Chinese yuan for settlements between Russia and the countries of Asia, Africa, and Latin America. This economic pact has raised concerns in India about the potential impact on its own economic growth and competitiveness.

Way forward by India:
- **Diplomatic Measures:** India should engage in active diplomacy with both China and Russia to strengthen its ties with these countries. This could involve high-level visits, cultural exchanges, and people-to-people contacts. For example, India could invite Chinese and Russian delegations to visit India and engage in constructive dialogue to deepen mutual understanding and cooperation.
- **Economic Measures:** India should also focus on enhancing its economic ties with China and Russia. This could involve exploring new trade and investment opportunities, as well as working on joint economic initiatives.
- For example, India, China, and Russia's recent initiative to create a common digital currency could be beneficial in strengthening their economic cooperation. This digital currency would facilitate easier transactions between the three countries. It could also promote trade and investment among the three nations and contribute to the development of a multipolar world order.
- **Regional Measures:** India should also focus on strengthening its position in the region by collaborating with other countries in the neighborhood. This could involve working on regional initiatives to promote peace, stability, and economic development.
- For example, India could work with other countries in the region, such as Japan and South Korea, to establish a regional security framework that would counterbalance the growing influence of China and Russia.
- **Strategic Engagement:** India needs to engage in strategic cooperation with both China and Russia to ensure regional stability and security. This could involve collaboration on issues such as counter-terrorism, maritime security, and climate change.
- **Multilateral Engagement:** India should engage more actively in multilateral forums such as the United Nations, G20, and SCO to project its voice and influence in the international community. India should also explore the possibility of leading initiatives in these forums that are aimed at promoting peace, stability, and development in the region.
- For example, India could work with China and Russia to promote regional stability and connectivity through the SCO framework.
- India can take several steps to address the challenges posed by the growing China -Russia relationship. These steps include **strengthening ties with other like-minded countries, building regional partnerships, promoting economic integration, investing in military capabilities, and engaging in diplomatic dialogue**. By pursuing these measures, India can enhance its own strategic partnerships and ensure peace and stability in the region.
- Overall, India should adopt a proactive and strategic approach to develop its relations with China and Russia. By doing so, India can position itself as a key player in the region and mitigate the potential negative implications of the evolving dynamics between China and Russia.

INDIA-JAPAN DEFENCE POLICY DIALOGUE

Context: Recently, the 7th **India-Japan Defence Policy Dialogue** was co-chaired by Defence Secretary of India and the Vice Minister of Defense for International Affairs of Japan in New Delhi.

What are the Key Details of Dialogue?
- **About:** The Defence Policy Dialogue is an institutionalized mechanism between India and Japan to discuss bilateral defence cooperation.

o The purpose of the meeting is to **discuss a wide range of issues** related to **defence cooperation** between the two countries.
- **Highlights of the 7th Dialogue:**
  o The two countries discussed Service-level exercises and engagements, regional security issues and cooperation in **defence equipment & technology.**
    - The **Japanese** Vice Minister presented policy updates from their recently released National Security Strategy and National Defense Strategy.
  o Both countries appreciated the **growing cooperation** between the **Services through Staff talks and exercises.**
  o They welcomed the conduct of the inaugural fighter exercise '**Veer Guardian'** between the **Indian Air Force and Japanese Air Self Defence Force** in January 2023 **in Japan.**
    - The Defence Secretary emphasized that both the countries should aim to deepen collaboration between the respective **defence industries,**
    - Japanese defence industries were invited for investment in India under the **'Make in India' initiative.**
  o Both sides agreed to diversify cooperation in new and emerging domains like **defence space and cyber.**

How are India's Relations with Japan?
- **Defence Cooperation:** Japan is one of the few countries with whom India has **2+2 ministerial dialogue**
  o India and Japan's defence forces also organize a series of bilateral exercises such as:
    - **JIMEX** (naval), **Malabar exercise** (Naval Exercise), **'Veer Guardian'** and **SHINYUU Maitri** (Air Force), and **Dharma Guardian** (Army).
- **Common Groupings:**
  o Both India and Japan are members of **Quad, G20** and **G-4**, **International Thermonuclear Experimental Reactor (ITER).**
  o **India-Japan Act East Forum** was established in 2017 which aims to provide a platform for India-Japan collaboration under the rubric of India's **"Act East Policy"** and Japan's "Free and Open Indo-Pacific Strategy".
- **Investment and ODA:**
  o India has been the largest recipient of the Japanese **Official Development Assistance (ODA)** Loan for the past decades for.
    - Delhi Metro is one of the most successful examples of Japanese cooperation through the utilization of ODA.
  o **India's Western Dedicated Freight Corridor (DFC)** project is funded by a soft loan provided by Japan International Cooperation Agency.
    - Japan and India had committed to build a High-Speed Railways in India.
- **Economic Relations**: Japan's bilateral trade with India totaled US$ 20.57 billion during FY 2021-22. India was the 18th largest trading partner for Japan, and Japan was the 12th largest trading partner for India in 2020.
- **India-Japan Digital Partnership: Discussion** is going on for the **"India-Japan Digital Partnership"** with a view to enhancing the digital economy through the promotion of joint projects in the area of **IoT (Internet of Things)**, **AI (Artificial Intelligence)** and other emerging technologies.
  o Japan is looking forward to attracting more highly skilled Indian IT professionals to contribute to the Japanese ICT sector.
- **Strategic Clean Energy Partnership**: For cooperation in areas such as electric vehicles, storage systems including batteries, electric vehicle charging infrastructure, development of solar energy, hydrogen, ammonia, etc.
  o Along with Digital Partnership, it was also announced at the **14th India-Japan Annual Summit**

What are the Challenges Related to Defence Cooperation?
- **China Factor:** While both countries have sought to strengthen their relationship as a counterbalance to China's influence, their approaches to dealing with China have differed.

- o India has been more vocal in criticizing China's actions, while Japan has been more cautious in its approach.
- **Defence Exports**: India is looking to export defence equipment to other countries, which could potentially compete with Japan's own defence exports.
- **Influence of US-China Rivalry:** The intensification of **Chinese-American rivalry** contributes to disturbance of **regional security** in **the Indo-Pacific.**

Way Forward
- India and Japan are required to transform their military strategy and build on the common interest in preventing the rise of a securing hegemony in the Indo-Pacific (US and China).
- More collaboration and cooperation can prove beneficial to both nations. There is also a huge potential with respect to Make in India.
  - o Joint ventures could be created by merging Japanese digital technology with Indian raw materials and labour.

INDIA, CHINA AND BHUTAN TRIALOGUE CAN BRING CLARITY ON BORDERS

Context: The article discusses various issues with the Bhutan and China boundary demarcation and stand of India on the issue.

What are the issues with the demarcation of Bhutan-China boundary?
- There are issues over the natural borders. **The Chumbi Valley** is one of them.
- The valley is important for strategic and economic reasons and has a significant relational value given its proximity to the Amochhu river. **The valley is also known as the Bhutanese route to Tibet.**
- The valley reflects **two broad principles** guiding the demarcations of borders in the Himalayas:
- **The Thalweg Doctrine:** It emphasises the idea of map-making by identifying rivers as the central point and measuring the boundary from the lowest point of a riverbed.
- **The water-parting principle:** It identifies territory with a concerned watershed, where the boundary is determined by the highest elevation surrounding that particular lake or river segment.
- These both principles have been merged in the ongoing border negotiations between China and Bhutan.
- The dispute in the north-west sector of the China-Bhutan border has revolved **around the watershed of the Chumbi Valley**, and the height of certain Himalayan ranges such as **Mt Gipmochi.**

What are the issues over Mt Gipmochi?
- China has legally claimed the boundary line from Mt Gipmochi, through the **Anglo-Chinese Convention of 1890**. The **Amochhu river flows adjacent to Mt Gipmochi.**
- However, both India and Bhutan have rejected these claims and stated that the boundary line should follow from Batangla, Merugla and Sinchula ranges as these peaks are higher than Gipmochi.
- **The Chinese have ignored** these assertions and have **continued to build villages along the west bank of Amochhu river.**
- Therefore, the **Thalweg Doctrine is the compromise formula** for solving the disputed claims.
- **How has India responded to the border dispute between Bhutan and China?**
- Since, the bilateral relations between Bhutan and China is of strategic importance to India, India has said that **the tri-junction would be resolved trilaterally**.
- In this regard, the **15th round of Sino-Indian Special Representative (SR) dialogue, 2012,** becomes significant.
- The India-China agreement on the Working Mechanism on Consultation and Coordination was made in SR dialogue of 2012.
- However, China has said that the SRs discussed bilateral, regional and global issues. **Terms such as "tri-junction" and "consultation with third countries" are absent in the 15th round of SR dialogue of 2012.**
- China has also said that issue lies more with the 1890 Convention than with the SR dialogue of 2012.

Way forward:

- It is important that a **trilogue is initiated**. Opening communication channels can minimise uncertainties as questions of peace and conflict cannot be resolved by potential stand-offs (like Doklam) in the future.

A CRUCIAL SIX MONTHS FOR INDIA- U.S. TIES

Context: The next six months are going to be crucial for India-U.S. ties. Prime Minister Narendra Modi is likely to head to the U.S. in June, and U.S. President Joe Biden is expected to visit India for the G20 summit later this year.

What are the areas of divergence between India and the US?
- The U.S. wants India to change its **stance on the Ukraine crisis**. India wants a **stronger position** by the US against China.
- India is reluctant to sever its **stable relations with Russia**. Moscow has just released its **foreign policy strategy** in which it has identified China and India as its **main allies.**
- India is also the president of the **Shanghai Cooperation Organization**, a forum that includes China and Russia. On the other hand, the **North Atlantic Treaty Organization** wants greater participation from Delhi.

What are the areas of convergence between India and the US?
- The **India-U.S. Initiative on Critical and Emerging Technology** is expected to expand **strategic technology partnership and defence industrial cooperation** between the governments, businesses, and academic institutions of the two countries.
- The **Indo-Pacific partnership** is aimed at promoting **security and economic growth, increasing trade and investment, and enhancing connectivity** in the region.
- The partnership is based on the **shared vision of a free, open, and inclusive Indo-Pacific region** that is respectful of the **sovereignty and territorial integrity** of all countries.
- The partnership involves a range of initiatives. It includes **joint military exercises, information-sharing on security issues**, and **collaboration on economic and infrastructure development projects**. It also involves cooperation in areas such as **counter-terrorism, cybersecurity, and maritime security.**
- One of the key objectives of the Indo-Pacific partnership is to counter the **growing influence of China** in the region. Both countries share concerns about China's **aggressive actions** in the South China Sea, its **expanding military presence** in the region, and its **Belt and Road Initiative.**
- In recent years, there has been growing interest in **diversifying supply chains** away from China. The reasons are **geopolitical tensions, trade disputes**, and concerns about **over-reliance on a single country.**
- India's **growing consumer market** makes it an attractive destination for U.S. businesses. India has a relatively **low-cost labour force and an abundance of skilled workers**. The government has also implemented policies aimed at attracting foreign investment and promoting economic growth.
- The U.S. and Indian governments have taken steps to promote closer **economic ties and facilitate investment.** For example, the **U.S.-India Strategic Energy Partnershi**p, aims to enhance cooperation in areas such as **energy security and access, and climate change.**

How has the India-U.S. relationship seen ups and downs over time?
- **Ups** – The **nuclear deal, liberalisation of markets, and the outsourcing of Indian techies** for U.S. companies are a few key moments of the relationship.
- Indian Americans are among the most successful immigrants in the U.S. India needs the **knowledge, skill and investment of the diaspora** to regain its global position.
- The **Green Revolution** had transformed India from a **shortage economy** to one with **surplus food** with help from the US. The U.S. has also played an important role in making India an IT superpower. Many persons of Indian origin are working in Silicon Valley companies.
- The U.S. and India are also partners in **combating climate change**. This involves a wide range of initiatives. It includes promoting **renewable energy, joint research and development projects, and investment in renewable energy infrastructure**. The two countries are also aligned on the importance of **space technology.**

- **Downs** – In the past, there was a **trust deficit** between India and the U.S. India feels that the U.S. has not given support to it and has instead provided support to Pakistan.
- The American pull-out from Afghanistan does not inspire confidence in the U.S. as a **trusted partner.** The U.S. has been flagging issues related to **terrorism, human rights and democracy** in India.

WILL GERMANY INC, BEARISH ON CHINA, TURN BULLISH ON INDIA?

Context: World's biggest economies are changing their views about China. This includes the US, Japan and Germany. This is because their investments in China are facing a combination of local competition, state policies favouring local businesses and geo-political tension calls. This forced countries like Germany to critically rethink the future of German industry in China.

What is the present state of German investments in China?

- **German giants are investing:** German Industry is heavily invested in China. After 2018, more than 80% of new European FDI has come from just the top 10 companies. This includes the three German automakers – Volkswagen, Daimler and BMW.
- **Declining investments from smaller companies:** Additionally, cutting-edge technology investments from smaller companies are also declining. For example, the share of mid-sized companies from the EU has declined from 51% in the 10 years before 2018 to about 20% between 2018 and 2021.
- **Low service sector investment:** There are relatively small European investments in the services sector.
- Reasons for the declining investments: a) German investors' declining interest in investing in mergers and acquisitions of Chinese companies is due to high valuations and nontransparent financials, b) China has created regulations that benefit local companies in terms of market access.

What are the other reasons for revisiting Germany's Chinese diplomacy?

- **Raw material dependency:** Excessive dependency on China for critical raw materials such as rare earth. This forced German industries to the diversification of critical raw materials, markets and investments. The German government has enacted the Critical Raw Materials Act, practising Foreign Direct Investment screening, and anti-coercion mechanisms.
- **The factor of Tik Tok:** Germany is debating on banning TikTok like India. This is because of Tik Tok's potential for misuse and manipulation of personal information.

Why India is a perfect place for German investments?

- India is not the default option. But India's significant potential for fast growth and expanding domestic consumer market are significant attractions of German investments.
- Recently, India's physical infrastructure and laws & regulations have been changed to attract global businesses. But, local bureaucracy is still a matter of concern.

What India should do to attract German investments?

- India needs to make a sustained outreach to business associations in Germany that India is not a difficult place to do business.
- Both India and Germany have to work on a consensus to finalise the long pending negotiations on Broad-based Trade and Investment Agreement. This will further create a robust economic relationship in a qualitatively new track.

DIPLOMACY, WITH A CHANGE IN TERMS OF REFERENCE

Context: Iran, Saudi Arabia, and China announced that an agreement has been reached between the Kingdom of Saudi Arabia and the Islamic Republic of Iran.

What are the important points about the agreement?

- It covers a **resumption of diplomatic relations** between them and a **re-opening of their embassies and missions** within a period not exceeding two months.
- The agreement affirmed their **respect for the sovereignty of states, and non-interference in the internal affairs of states.**

What are the implications of increasing closeness between Saudi Arabia and Iran?

- China brought Saudi Arabia together with Iran when Israel was thinking that the United States would bring it together with Saudi Arabia.
- There is a **substantial change in the strategic situation** in the Middle East. The Saudis are now **balancing their security** by playing off the U.S. against China.'
- **USA's influence and credibility** in the region has diminished. A new type of **international regional alignment** is taking place. It has **empowered** and has given both Russia and China **newfound influence and status.**

What are the background events that led to thaw in ties between Saudi and Iran?
- **Bilateral efforts** have been underway since early 2016 to ease tensions that had developed specifically between Tehran, Riyadh and Abu Dhabi. The Emir of Kuwait and the Sultan of Oman initiated steps that were responded to by Iran.
- Talks were also held in Baghdad and during **Iranian President Ebrahim Raisi's visit to China** in February.
- All were worried about the **attacks on shipping and energy facilities** in Saudi Arabia (KSA) and the United Arab Emirates and the **longer term implications of the regional conflicts** that were underway.
- During China's President Xi Jinping visit to Saudi Arabia in December 2022, he attended the first **China-Arab States Summit and the China-GCC Summit.**

What were the important developments during the Chinese President's visit to Saudi Arabia?
- Jinping's speech laid stress on **five priority areas: energy cooperation; finance and investment cooperation, innovation, science and technology, aerospace cooperation and Chinese language and cultural cooperation.**
- **Following are some of the initiatives launched Global Security Initiative**
- A c**omprehensive Strategic Partnership Agreement**
- The statement stressed the importance of **deepening joint cooperation with regard to the BRI** and on attracting Chinese expertise in Saudi megaprojects.
- The two sides signed **'a harmonising plan' between the KSA's Vision 2030 and the BRI.**

What is the importance of west Asia for India and Its policy towards this region?
- Apart from **historical linkages**, the region is in India's **proximate neighbourhood** and within its **security parameters**. It is the principal **source of hydrocarbon imports, and investments.**
- It is also an **important destination for manpower exports** apart from being a **major trading partner** including projects.
- India's reaction to this development has been **restrained.** The official policy has focused on bilateral relations and **avoidance of involvement in bilateral and regional disputes.**
- India has consciously **refrained from participation in alternate security architectures**. The region should not be **viewed in competition with China.** India should not consider itself a **surrogate for western powers** in power games.

CHINESE SHENANIGANS ON ARUNACHAL PRADESH

Context: China's Ministry of Civil Affairs released new names for 11 places in Arunachal Pradesh under the fig leaf of Standardizing Geographical Names in "Zangnan" (a bogus term invented by China to claim that Arunachal Pradesh is "Southern Tibet").

China's steps of naming places:
- **Media reports:** names include:
  - two residential areas
  - five mountain peaks
  - two rivers
  - two other areas".

- **In 2017,** China had 'renamed' six places that lie in Arunachal Pradesh.
- **In 2021, China standardized the names of 15 places, including population centers, mountains, rivers and mountain passes.**

Location of places:
- **Some of the places** are located along the **Pangchen-Tawang-Jang-Sela axis** running down from the **Line of Actual Control**
- **Near old Buddhist pilgrimage circuits** near **Taksing** in **Upper Subansiri district**
- **Mechuka-Tato tehsil i**n West Siang
- Towards the **Lohit** and **Anjaw districts,** near **Walong**.

Other steps around the globe by China:
- **In 2020**, China gave names to **80 geographical features** in the **Paracels and Spratlys** in the **South China Sea(**maritime disputes with several states).
- **In 1983,** it had named **287 geographical features** in the South China Sea.
- **Using the term "Diaoyutai" for the Senkaku Islands** in the East China Sea in the 1950s, even before raking up the Senkaku issue with Japan.

What is Chinese modus operandi?
- **It is to lay the groundwork** through fictional renaming of alien territories as a basis for sham "**historical**" claims which are then pursued using the warfares" strategy of:
  - Waging propaganda
  - Psychological and legal warfare.
- **Naming several under-sea features** in the Indian Ocean using the names of Chinese musical instruments.

Legislation for naming by China:
- **Geographical Name Regulation in 1986** designed to regulate naming, renaming, and standardization exercises.
- **Amended rule in 2022.** These pieces of legislation mainly dealt with naming, renaming, and standardizing names within China,
  - They also cover several **alien territories claimed by China.**
- **New Coast Guard Law in 2021,** to take necessary measures, including the use of force, to safeguard "sovereignty".
- **New law on the protection and exploitation of the country's land border areas in 2022:** This step has the effect of converting the boundary dispute with India into a sovereignty issue.

Changes around India-China border by China:
- **China launched the construction of dual-purpose villages**, the **Xiaokang villages**, in areas adjacent to the border with India, from **Ladakh to Arunachal Pradesh.**

Historical background:
- **Tibet And Its History by Hugh Edward Richardson**: **Qing** presence in **Tibet** began to emerge around **1720**.
- **After Chinese intervention** in the internecine succession struggle following the death of the **Sixth Dalai Lama (1683-1706).**
  - Therefore, there is absolutely no basis to the Chinese claim over **Tawang**, or any other part of **Arunachal Pradesh**
  - on the grounds that it is the birthplace of the **Sixth Dalai Lama.**
- **A study of the 1960 reports of the officials** of the two sides on the boundary question reveals the vague, patchy and superficial nature of "evidence" proffered by the Chinese side in support of Beijing's boundary claims.
- **Arunachal Pradesh (formerly North-East Frontier Agency (NEFA), i**s home to various tribes that have historically been a part of India's civilisational heritage.
  - **Most of its populace** has been historically oriented towards the Assam plains.

- o **The tribes were in regular contact with the Ahom power** in Assam, including for the grant of rights to levy the **Posha** from the plains people in the adjacent areas.
- **Some tribes, such as the Monpas, have professed Buddhism, o**thers follow animistic practices.
  - o Some tribes practice a form of **Vaishnavism**.
- **The Mahabharata, the Ramayana, the Kalika Purana, the Vishnu Purana, the Yogini Purana, and Kalidasa's Raghuvamsa** have references, indication of the inclusion of these tribal tracts in the collective consciousness and cultural moorings of ancient India.
  - o **These sources have indications about the boundarie**s of the kingdoms of **Pragjyotisha** and **Kamarupa**, whose limits appeared to include the whole of Arunachal Pradesh.
- **The Shiva Linga in Ziro, Parshuram Kund,** and the **temple ruins of Malinithan,** which are connected to the legends of Parashuram, Rukmini, Bhishmaka and Sishupala, show an ancient Hindu influence in the region.
- **Some Mishmis c**onsider themselves to be the descendants of **King Bhishmaka**
  - o **Some Akas claim** their descent from **King Bhaluka.**
- **Archaeological finds** have unearthed **silver coins** and inscriptions in the **Arabic script at Bhalukpong,** linked to a **Muslim ruler of Bengal.**
- **The architecture of many forts**, such as those at **Bhalukpong, Ita and Bhismaknagar (**built between the **10th** and **16th centuries**).
  - o **It is heavily influenced by the architectural principles** of fort construction found in the Ramayana, the Mahabharata, and Arthashastra.
  - o **These forts were frontier posts of the security system** that was prevalent in the **Brahmaputra Valley.**

Dispute between India and China in 1950's:(territorial dispute):
- **Whole of Aksai Chin** claimed by India
- **Whole of NEFA** (now Arunachal Pradesh) is claimed by China.
Present disputes:
- **Western sector (Ladakh)(China is seeking claims).**
  - o Trig Heights in the Daulat Beg Oldie (DBO) area
  - o Demchok in the south
  - o The Depsang Bulge
  - o Galwan
  - o Pangong Lake and Hot Springs
- **Middle (central sector):**
  - o Barahoti pasture north of Chamoli in **Uttarakhand**
- **Eastern sector (Arunachal Pradesh):**
  - o The international boundary and the LAC are defined by the **1914 McMahon Line**
  - o **China seeks to make inroads:**
    - Tawang sector
    - Upper Subansiri region
    - Tri-junction with Myanmar.
LAC:
- The LAC between India and China, is frequently open to challenge by either side.
- **Areas along the LAC** have been patrolled by both sides in the past.
- **The Chinese ingress in Sumdorong Chu valley** in the Tawang sector in 1986-87 resulted in a close confrontation that lasted eight years.
- **In 1995, two sides pulled back**: India relocating its **Jaya** and **Negi** posts on the south side of the **Hathungla-Lungrola ridgeline.**

Way Forward
- **There is no other comparable influence of any other culture o**r history on Arunachal Pradesh as a whole.
  - o **The State represents t**he finest of India's cultural and civilisational heritage.

- **India should reject China's charade** of giving Chinese names to places in Arunachal Pradesh
  - o **It should also assign Indian names t**o places and territories under the illegal occupation of China.
  - o **Aksai Chin, f**or example, may be called **Akshaya Chinha** — which means an "everlasting symbol" (of India).

G7 COMMIT TO PRODUCE CARBON-FREE ELECTRICITY BY 2035

Context: G7 countries concluded two days of meetings on climate, energy and environmental policy in the northern Japanese city of Sapporo.
  - o Renewable fuel sources and energy security have taken on a new urgency following Russia's invasion of Ukraine.

Key Highlights of the Meeting
- **Carbon-free electricity production by 2035:**
  - o The Group of Seven (G7) countries are committed to working towards ensuring carbon-free electricity production by 2035 and "accelerating" the phase-out of coal.
- **Impetus to Solar Power:**
  - o They agreed to accelerate solar and wind energy investments to produce 1,000 gigawatts (GW) by 2030 from solar power and 150 GW of wind power from off-shore platforms.
- **Removal of Fossil Fuel Subsidies:**
  - o They reaffirm the commitment to the elimination of inefficient fossil fuel subsidies by 2025.
- **Net zero in energy systems by 2050:**
  - o The members agreed to accelerate "the phase-out of unabated fossil fuels" - the burning of fossil fuels without using technology to capture the resulting CO_2 emissions - to achieve net zero in energy systems by 2050

Other Key Facts relating to Carbon Emission
- Temperatures have already risen by 1.1C since the pre-industrial era.
- The G-7 nations account for 40% of the world's economic activity and a quarter of global carbon emissions.
- Emerging markets and developing economies now account for more than two-thirds of global carbon emissions
- Russia is one of the world's largest suppliers of enriched uranium for civilian nuclear programs, with more than 40 per cent of enrichment capacity globally.
- India and China are significantly dependent on coal for electricity, whereas several developed countries, including the United States, Japan, Canada and Europe are reliant on gas reserves.

Challenges in Phasing out coal in India
At the United Nations-Conference of Parties (COP) meeting in Glasgow in 2021, India had objected to language in the agreement to **"phase out" and pushed instead for a "phase down" of coal.**
- **High Energy dependence:** Coal is Primary energy contributor with a 57% share of India's energy mix and Coal demand is expected to not peak until the early?2030s.
- **Very high Economic cost in phasing out**, for example Germany coal phaseout needs investment of more than 50 billion euros.
- **Resources richness:** According to the Geological Survey of India, India has 319.02 billion tones(bt) cumulative coal reserves in India and the economy of states like Jharkhand, Orissa depends on coal mining.
- **Negative impact on tax:** In FY20, the Centre alone collected approximately Rs 29,200 crore in GST compensation cess from coal.
- **Job loss:** one study has mentioned direct coal jobs at 7,44,984 excluding contract employees.
- **Issue of NPA:** Economic shifts and policy changes may turn coal-fired power plants into stranded assets (non-performing assets). This will rapidly decrease their value, or they may turn into liabilities. This process is already observed in some G20 countries.

India's Efforts

- **Revised NDCs:**
    - India is now committing itself to at least 45% reduction in emissions intensity of GDP by 2030 from 2005 level.
    - India is committing to ensure that at least 50% of installed electricity generation capacity in 2030 would be based on non-fossil fuel-based sources
    - Increase non-fossil energy capacity to 500 GW (gigawatts) by 2030.
    - Reduce the total projected carbon emissions by 1 billion tones (BT) by 2030.
    - Achieve net zero carbon by 2070.
- **The Pradhan Mantri Ujjwala Yojana**: It helped 88 million households to shift from coal-based cooking fuels to LPG connections.
- **Hydrogen Energy Mission**: Focus on generation of hydrogen from green power resources.
- **E-Vehicle:** India is accelerating its e-mobility transition with the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME Scheme).
- **Vehicle scrapping policy** to phase out old and unfit vehicles complements the existing schemes.
- **Perform, Achieve and Trade (PAT)**: It is a market-based mechanism to further accelerate as well as incentivize energy efficiency in the large energy-intensive industries.
- **Major Programmes in Renewable Energy Sector**
    - **National Solar Mission (NSM)**
    - **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM):**PM-KUSUM provides farmers with incentives to install solar power pumps and plants in their fields.
    - **Solar Parks Scheme**: To facilitate large scale grid-connected solar power projects.
    - **Green Energy Corridor (GEC):** To facilitate renewable power evacuation and reshaping the grid for future requirements.
    - **International Solar Alliance (ISA)**: It has 122 sun-belt countries as its prospective member countries and currently boasts a membership of 86 countries globally.
    - It is the largest grouping of states, after the United Nations
    - **National Action Plan on Climate Change**
    - **National Clean Air Programme (NCAP)**
    - **National Biofuel Policy**, etc.

RUSSIA-INDIA BILATERAL TRADE

Context: Recently, Russia's Deputy Prime Minister has attended the **24th Russia-India Inter-Governmental Commission (IGC) meeting** in India.

- Russia has expressed its interest in **importing manufacturing equipment**, including machinery, from India to replace those of Western origin.

What are the Key Highlights of the Meeting?

- Both countries reviewed the defense cooperation between India and Russia, which has been facing challenges related to deliveries and payments due to the **ongoing war in Ukraine.**
- The two countries discussed the **plans that India has for Russia's far eastern region**, which is an essential part of Russia's strategy in the **Indo-Pacific region.**
- They held discussions on bilateral trade efforts and the **identification of new industrial points that would provide additional impetus** for trade between the two countries.
    - Balance of trade currently **tilts in favor of Russia,** and hence, the two sides discussed **ways to bring more balance** in trade relations.
- Both sides also discussed a wide range of issues related to bilateral trade, economic, and humanitarian cooperation.
    - These discussions covered many areas of mutual interest, including those related to **technology, energy, healthcare, and education.**

What is the Status of India-Russia Trade Ties?
- India's total bilateral trade with Russia stood at ~USD 13 Billion in **2021-22 and USD 8.14 Billion in 2020-21.**
- Russia is India's **seventh biggest trading partner**, up from **25th position in 2021**.
  - The US, China, UAE, Saudi Arabia, Iraq, and Indonesia were the **six countries that recorded higher volumes of trade with India** during the first five months of 2022-23.

What are the Concerns Related to Bilateral Trade?
- **Trade Imbalance:**
  - India's **Imports from Russia** accounted for **USD 17.23 Billion**, while India's exports to Moscow were only worth **USD 992.73 million**, resulting in a **negative trade balance** of USD 16.24 Billion in 2020-21.
  - Russia's share in India's total trade has **increased to 3.54%, up from 1.27% in 2021-22.**
  - While Russia's share in India's total trade was **2.1% in 1997-98**, it has hovered below 2% for the last 25 years.
- **Factors Causing Trade Imbalance:**
  - The sudden jump in imports from Russia, **mainly oil and fertilizers**, which began to surge earlier in 2022, is the **main driver behind this increase in bilateral trade.**
    - **Petroleum oil** and other fuel items **accounted for 84% of India's total** imports from Russia, while **Fertilizers were second.**
  - Together, fertilizers and fuel accounted for **over 91% of the total imports** from Russia this year.

How can Trade Imbalance Between Russia and India be Addressed?
- **Indian Export to Russia:**
  - Both the countries are looking to increase Indian imports, particularly in the **machinery sector,** where India has advanced production capabilities.
- **Rupee-Ruble Mechanism:**
  - One of the challenges facing the trade relationship is payments, logistics, and certifications. Both sides are in talks to resort to the **Rupee-Ruble mechanism** to safeguard bilateral trade from the impact of western sanctions.
- **New Industrial Points:**
  - Both are looking to identify new industrial points that can give additional impetus for trade, and to negotiate a **Free Trade Agreement.**

Conclusion
- A multi-pronged approach that focuses on diversification, promotion of exports, negotiation of better trade deals, expansion of economic cooperation, and addressing structural issues **can help address the trade imbalance between India and Russia.**

THE LOC AGREEMENT OF 2007 DESERVES A RELOOK

Context: A former Special Envoy has confirmed in his book that the agreement on the Line of Control (LoC) in Kashmir, was ready to be signed by then Prime Minister Manmohan Singh and Pakistan President General Musharraf. But, the stand-off in Pakistan with the judiciary and the 26/11 attacks in 2008 has halted its progress.

What are some facts about the proposed agreement on LoC?
- The agreement proposed a **"4-point solution" and a "14 point set of guidelines"** for any settlement between the two countries. It includes **free flow of trade, ending cross border terrorism, respect for human rights, and bringing down military presence** on both sides of the LoC.
- The Line of Control has to be **respected like a normal border** between the two countries.

What is the current situation of the bilateral relationship between India and Pakistan?

- A **series of terror attacks,** from Mumbai to Pathankot and Pulwama has spoiled the relationship. **The reorganisation of Jammu and Kashmir** in August 2019, and the **amendment to Article 370** have made it difficult for any Pakistani leader to propose a **restoration of ties.**
- There are **no political contacts** at any level, **no trade, no direct travel links and no High Commissioners** in each other's countries.

What are the steps taken by the current government for the normalisation of relations with Pakistan?
- Prime Minister continued to seek engagement with Islamabad even after the several setbacks,
- **Backchannel talks** are believed to run between National Security Adviser and Pakistani intelligence. It focuses on **preventing hostilities.** The LoC ceasefire agreement of 2021 was the result of it.
- The two sides have also discussed measures that would lead to the **restoration of statehood** and elections in J&K, the **reappointment of High Commissioners** and the **restoration of visas and people-to-people ties.**
- These include initiatives such as the **Kartarpur Corridor** and the proposed **Sharda Peeth Corrido**r across the temple in Pakistan Occupied Kashmir's Neelum Valley.
- The next step would be to revisit the **nearly ready agreement** of 15 years ago.

Do the recent moves by the Indian government on J&K have an impact on relations between India and Pakistan?
- New Delhi's moves to revoke J&K's special status and Statehood did not change the **basis for a settlement** of the J&K dispute. Article 370 was always a **temporary provision**, and diluted over the decades. It was never recognised by Pakistan. Article 35(A) has had little to no effect in **changing demography** thus far.
- The **move on gender parity** in property inheritance had already been implemented in 2002. The move related to **downgrading the State to a Union Territory** will be reversed.

What is the way forward for India in its relationship with Pakistan?
- **Unjust arrests** and a continuing **security crackdown on politicians and civil society** in J&K should be stopped. There is a need to relook at measures like **internet bans and a stringent lockdown**, **targeting of journalists** and **human rights violations.**
- There is a need to end **cross-border terrorism** from Pakistan that the people of J&K, have suffered from for decades.
- Despite the precarious situation within J&K, the LoC has been **more or less stable** for more than half a century. Any military operation by either India or Pakistan to reclaim the other side is unlikely to make much headway.
- Pakistan is **facing internal crises. China at the Line of Actual Control** is a bigger challenge for India. So, India needs a more **stable Line of Control.**
- **Revisiting the agreement on LoC** about a decade and a half ago is eventually the only way forward.

CHINA'S OUTREACH IN CENTRAL ASIA

Context: Recently, China has conducted a meeting of trade ministers of the grouping known as **C+C5** — China and the five Central Asian republics, namely **Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, and Kyrgyzstan.**
- It was the latest in a series of diplomatic engagements by China with the region since the **Russian invasion of Ukraine.**

What is the China-Central Asia Engagement?
- **C+C5:**
   o The **first C+C5 summit held in Jan 2022** marked the **30th anniversary of diplomatic relations** between China and Central Asian nations.
   o China's historical trade and cultural links with the region date back to the **ancient Silk Route.**
- **Significance for China:**
   o The region **provides China with a market for cheap exports** and overland access to markets in Europe and West Asia.

- o Central Asia is **resource-rich, with massive reserves of gas, oil, and strategic minerals** such as uranium, copper, and gold.
- o China has also prioritized its relationship with these countries to ensure **peace in <u>Xinjiang Autonomous Region</u>**, which forms its frontier with Central Asia.
- **BRI and Investments:**
  - o China has been investing heavily in Central Asia through its **Belt and Road Initiative**, which includes projects in oil and gas, transportation, digital technology, and green energy.
  - o While China's investments have provided opportunities for economic growth in the region, there has also been resentment towards China due to its **treatment of Muslims in Xinjiang and concerns about its increasing presence** and land acquisitions.
    - ▪ Despite this, Central Asian governments have not joined international campaigns against China's treatment of its Muslim minority.
  - o China is now the region's **foremost trading partner, with talks underway for further transport and logistics projects** linking all countries in the region to China's seaports.

How are C5s Balancing their Relationships with Russia, China and West?
- **Heavily Dependent on Russia:**
  - o The region is heavily reliant on Russia, which is also the **main provider of security through the <u>CSTO (Collective Security Treaty Organisation)</u>.**
  - o However, the CSTO's unity is weakening, and the **conflict in Ukraine** has raised **concerns about the consequences of Russia's security** relationship with Central Asia.
    - ▪ In 2022 **Kyrgyzstan cancelled a CSTO military exercise** that was to be held on its territory last year, and **none of the five Central Asian countries have openly taken Russia's side** in the conflict.
  - o Nevertheless, Russia has increased its trade with the **region as it seeks to reduce its dependence on European imports.**
- **China's Increasing Engagement:**
  - o China has been increasing its engagement with Central Asia, leading some to speculate that Beijing is taking advantage of Russia's preoccupation with Ukraine to expand its influence in the region.
  - o While Russia may be concerned about Chinese expansion, there was no visible indication of this.
- **Seeking towards West:**
  - o Central Asian countries are seeking to develop trade relations with the West, including the European Union and the United States.
  - o However, the region's **landlocked geography and limited transport infrastructure have hindered** this effort.

What is India's Stake in Central Asia?
- **Cultural and Ancient Ties:**
  - o The Silk Route connected India with Central Asia from the 3rd century BC to the 15th century AD. From the export of Buddhism to the lasting influence of Bollywood, India has **shared old and deep cultural ties with the region.**
- **Security:**
  - o In December 2022, officials from Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan arrived in India for the **first India-Central Asia meeting of national security advisors.**
    - ▪ It highlighted the India-Central Asia relationship, emphasizing their common shared interests, such as stabilizing the **security situation in Afghanistan and reinforcing territorial integrity.**
  - o India has also attempted to boost its security presence in the region by **renovating military bases in Tajikistan.**
  - o If operational, the airbases would offer **India a strategic advantage against its two adversaries: China and Pakistan.**
    - ▪ Tajikistan is located close to the Wakhan Corridor, which connects Afghanistan and China, as well as **Pakistan Occupied Kashmir.**
- **Extended Neighborhood Policy:**

- o In 2022 India demonstrated its commitment to its **"Extended Neighborhood Policy (ENP),"** which calls to diversify its geopolitical partners and diplomatic goals, and its willingness to engage its Central Asian partners on a multitude of fronts.
  - ▪ The ENP was launched in 2014 and seeks to build a web of partnerships and economic cooperation with neighboring countries.
  - o The policy emphasizes **India's commitment to promoting regional stability, peace, and prosperity** through mutually beneficial cooperation with its neighbors.
- **Shanghai Cooperation Organization (SCO):**
  - o India joined **SCO**, as a full member in 2017.
    - ▪ SCO also includes Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan.
  - o The grouping provides India with a forum to establish **security relationships with Astana, Bishkek, and Tashkent,** adding on to robust ties with Tajikistan.
- **Connectivity as a Challenge:**
  - o While India has trading ties with the C5, it is **hobbled by the absence of a land route to Central Asia,** with **Pakistan denying it passage** and **Afghanistan being uncertain territory** after the Taliban takeover.
    - ▪ The **Chabahar port in Iran** offers an alternative route, but it is not fully developed yet.
  - o There have been suggestions that **India should provide connectivity** for people and trade in **Central Asia through "air corridors",** as it had done for Afghanistan.

Way Forward
- India must prioritize building long-lasting and reliable partnerships with Central Asian states, particularly in the face of **ongoing geopolitical challenges.** Security will remain a focal point for bilateral relations, but it is important for India to establish links through **transit, trade, investment, and people-to-people** connections.
- **India should take advantage of the vulnerabilities that the region has been exposed to** due to crises such as Russia's war in Ukraine and the Taliban takeover in Afghanistan.
- **Joint counterterrorism efforts** can help New Delhi establish itself as a consistent partner and monitor adversaries from a closer range.
  - o However, India must also **work on other issues to supplement the security aspect** and ensure that the relationship with Central Asia is not susceptible to geopolitical, economic, or domestic pressure.

INDIA AND SHANGHAI COOPERATION ORGANISATION (SCO)

Context: The visit of Chinese and Russian defence ministers to attend a ministerial meeting of the Shanghai Cooperation Organisation (SCO) in Delhi is attracting attention. India, as the chair of the organisation, has several bilateral issues to discuss with fellow SCO members such as de-escalation of border confrontation with China and supply of Russian spares and arms to India amidst the war in Ukraine.

Many countries are queuing up to join the SCO, which is inclusive and highlights the rise of non-Western security institutions. However, despite growing interest in the SCO from regional states, internal contradictions within the organisation are casting a shadow over its strategic coherence.

What are the Conflicts Among Member Countries of SCO?

Conflicts Exist Between:

India and China over Border Issues:
- After the 18th round of India- China Corps Commander Level Meeting still there is no breakthrough in easing tensions.
- India and Pakistan over Terrorism:
- State sponsored terrorism is cause of tension between India and Pakistan.
- Frequent cease fire violations on India Pakistan border is another cause of concern.

Kyrgyzstan and Tajikistan over Border Issues:
- The escalation of conflict between the two countries, as witnessed on September and then again in November 2022, has been a troubling development for the region.

- The conflict has the potential to cause a negative impact on the stability of Central Asia and its neighbouring regions.
- There are several conflicts between Taliban-led Afghanistan and Pakistan which makes the border area of the two countries unstable.
- The SCO's main objective is to promote peace in Eurasia, but its ability to cope with intra-state and inter-state conflicts among member states is under scrutiny.

What are the Challenges?
China's Rise:
- China's rise is increasing the prospects for China's emergence as the dominant force in inner Asia.
- This has led to external pressures from other regional powers, such as the United States, which has sought to contain China's rise and limit its influence in the region.

Limited institutional mechanisms:
- While the SCO has a number of bodies, such as the Council of Heads of State, the Council of Ministers of Foreign Affairs, and the Council of National Coordinators, these bodies lack the formal decision-making and enforcement powers that are necessary for effective governance.
- SCO lacks a formal mechanism for resolving disputes between member states.

Divergent Interests and Disagreements:
- The SCO includes member states with different political systems, economic models, and strategic priorities such as CPEC, border infrastructure projects etc., which can lead to internal conflicts and disagreements on issues such as economic cooperation and security.

Limited geographical scope:
- The SCO's geographical focus is limited to Eurasia and neighboring regions, which restricts its ability to engage with global issues and challenges.

Western skepticism and criticism:
- The SCO faces criticism from Western countries for its lack of democratic credentials, its support for authoritarian regimes, and its internal conflicts and border disputes among members.

What is the Importance of SCO for India?
Economic Cooperation:
- The SCO provides a platform for India to enhance economic cooperation with Central Asian countries, which have vast reserves of natural resources.
- India is seeking to increase its trade and investment ties with the SCO countries to diversify its economic partnerships.

Energy Security:
- Central Asia has vast reserves of oil and gas, and India is looking to tap into these resources to enhance its energy security.
- The SCO provides a forum for India to engage with the energy-rich countries of Central Asia and explore opportunities for cooperation in the energy sector.
- The Samarkand Declaration, signed at the 22nd Summit, centralizes connectivity which is a priority for India, as well as energy and food security.

Cultural Cooperation:
- The total Cultural Heritage of the SCO member states, observers and partners include 207 UNESCO World Heritage Sites.
- SCO member countries have decided to designate one city (from SCO member countries) as tourism and cultural capital every year under a rotating initiative.
- "Kashi" (Varanasi) has been designated as the first cultural capital of the SCO under this initiative.

Counterterrorism:
- The SCO has a strong focus on counterterrorism cooperation.
- India, which has been a victim of terrorism, can benefit from the collective efforts of the organization to combat terrorism in the region.

What is the Significance of the SCO?
Economic Cooperation:

- The eight member countries of SCO represent around 42% of the world population and 25% of the global GDP. There is an immense tourism potential in the region which can be promoted by increasing awareness about SCO countries.

Connectivity:

- The SCO is promoting connectivity among its member states through infrastructure projects, including the China-Pakistan Economic Corridor (CPEC) and the International North-South Transport Corridor (INSTC).

Security Cooperation:

- The main threats which are the focus of the SCO include terrorism, separatism and extremism.
- Regional Anti-Terrorist Structure (RATS) to promote cooperation among member states in the fight against terrorism, separatism, and extremism.
- RATS provides a platform for sharing intelligence, conducting joint exercises and operations, and coordinating actions to prevent and combat terrorism in the region.

Conclusion

The SCO is an attractive forum for regional states, but its internal contradictions are a cause for concern. Preventing conflict between member states is a higher priority for the SCO, but its record here is not impressive. While China's growing regional influence may come at Russia's expense, Russia and China have drawn closer than ever before and have little reason to quarrel over Central Asia. Russia's muscle and China's money provide a sensible basis for their strategic division of labour in Central Asia to keep the Western powers out of the region.

WORLD DEVELOPMENT REPORT 2023

Context: Recently, the World Bank published the World Development Report 2023: Migrants, Refugees & Societies. The report estimated a 120% income gain for Indians who migrate to another country for work, compared to a 40% rise in the case of internal migration.

What are the Highlights of the Report?

- **An Increase in Income:** Under-skilled Indian citizens migrating to the US noticed a hike in their income of nearly 500%, followed by the UAE by almost 300%. Those migrating to the Gulf Cooperation Council (GCC) nations other than UAE stand to gain less.
- **Overview of Global Migration and Refugees:** There are currently 184 million migrants globally, which is 2.3% of the population, including 37 million refugees. There are four types of migrants:
1. Economic migrants with strong skill match (e.g., Indian IT professionals in the US or construction workers in GCC nations)
2. Refugees with skills in demand at the destination (e.g., Syrian entrepreneurs in Turkey)
3. Distressed migrants (e.g., Some poorly skilled migrants at the US southern border)
4. Refugees (e.g., Rohingya in Bangladesh)
- **Top Migration Corridors:** India-US, India-GCC and Bangladesh-India have been identified to be among the top migration corridors globally along with Mexico-US, China-US, Philippines-US and Kazakhstan-Russia.
- **Increase in Remittances:** The remittances have increased to some of the countries with a large migrant population, including India, Mexico, China and the Philippines. India received the highest ever foreign inward remittances of USD 89,127 million in FY 2021-22. In 2021, total global remittances were estimated at USD 781 billion and have further risen to USD794 billion in 2022.
- **A Decline in Working-Age Adults:** The share of working-age adults will drop sharply in many countries over the next few decades. Spain is projected to shrink by more than one-third by 2100.

What are the Challenges in this Regard?

- **Global Inequalities:** As per the World Bank, migration issues are becoming even more widespread and urgent due to severe divergences between and within countries— in terms of real wages, labour market opportunities, demographic patterns and climate costs.
- **Lack of Citizenship:** A significant number of people do not have citizenship in the country where they reside. Less than half of the global migrant population, about 43%, live in low- and middle-income countries. This underscores the global nature of the issue of statelessness and highlights the need for action to address it.

- **Distressed Migration:** Some migrants move without skills that match the needs in the destination country and they are not refugees either. Such movements are often distressed irregular and take place under harrowing circumstances.

Way Forward:

- **Match-Motive Framework:** The "match" aspect is grounded in labour economics and focuses on how well migrants' skills and related attributes match the needs of the destination countries. "Motive" refers to the circumstances under which a person moves in search of opportunity. This determines the extent to which migrants, origin countries and destination countries gain from migration: The stronger the match, the larger the gains.
- **Manage Migration Strategically:** Origin countries should make labour migration an explicit part of their development strategy.
- **Balancing Skill Demand and Social Inclusion:** Destination countries should encourage migration where the skills migrants bring are in high demand, facilitate their inclusion and address social impacts that raise concerns among their citizens.
- **Ensuring Protection:** Provide international protection to refugees in a manner that can be sustained, financially and socially because most refugee situations last many years.
- **Manage Cross-border Relations Differently:** Bilateral cooperation can be used to strengthen the match of migrants' skills and attributes with the needs of destination economies.

NET ZERO INNOVATION VIRTUAL CENTRE

Context: In the recent India-UK Science & Innovation Council meeting, India and the United Kingdom announced the establishment of a 'NET Zero' Innovation Virtual Centre aimed at addressing climate change and environmental targets.

What is the NET Zero Innovation Virtual Centre?

- It is a joint initiative of India and the UK to enhance their cooperation on science and technology, especially on climate change and environmental issues.
- It will provide a platform to bring stakeholders from both countries together to work on some of the focus areas such as the decarbonization of manufacturing process and transport systems, and green hydrogen as a renewable source.
- It will support the goal of achieving net zero emissions balancing the amount of greenhouse gases emitted and removed from the atmosphere.
- It will also facilitate knowledge exchange, innovation, research and development, capacity building, and policy dialogue between the two countries.

What are the Key Highlights from the Meeting?

India-UK Science and Technology Cooperation:

- The UK has emerged as India's 2nd largest international research and innovation partner.
- The joint research program between India and the UK has grown from almost zero to close to £300-400 million.

India's Economic and Technological Capabilities:

- India is fast moving to become an economic powerhouse driven by its extraordinary technological and innovative capabilities, especially after the Covid vaccine success story.
- Energy efficiency and renewable energy are central pillars where India has already taken the lead through various initiatives like the India Solar Alliance and Clean Energy Mission.
- India is committed to achieving ambitious net-zero targets through consistent efforts towards developing mitigation and monitoring solutions for environmental pollution and techno-based pathways for reducing carbon emissions.

Industry-Academia Collaboration:

The cooperation will provide an opportunity for Indian and UK academia and industry to develop newer products/processes together for the economic growth of both nations.

SOCIAL ISSUES, EDUCATION

PRE-DRAFT VERSION OF NATIONAL CURRICULUM FRAMEWORK FOR SCHOOL EDUCATION

Context: The Ministry of Education released a pre-draft version of the National Curriculum Framework for School Education.

About Framework
- The National Curriculum Framework for School Education (NCF) is developed based on the vision of the **National Education Policy (NEP) 2020,** and to enable its implementation.
- It addresses education for the age group 3 to 18 years, across the entire range of diverse institutions in India.
  - o This is across the four Stages in the 5+3+3+4 Curricular and Pedagogical restructuring of School Education as envisioned in NEP 2020.
- The National Steering Committee under the chairmanship of K. Kasturirangan was set up by the Ministry to undertake and develop NCFs.

Key Highlights
- It leans towards making students acquainted with true sources of knowledge, which have been a philosophical preoccupation of ancient Indians.
- These sources focus on six pramanas:
  - o **Pratyaksa**, interpreted as perception through five senses;
  - o **Anumana**, which uses inferences to come to new conclusions
  - o **Upamana**, which is knowing through analogy and comparison;
  - o **Arthapatti**, which involves knowing through circumstantial implication,
  - o **Anupalabdhi**, which includes perception of non-existence, and
  - o **Sabda**, which the document explains is "something an individual can only directly know a fraction of all reality through direct experience and inference but must rely on other experts was acknowledged thousands of years ago".
- It recommends **developing moral values** for the child through a balanced diet, traditional games, yoga asanas, as well as a wide variety of stories, songs, lullabies, poems, and prayers to develop a love for cultural context.
- It focuses on the **importance of questioning** by giving examples of the Upanishads, and includes examples from Katha Upanishad.
  - o It terms debates between Adisankara and Mandana Misra as legendary.
- It also stresses on **identifying and explaining important phases** of the Indian national movement against British rule, with special reference to Gandhian and other subaltern movements.
- It also recommends **teaching concepts of Buddhism, Jainism and Vedic** and **Confucian** philosophies.

Objectives of this NCF
- It aims to help in **positively transforming the school education system** of India as envisioned in NEP 2020, through corresponding positive changes in the curriculum including pedagogy.
- It aims to help change practices in education and not just ideas
- It is this holistic **overall transformation of the curriculum** that will enable us to positively transform overall learning experiences for students.

Current Status
- This is a pre-draft of the NCF-SE which still requires several rounds of discussion within the National Steering Committee (NSC).

- Feedback from diverse stakeholders will further help NSC to look critically into different modalities and approaches.

It suggested 3 approaches to assessments: Assessment –
- '**Of learning**' (measurement of achievement of student learning),
- '**for learning'** (evidence of student learning gathered by the teacher that provides inputs to guide the teaching-learning processes) and
- '**as learning**' (when assessments are introduced as non-threatening tools for self-reflection and introspection).

GUIDELINES FOR ASSESSMENT OF CHILD SUSPECTS

Context: The National Commission for Protection of Child Rights (NCPCR) has issued guidelines for the assessment of child suspects in heinous offenses to determine whether a child should be treated as a minor or not in criminal cases which come under the "heinous" offences category of the Juvenile Justice (Care and Protection of Children) Act, 2015.

What are the Guidelines?
- Child suspects should be assessed by a team of experts, including a child psychologist or psychiatrist, a medical doctor, and a social worker.
  - o The assessment should take into account **the child's age, developmental stage, and maturity level**, as well as any history of trauma or abuse.
- The team should also consider the child's cognitive abilities and capacity to understand the charges against them.
- The **child suspects will be provided with legal aid and support** from child welfare agencies.
- The **Juvenile Justice Board (JJB)** will be responsible for conducting a preliminary assessment of the child suspect.
  - o The JJB must complete this assessment **within three months from the date** the child is first brought before it.
  - o If the JJB determines that there is a need for a trial of the child as an adult, **it will then transfer the case to the Children's Court.** Essentially, the JJB plays a key role in the assessment process and in determining whether the case should be tried in juvenile court or adult court.

What are the Categories of Offences under the JJ Act, 2015 and their Differentiation?
- The JJ Act, 2015 categorizes **offences committed by children into three categories: Petty offences,** Serious offences and Heinous offences.
  - o **Petty Offences** include those for which the maximum punishment under any law is **imprisonment up to three years**
  - o **Serious offences** include crimes for which the punishment is a **minimum imprisonment for a term of more than three years** and not exceeding seven years.
  - o **Heinous offences** include those for which **the minimum punishment under the Indian Penal Code or any other law is imprisonment for seven years** or more,
- There is a specific provision under which initiation of an inquiry into a heinous crime is differentiated based on the age of the child, **and two essential conditions need to be met for this preliminary assessment** to take place:
  - o The offence must be in the category of **"heinous" as defined in the Act,** and
  - o The child who allegedly committed the crime must be in the age group of 16-18 years.

What is the Need for such Guidelines?
- **Ensure their Well-Being:**
  - o Children who are accused of committing heinous offenses are **vulnerable and may require special care and attention** to ensure their physical and emotional well-being.
  - o An assessment can help identify any **underlying mental health issues,** trauma, or abuse that may require intervention.

- **To determine their Cognitive Capacity:**
  - o Children have varying levels of cognitive development, which can affect their **ability to understand the charges against them** and participate in legal proceedings.
  - o An assessment can help determine their level of understanding and ensure that they are not unfairly held responsible for actions they may not fully comprehend.
- **Legal Decisions:**
  - o Assessments of child suspects can provide **valuable information to judges and legal professionals,** who may need to make decisions about how to proceed with a case.
    - ▪ For example, an assessment may help determine if a child is fit to stand trial or if alternative measures, such as rehabilitation or counseling, would be more appropriate.

OUR NEW DIGITAL RULES MUST ENSURE ONLINE CHILD SAFETY

Context: The article discusses the threats associated with the use of the internet to children and measures needed to address those.

How are children vulnerable to the internet?
- Over the last few years and especially post-pandemic, access to the internet for children has increased for education, learning, and entertainment.
- Due to which, **online sexual abuse of children has increased by 400 times.**
- Therefore, the government is trying to revamp India's **Information Technology Act, 2000** and provide safe harbour to child safety.

Why is a safe harbour important for child safety?
- **Safe harbour ensures that users can benefit from an open, free and safe internet, and protects people from the dangers of mass censorship by intermediaries.**
- **The current IT Act provides safe harbour protection to online intermediaries** whereby platforms are liable to take down user-generated content on receiving 'actual knowledge' of its illegality through a court or government order.
- Therefore, increasing the accountability of online intermediaries is important.
- However, overarching restrictions on civil rights and dilution of safe harbour can impact user safety, as seen in the case of **SESTA-FOSTA legislations of the US**.
- Five years after its enactment, numerous reports came up suggesting that these laws had endangered the lives of sex workers. It made it difficult to gather evidence to investigate and prosecute traffickers.
- Therefore, the IT Act should be amended in such a way that it serves the purpose.

What changes can be made to the IT Act 2000?
- **Adopting Tech-Based Solutions:** The new IT Act must focus on expanding affirmative technology-based solutions to tackle child sexual abuse material (**CSAM**) and establish community hotlines for swift remedial measures. The Supreme Court of India also recommended these measures in the **Prajwala case of 2018.**
- Moreover, **public-private partnerships** to incentivize the growth of privacy-enabling technologies must be encouraged.
- **Tech companies must use cutting-edge technologies, adopt global best practices such as end-to-end encryption** and build new ways to identify and take action against perpetrators.
- **Greater responsibility sharing and capacity enhancement:** The new law should focus on deploying **streamlined grievance redressal processes** that intermediaries must adopt to efficiently respond to online harm.
- A process should be adopted for grading grievances **according to the degree of harm** and those related to **CSAM proliferation** should be addressed on an immediate basis.
- **Intermediaries should also make their terms of service easily comprehensible** for children and create easily accessible mechanisms for them to lodge complaints.

- Furthermore, improving **law enforcement authorities' capacity** to conduct efficient investigations and prompt prosecutions.
- **Sensitization and collaboration:** Children should be included as equal participants in the fight against online child abuse. **For instance, the Australian government** is instituting a **Youth Advisory Council**, which will provide the administration feedback on online safety issues and measures to counter cyber-harm.
- Many countries are also making efforts through their engagement of school systems to raise public awareness on the issue. **It could be helpful to adapt such practices to Indian educational systems as well**

INDIA @75, LOOKING AT 100: ACCESSIBILITY IS FOR EVERYONE

Context: The article discusses issues of accessibility with the disadvantaged group and measures needed to address those.

What is accessibility and why is it needed?
- **Accessibility is a fundamental human right**, but it's often overlooked in our daily lives. Therefore, there is a need to see beyond physical differences and treat everyone with empathy and respect.
- This includes learning how to interact with people with reduced mobility and understanding their needs. **For instance**, not misusing parking or sitting areas or using toilets designated for people with reduced mobility.
- **There is also a need to prioritize accessibility to the needy such as** wheelchair users, pregnant women, or children, and help make public spaces more accessible for all.
- When people have the freedom to choose how they want to live their lives, **they become more productive and contribute more to society and the economy.**

What are some of the concerns with accessibility in India?
- The **proportion of elderly** (over 60 years old) people in India is expected to **increase from 8.6 per cent in 2011 to 12.5 per cent by 2030 and almost 20 per cent by 2050.**
- Currently, **due to inadequate infrastructure**, elderly individuals who expect to enjoy their lifelong savings are unable to do so. They are unable to enjoy themselves due to unexpected challenges like temporary injuries, etc.
- However, as India turns 100 in 2047, it could proactively address accessibility issues.

How can India address the accessibility issues by 2047?
- Making India accessible by 2047 for everyone **requires collective effort**.
- India should **prioritise accessibility in its infrastructure development, transport and policies.** This will provide equal opportunities for all and ensure full participation in society.
- India is the world's largest democracy, and **it has a unique opportunity to lead the world in making accessibility a fundamental human right and position itself to become a superpower.**

THE FUTURE OF INDIA'S CIVIL SOCIETY ORGANIZATIONS

Context: The article deals with changing landscape of civil society in India.

What are the challenges faced by civil society in current times?
- CSOs lobbying for greater constitutional and civic freedoms are facing many challenges.
- The access of funds to CSOs has been restricted by cancelling Foreign Contribution (Regulation) Act clearances, revoking licenses, imposing retrospective taxes, and pressuring private companies and philanthropists to redirect funding.
- Civil society is being vilified as disruptive to India's development trajectory — and therefore anti-national.
- Some specific CSOs are the primary recipient of government patronage and also the principal beneficiary of Corporate Social Responsibility funds.

What are the issues with the working of CSOs?

- Instead of reorientation of their operational methodologies, CSOs still follow outdated tactics whose overall utility is fast diminishing. For example, sanctioned protests at Jantar Mantar in New Delhi, Town Hall in Bengaluru or Azad Maidan are not useful in the present scenario.
- Similarly, articles, speeches at think tanks/conferences, and petitions/open letters do not shame governments into any substantive course correction.
- Even lobbying legislators to raise issues is ineffective as it has become easy to hinder or ignore Parliamentary functions.
- Progressive CSOs fail to blend socio-cultural values with welfare/constructive work or calls to protect constitutional values. They are unable to reshape hearts and minds, and guide mass consciousness.
- Vast sections of society have been radicalized. This is a major shortcoming of progressive civil society.
- Evidence from various States suggests that local communities secure benefits from progressive CSOs, but ideologically align with the ruling government. This dichotomy has resulted in psychological fatigue among key activists.

What are the options for civil society?

- CSOs need some financial sustenance because of financial constraints. Without sustained support, CSOs cannot mould public discourse.
- Young activists could be inducted into political parties, either within the party organisation or in an aligned body. This could create an institutionalised moral force within the parties. This would afford parties a layered systemic approach to thorny issues.
- Currently, many parties consciously avoid direct exposure to difficult issues that could adversely impact them electorally. This includes communal disturbances, atrocities against Dalits and women, and advocating for Adivasi rights or civic and political freedoms.
- If an aligned civil society organisation took up such issues, it would ensure that a party remains connected to genuine community problems. There is a precedent to this, when the Congress Movement complemented the Congress system.

Way forward:

- CSOs will need to urgently collaborate with other progressive stakeholders. They will need to shed their studied aversion to each other and political parties.
- We need to find structural solutions to structural problems. This is our historic responsibility.
- Private philanthropies and companies need to realise that they are the only lifeline for progressive CSOs today. It is infinitely easier to support organisations that work on 'soft' issues that may not invite the wrath of the powers. But inaction today will directly contribute to the extinction of civil society.
- Conscientious Indians must find the courage to work together and silently devise new methods of collaboration.

THE MISSING MUSLIM WOMAN IN THE WORKFORCE

Context: The article deals with the issues of the employment status of Muslim women.

What are the statistics about Muslims in higher education?

- **AISHE 2021 data on higher education enrolment** in the country showed that there were more women than men from the Muslim community in undergraduate courses. Out of 1,000 Muslim students in higher education, 503 are women.
- But, there has been an **absolute decrease in Muslims in higher education**. The number of students from the community in higher education decreased to 19.21 lakh in 2020-21 from 21 lahks in 2019-20.

What are three disturbing trends shown by PLFS related to the employment status of women?

- The **female labour force participation (FLFP) rate** has stagnated at very low levels in our country. Women's employment is seen as a **supplemental source of income**.
- The share of women employed in **unpaid labour** has increased even for highly educated women. In 2017-18, 6.2% of women with graduate or higher levels of education worked as unpaid helpers. By 2021-22, this share had increased to 11.2 per cent.

What are the issues with the employment status of Muslim women?
- Muslim women are absent from the workforce.
- The **female labour force participation rate of Muslim women** in the country is 15%, as compared to 26.1% for Hindu women.
- Over the past three years, Muslim women have had the **lowest LFP rate** amongst all religious groups in the country.
- Only 12.4% of working Muslim women **are salaried** as compared to 16.2% of Hindu women.

What is the way forward to have more Muslim women in workplaces?
- Employers need to ensure **women's inclusion** in the workplace. They should also take an **intersectional approach.**
- Research shows that Muslim women face **significant discrimination in hiring** at entry-level roles. There is a need to **incorporate mechanisms** to address **biases in hiring.**
- There is a need to **avoid faith stereotyping, and design inclusive networking opportunities and company events**. It is necessary to promote **cultural awareness**, create an **inclusive schedule for employees with faith-related needs**. Women should be **offered compassion and support.**
- Government and policymakers need to make those jobs available that women want. They need to **create ecosystems** that are supportive of employed women. This involves creating space for women from all communities in **policy conversations.**
- Families and society need to prioritise women's employment so that women can have **agency, express themselves, and expand their sources of happiness.**
- The stereotype of men being the **sole breadwinner** of the family puts a lot of pressure on them. Women can be brought in to **share this burden.**

PREPAREDNESS AND RESILIENCE FOR EMERGING THREATS (PRET) INITIATIVE

Context: The World Health Organization (WHO) has launched a new initiative to be better prepared for future outbreaks of a similar scale and devastation as the COVID-19 pandemic.
More about the PRET Initiative
- **Global Meeting for Future Respiratory Pathogen Pandemics:**
    - The initiative was announced at the **Global Meeting for Future Respiratory Pathogen Pandemics** held in **Geneva, Switzerland**.
- **Aim:**
    - The **Preparedness and Resilience for Emerging Threats (PRET) Initiative** is aimed at providing "guidance on integrated planning for responding to any respiratory pathogen such as influenza or coronaviruses".
- **Immediate focus of the mission:**
    - While the current focus of PRET will be on respiratory viruses — in the backdrop of the SARS-CoV-2 outbreak.
        - Possible threat of an avian influenza outbreak work is already underway to assess what should be the next group of pathogens to be mitigated under this initiative.
- **Approach:**
    - **The three-pronged approach includes:**
        - Updating preparedness plans that affirm priority actions,

- Increase connectivity among stakeholders in pandemic preparedness planning through systematic coordination and cooperation and dedicate sustained investments,
- Financing and monitoring of pandemic preparedness with a special focus on bridging the lacunes highlighted during the COVID-19 pandemic.

- **The PRET monitoring framework:**
  o The framework is expected to be outlined soon, lists a host of actions which countries will be expected to work on with progress being achieved by December 2025.

Challenges faced globally, during COVID pandemic

- All countries had **insufficient health capacities**. This left the world acutely vulnerable to future health emergencies.
  o All countries remain **dangerously unprepared** for future epidemic and pandemic threats, including **threats potentially more devastating** than COVID-19.
- **65% of assessed countries** had not published and implemented an overarching **national public health emergency response plan** for diseases with epidemic or pandemic potential.
- **73%** of countries did not have the ability **to provide expedited approval** for medical countermeasures, such as vaccines and antiviral drugs, during a public health emergency.
- Most countries, including high-income ones, have **not made dedicated financial investments** in strengthening epidemic or pandemic preparedness.

India's Health Sector

- **About:**
  o India's health care system consists of both **public and private components**:
    - The government healthcare system concentrates on establishing **primary healthcare centers (PHCs)** in rural areas while maintaining a **small number of secondary and tertiary care facilities** in major cities.
    - Majority of secondary, tertiary, and quaternary care facilities are run by the private sector, with a focus on metropolises and tier-I and tier-II cities.
  o **In the Economic Survey of 2022**, India's **public expenditure on healthcare** stood at 2.1% of GDP in 2021-22 against 1.8% in 2020-21 and 1.3% in 2019-20.

- **Challenges:**
  o **Unequal distribution:**
    - India's health care system is concentrated in urban areas with very little presence in the rural areas where majority of the population lives.
  o **Low Budget Spending:**
    - India's public expenditure on healthcare is only 2.1% of GDP in 2021-22 while Japan, Canada and France spend about 10% of their GDP on public healthcare.
  o **Lack of Medical Research:**
    - In India, R&D and cutting-edge technology-led new projects receive little attention.
  o **Low doctor-patient ratio:**
    - The doctor patient ratio in India is about 1:1500 much higher than the WHO norm of one doctor for every 1,000 people.

- **Initiatives:**
  o **Pradhan Mantri-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM):**
    - It aims to strengthen India's health infrastructure and improve the country's primary, secondary and tertiary care services.
  o **Ayushman Bharat:**
    - **Ayushman Bharat follows a two- pronged approach:**
      - Creation of health and wellness centres to bring health care closer to homes.
      - Formulation of a Pradhan Mantri Jan Arogya Yojana (PMJAY) to protect poor and vulnerable families against financial risk arising out of health episodes.
  o **Ayushman Bharat Digital Mission:**
    - It aims to connect the digital health solutions of hospitals across the country. Under this, every citizen will now get a digital health ID and their health record will be digitally protected.

- o **National Ayush Mission:**
  - ▪ It is a centrally sponsored scheme for the development of traditional medicines
- o **Pradhan Mantri Swasthya Suraksha Yojana (PMSSY):**
- o It aims to correct regional imbalances in the availability of affordable/reliable tertiary healthcare services and also to augment facilities for quality medical education in the country

Suggestions for effective pandemic preparedness:

- **Prioritizing health security:**
  - o Prioritize the building and maintaining of health security capacities in national budgets as they are important for responding to routine health threats and can provide important benefits to countries' overall health and development.
- **Transparency in capacities and risk factors:**
  - o National decision-makers need readily available information about their country's plans and other capacities, and increased transparency is essential for a global prevention, detection, and response to epidemics and pandemics.
- **Conducting post COVID pandemic surveys:**
  - o Conduct comprehensive after-action COVID-19 pandemic reports so that they can learn from this crisis and ensure that capacities developed during the pandemic are expanded and sustained for future public health emergencies.
- **Global support:**
  - o Support countries in addressing the urgent global need to strengthen health systems as part of countries' public health capacity-building efforts.
- **Community engagement and equity:**
  - o Just as health emergencies have impacts across many sectors, so must our preparedness and response efforts span sectors, disciplines and pathogens.
  - o It is critical, too, that community engagement and equity are the centre of our efforts, especially for those populations that are marginalised and most at risk.

Way ahead

- The PRET Initiative ushers in a **new era for pandemic preparedness** and represents an **evolution of WHO's core activities** to support all member states in strengthening health emergency preparedness, prevention, and response capacities and capabilities.

GENERAL STUDIES 3.

ECONOMY

THE FOCUS OF THE NEW POLICY ON REDUCING POINTS OF FRICTION ACROSS THE SYSTEM IS UNMISTAKABLE

Context: Recently, the **Foreign Trade Policy 2023** was unveiled by the Union government.

What are the aims of the new trade policy?
- Shift from an **incentive to a tax remission**-based regime.
- Improve the **ease of doing business.**
- Promote exports through **collaborations.**
- Focus on **emerging areas.**
- The government has articulated the goal of achieving **$2 trillion in export of goods and services by 2030.**

What are the focus areas of the new policy?
- The focus of the new policy is on **reducing points of friction across the system**. The measures focus on providing **automatic approvals for various permissions.**
- For instance, the **processing time for revalidation** of various authorisations, which currently ranges from three days to one month, is expected to be brought down to one day.
- Facilitation of **e-commerce exports, widening the basket covered under RODTEP** are also the focus areas.
- Other thrust areas of the policy are steps being taken to **boost manufacturing, rationalising the thresholds for recognition of exporters, merchanting trade reform, and greater use of the rupee in international trade.**
- Further, a **one-time amnesty scheme** has been introduced that aims at faster resolution of trade disputes.

What is the way forward for better implementation of the policy?
- India accounts for a **minuscule portion of global trade**. Its share in global merchandise exports stands at around 1.8%, while that in services is roughly 4%. There is **considerable scope for improvement** for the country on this count.
- The new policy needs to be **supplemented with other measures** to boost the country's trade performance. These range from **lowering import tariffs and ensuring a competitive exchange rate to signing broader and deeper free trade agreements**.

DE-DOLLARISATION

Context: Recently**, India and Malaysia have agreed to settle trade in the Indian rupees.**
About:
- De-dollarisation is a **process of substituting the US dollars with another agreed currency** to carry out international trade transactions. It is a method of reducing the dollar's dominance of global markets.
- It is a way to reduce the **effects of weaponization of the US dollar.**
Advantages
- **Reducing Dependence on the US Dollar:** By using other currencies or a basket of currencies, countries can reduce their dependence on the US dollar and the US economy, which can help to **mitigate the impact of economic and political changes** in the US on their own economies.
- **Improving Economic Stability:** By diversifying their reserves, countries can reduce their exposure to currency fluctuations and interest rate changes, which can help to improve economic stability and reduce the risk of financial crises.

- **Increasing Trade and Investment:** By using other currencies, countries can increase trade and investment with other countries that may not have a strong relationship with the US, which can open up new markets and opportunities for growth.
  - Direct Trade in country's national currency leads to saving on currency conversion spreads,
- **Reducing US monetary Policy Influence:** By reducing the use of the US dollar, countries can reduce the influence of US monetary policy on their own economies.

Challenges

- **Not Fully Convertible:** The challenge for national currencies is that these are not fully convertible. Thus, despite the rise of alternate systems of trade, and multiple currency circulation systems, the dollar still dominates.
- **Currency Fluctuations:** National currencies can fluctuate in value relative to the dollar, which can make it difficult for countries to plan their economic policies and for businesses to make long-term investments.
- **Limited Use of National Currencies in International Trade:** The dollar is widely used in international trade, making it difficult for national currencies to compete. This can make it harder for countries to conduct trade with one another and for businesses to expand internationally.
- **Dependence on the Dollar:** Many countries are heavily dependent on the dollar for trade and financial transactions, which can make them vulnerable to changes in the value of the dollar and to the policies of the US government.
- **Financial Instability:** The dollar's dominance in the international financial system can contribute to financial instability in other countries, as they may be more susceptible to financial crises.
- **Monetary Sovereignty:** The hegemonic role of the dollar limits the monetary sovereignty of other countries by making it difficult for them to use monetary policy to stabilise their economies.

Initiatives:

- The Reserve Bank of India (RBI) unveiled a rupee settlement system for international trade as a step towards internationalising the rupee.
- Banks from eighteen countries were allowed by the Reserve Bank of India (RBI) to open Special Rupee Vostro Accounts (SRVAs) to settle payments in Indian rupees.
- India and Russia are considering the use of a third currency or inclusion of a third country like UAE to facilitate oil trade between the two countries.

Way Forward:

- India can further look forward to inclusion of BRICS countries or use of a common digital currency to protect the countries trade from Dollar risks.

POLAVARAM

Context: Recent Rehabilitation efforts have caused significant cultural Trauma for the Particularly Vulnerable Tribal Groups in the region.

About

- Polavaram is a **National multi-purpose irrigation project on the Godavari River** in Andhra Pradesh.
- It will facilitate an inter-basin water transfer from the Godavari River to the Krishna River through its Right canal.
- Its reservoir spreads in parts of Chhattisgarh and Orissa States also.
- The project is a **multipurpose major terminal reservoir project** for the development of Irrigation, Hydropower and drinking water facilities.
- The project was started in 2008, accorded national status **in 2014 in the Andhra Pradesh Bifurcation Act.**
- Although The Andhra Pradesh government extended the completion date to the 2022 Kharif season, work is still pending on the project.

The necessity of the project

- **Creation of Irrigation potential** : Domestic & Industrial Water supply to the cities, towns & villages en route and Steel Plant and other industries in the vicinity.
- **Utilisation of Hydroelectric Power.:** Development of Pisciculture, Navigation for Mineral & Forest produce and urbanisation besides tourism with new picnic spots.

- **Flood Control:** The floods in the Godavari are causing damage to standing crops and loss of property and cattle-worth several crores in the plains, with the help of the Polavaram Irrigation Project flow of the river can be regulated.
- **Navigation:** The Polavaram Project facilitates cheap and quick transport of forest produce and food grains to the marketing centres

Concerns
- **Rehabilitation:** It can affect the social, cultural and economic structure of the region considerably. Especially forcing people, whose settlement areas and lands remain underwater to migrate, affect their psychology negatively.
  - It could result in the submergence of a considerable amount of its territory, including protected tribal areas.
  - Many PVTG's like Konda Reddis have their life intertwined with the river. Rehabilitation of such groups far away from the river causes unbearable harm to their Tribal culture.
- **Destruction of Habitat:** The water regime may change as a result of the destruction of nature, unexpected floods may occur and consequently vegetation and natural structures in the riverbanks can be damaged.
- **Affects Fauna**: Normal passing ways of territorial animals can be hindered.

Way Forward:
- The implementing authorities should take into consideration the cultural dependence of the tribal people on the river while considering their rehabilitation.

WORLD BANK FORECASTS INDIA'S ECONOMIC GROWTH RATE

Context: The **World Bank** has released a report titled **"South Asia Economic Focus: Expanding Opportunities: Toward Inclusive Growth,"** which provides an economic forecast for India, Sri Lanka, and Pakistan.

What are the Major Highlights of the World Bank Report?
- **India:**
  - **Growth Rate:**
    - India's **growth rate has been downgraded to 6.3%** for **FY 2023-24 ,**and the report cites **high borrowing costs and slower income growth** as the primary reasons for this downgrade.
      - The **female labour participation** rate and the size and productivity of the informal sector are also concerns in India.
    - However, the **services sector** and the construction sector are the fastest-growing industries in **India**, with strong investment growth and high business confidence.
    - India's growth rate is expected to grow at **6.4% in FY 2024-25**, which is an upgrade of **0.3 % points from the previous forecast.**
- **Sri Lanka and Pakistan:**
  - The outlook for **Sri Lanka and Pakistan is bleak,** with Sri Lanka experiencing a contraction of -4.3% in 2023 and negotiating a **USD 3 billion loan from the IMF**, while Pakistan is forecasted to have a growth rate of **0.4% for the year ending June 30, 2023.**

What are the Major Projects in India Supported by the World Bank?
- **India Energy Efficiency Scale-up Program:** The development objectives of **Energy Efficiency Scale-up Program for India** are to **scale up energy savings in residential and public sectors**, strengthen Energy Efficiency Services Limited's (EESL) institutional capacity, and enhance its access to commercial financing.
- **Pradhan Mantri Gram Sadak Yojana:** The project aims to connect unconnected habitations with all-weather roads. **Key to the program is an all-weather access to the respective roads.**
- **Eastern Dedicated Freight Corridor Project:** The Government of India and the World Bank today signed a **USD 650 million agreement for faster and more efficient movement of raw materials and finished goods** between the north and eastern parts of India.

- **Innovate in India for Inclusiveness:** The development objective of Innovate in India for Inclusiveness is to facilitate **innovation in biopharmaceutical products** and medical devices that address public health priorities in India.
- **National Dairy Support Project:** The development objective is to increase the **productivity of milch animals and improve market access of milk producers** in project areas.

A NEW ECONOMICS FOR A NEW WORLD

Context: Economic challenges faced by the Indian economy:
- **First** is **management of inflation, interest rates, and exchange rates**. The Reserve Bank of India is expected to find a solution.
- **Second** is **negotiating bilateral and multilateral trade agreements** that protect the interests of India's farmers and workers. For which coordination is required amongst the Ministries of Commerce, Industry, and Agriculture.
- **Third problem** is **secure employment with adequate incomes.** It involves all Ministries and all State governments.

What are the lessons for India from the Chinese growth story?
- Economists agree that **more investments** will **boost growth**. Therefore, there are lessons in China's history.
- China and India opened their economies to global trade around the same time. Both countries had **similar levels of industrial technologies.**
- Since then, China has attracted many times more foreign investment than in India, and the incomes of its citizens have increased five times faster.
- **Wages in China** have become much higher. So, India seems well placed to attract global investors. But Vietnam is proving to be **more attractive** than India to western and Japanese investors.
- Western neoliberal economists have attributed China's remarkable economic growth to its **free trade policies.**
- However, after Vietnam's success, they rediscovered lessons from China. When both countries opened to foreign investors, they already had **high levels of human development**. Both had **universal education and good public health systems.**
- **Basic human development** must precede growth. Moreover, incomes must be increased simultaneously to enable **more consumption and attract more investments.**

What are issues with the current paradigm of economics?
- The current paradigm of economics cannot provide solutions. It is **too linear, too mathematical, too mechanical.** Economists have also separated themselves from other disciplines. They are **working in silos.**
- They should break out of it and **examine the complex systems.** It will help policymakers to comprehend **complex socioeconomic systems** in which many forces interact with each other.
- As per current paradigm, the **number of policy instruments** must equal the **number of policy goals**. So, there is a need for **independent monetary institutions** for managing inflation, separate trade and industry specialists, and separate policies for environment management and agriculture.

What are the steps needed to remove the inadequacy of the current economic system?
- Economists search for **global solutions**. Trade and monetary policies that fit the United States, China, Vietnam, or India will not work for others. Their needs have emerged from **their own histories.**
- Economists arrive at solutions by **comparing data trends** of different countries. In their models, people are numbers. Economists do not listen to real people.
- **Global solutions and economic theories** invented in the West have caused problems. **New solutions** are essential. The inadequacy of the current paradigm was revealed by the 2008 global financial crisis; COVID19 pandemic; and the global climate crisis.
- **A new economics** is required. There is a need to **change the paradigm of economics** to bring **perspectives from other systems**. India's economists must step forward and lead the changes.

OPPORTUNITIES FOR YOUTH IN STARTUP ECOSYSTEM

Context: India is celebrating its 75th anniversary as the world's youngest and largest democracy. The Prime Minister has set a goal of making India a developed nation by 2047, and the next 25 years have been dubbed "Amrit Kaal." This period will usher in the Swarnim Yug, which would see India become a developed nation by 2047. Providing opportunities for Youth will be crucial in accomplishing this goal. The government is enacting several programmes to fully realise their potential. With a billion Indians under the age of 35, India's demographic dividend is set to provide the country with a bright future.

Why does New India need to provide opportunities for youth in Startup Ecosystem?
- **Startups Catering to Market Demands:** The Indian domestic market and demand is projected to reach an enormous $384 trillion by 2047. India's villages currently house 11% of the world's population, but around 30 people are moving from villages to cities every minute. By 2047, 20% of the world's middle class will be in India, creating a new urban population that will require various services such as housing, infrastructure, education, health, and entertainment. Young entrepreneurs have a vast range of sectors to innovate in and meet the growing demand, offering tremendous opportunities for startups to disrupt the market positively.
- **India's Rapid Digitisation:** India is at the forefront of digitisation, with 41 percent of the world's real-time transactions occurring in the country. The IT industry in India is booming, with a YoY growth of 15.5 percent in FY22 and revenue surpassing USD 200 billion. Startups have the opportunity to leverage the development in tech sub-sectors like AI, blockchain, XaaS, cloud computing, and more. The Government of India is committed to promoting homegrown businesses and supporting Indian innovators in emerging as global leaders in futuristic technology.
- **Record FDI and Inclusive Growth:** Out of the $950 billion in FDI received since independence, $532 billion came in the last 8 years from 162 countries in 61 sectors across 31 states and UTs. The Digital India initiative has helped drive the growth of the startup ecosystem, especially in remote parts of the nation. The 'MARG' portal is providing crucial opportunities and funding for innovators and startups in remote areas, highlighting inclusive development in New India. The new engine of the Indian growth story lies in semi-urban and rural India.
- **India-Knowledge and content hub of the world:** Along with sports, our yoga-spirituality, music cinema, and philosophy-literature, etc., also have the power to establish Indian hegemony in the whole world. Today, India's Yoga Day and International Millets Day are the most popular among the programmes celebrated by the United Nations. So, India must develop ways of fully leveraging the potential of Indian soft power through startups also.
- **Opportunities in energy sector:** India holds the fourth position in the world, in the field of solar energy. The recently-discovered lithium deposits in Jammu and Kashmir are also likely to open up new opportunities. The energy sector promises guaranteed success and must be leveraged by the youth and startups so that India can become self-sufficient and a net exporter nation of energy by 2047.

What are the steps taken by the government to enhance the opportunities for Youth in Startup Ecosystem?
- **Startup India acts as a Catalyst for India's Youth:** Startup India has been a decisive and phenomenal intervention by the Government of India to make India's youth the best in the world. Launched in 2016, it has become a globally known journey of India's fast-paced, always innovating and resilient entrepreneurial ecosystem.
- Through Startup India, the youth have been given access to new opportunities and empowered to drive India's sustainable economic growth and create large-scale employment opportunities. This has transformed India into a New India where good economics is driving much-needed change.
- **Working towards digitizing:** The Union Budget 2023-24 aims to transform India into a scientific and digitized economy. The government is working towards digitizing all government processes to make them more citizen-centric.
- **Green Hydrogen Mission:** There is a provision of Rs. 35,000 crores for the energy transition in this budget. Rs. 20,000 crore have been given for the Green Hydrogen Mission. Agricultural startups: The Agricultural

Budget which was less than Rs. 25,000 crores in 2014 has been increased to more than Rs. 1,25,000 crore today.

- India is home to more than 3000 agri-startups today compared to almost nothing 9 years ago. The introduction of accelerator funds for agri-tech startups is not only creating digital infrastructure but also preparing funding avenues. Shree Anna is being promoted for the benefit of our small farmers as well as to increase the growth possibilities of startups in this sector.

- **Lowering the cost of logistics to increase competitiveness:** The National Logistics Policy (NLP), launched in September 2022, aims to lower the cost of logistics and increase the competitiveness of Indian products. The policy targets reducing the cost of logistics from the existing range of 13%-14% to levels on par with other developed countries.

- **Combining Policies:** The NLP's transformational capacities are further increased when combined with previous connectivity and infrastructure improvement schemes like Gati Shakti, Sagarmala, and Bharatmala. This synergy will further increase the efficiency efforts across all sectors of the economy and encourage value addition and enterprise.

How does the Knowledge-Based Digital Economy provide opportunities for youth in the startup ecosystem?

- **Building a knowledge-based digital economy:** A Digital Public Infrastructure will be developed for the benefit of farmers, while ICMR labs will be made available to private medical colleges and R&D companies for health-based research. Additionally, a Centre of Excellence will be set up to promote research and innovation in pharmaceuticals. District Institutes of Education and Training Centres will also be established to revolutionize teacher training, and a National Digital Library will be built.

- **Focus on skill development and training:** The Pradhan Mantri Kaushal Vikas Yojana will provide training in artificial intelligence, coding, 3D printing, and the Internet of Things. The government will open 30 Skill India international centers, three Centers of Excellence for Artificial Intelligence, and 100 labs for the development of 5G applications. Moreover, stipends will be given to 47 lakh youth to ensure equal opportunities for everyone.

- **Introducing the National Data Governance Policy:** To facilitate the use of data arising from digitization, the government will soon introduce the National Data Governance Policy. This policy will make India's data available to the country's youth to develop new technologies and innovations.

How do sectors of defence and space provide opportunities for Youth in Startup Ecosystem?

- **India's Defence Exports:** India's defence exports have been growing steadily over the past few years, with the goal of raising them from $1.5 billion to $5 billion by 2024-25.

- **Innovations for Defence Excellence (iDEX) Framework:** To promote innovation and technological growth in the defence and aerospace sectors, the government established the Innovations for Defence Excellence (iDEX) framework. This framework integrates industries such as MSMEs, startups, and individual innovators, as well as R&D institutes and academia, to promote self-sufficiency.

- **Defence India Startup Challenge (DISC):** The iDEX framework launched seven versions of the Defence India Startup Challenge (DISC) to encourage startups and inventors to develop successful prototypes. The Military India Startup Challenge has seen a huge number of firms participate in various rounds.

- **Success Stories of iDEX Framework**: So far, 136 startups have been engaged, and 102 contracts for prototype development have been signed. The Ministry has also granted Acceptance of Necessity (AN) for 14 iDEX goods, opening the door for orders to be placed with iDEX winners.

- **Central Sector Scheme for iDEX:** The government has authorised a central sector scheme for iDEX with a financial support of Rs 498.78 crore from 2021-22 to 2025-26. The problem statements generated by the defence forces are launched within the iDEX framework for the development of technologies and prototypes, thereby addressing the defence forces' real-time problems.

- **Conclusion**

- The youth of India are being praised for their innovative spirit, which has led to the success of the country's startup ecosystem. The Prime Minister has recognized their passion, sincerity, and integrity as the driving force behind this success. India's startups are constantly evolving and adapting, which is why they are

creating waves in the world. Young entrepreneurs are encouraged to continue playing and exploring new opportunities while upholding the spirit of Vasudhaiv Kutumbakam.

INDIA'S DAIRY SECTOR NEEDS A STRUCTURAL SHIFT

Context: India is faced with a milk shortage & the Centre has reportedly been considering the import of butter and ghee.

India's dairy sector
- India's success story in milk production was scripted by **Dr Verghese Kurien, known as the "Father of the White Revolution"** in India
- **Dairy:** It is the single largest agricultural commodity contributing 5 percent of the national economy and employing more than 8 crore farmers directly.
  - o India is ranked 1st in milk production contributing 23 percent of global milk production.
  - o Milk production in the country has grown at a compound annual growth rate of about 6.2 percent to reach 209.96 million tonnes in 2020-21 from 146.31 million tonnes in 2014-15.
- **Stakeholders in the sector:**
  - o Notably, **228 dairy cooperatives** reach out to **17 million farmers**, many of whom are likely to be assured of their milk being procured at the right time and at a fair price.
  - o This time, **private players have wrested some market share** from cooperatives by **offering higher prices** in a buoyant market.
- **Stagnation in the sector:**
  - o The Union Animal Husbandry Secretary recently said that cooperatives reported a 1-2 percent milk production increase in 2022-23, while the data from other players in the organised and unorganised sector point to stagnant output.
- **Outcomes:**
  - o **Rise in milk prices:**
    - ▪ **Milk prices,** which have been on the uptrend in the country, **could soon hit an all-time high**, forcing the world's biggest producer to step up imports to boost supplies and ease cost of living pressures.
  - o **Demand supply mismatch:**
    - ▪ Industry officials estimate **demand for dairy products to rise 7 percent** this year.
    - ▪ But milk production is likely to have risen just 1 per cent in the fiscal year to March 2023, well below the average annual rate of 5.6 per cent in the past decade

Challenges faced by India's Dairy sector
- Following factors have majorly played a role in the drying up of milk output vis-a-vis the annual growth trend of 5-6 percent.
- **Pandemic:**
  - o Demand destruction during Covid led to a **crash in prices** and with it the inability of dairy farmers to invest in the upkeep of their cattle.
  - o **Cattle breeding suffered** during pandemic lockdowns due to a **shortage of the village-level veterinarians** needed to conduct artificial insemination.
- **Lumpy skin disease:**
  - o Lumpy skin disease has, by all accounts, wreaked havoc. The **official death count of 1.9 lakh** cattle could be an underestimate.
  - o Although the Centre claims that **at least a third of the livestock** has been **vaccinated since last August** and that the worst is over, the effects of the disease will perhaps linger for a while as dairy farmers need to recoup income and capital losses.
  - o **Long-term effects:**
    - ▪ Lumpy skin disease, which **causes blisters** and **reduces milk production** in cows, has infected millions of cattle and killed more than 184,000 in India, including around 76,000 in Rajasthan, according to government data.

- ▪ Farmers in Rajasthan who managed to protect their cattle through vaccinations, now complain about **lower incomes as the disease has left them with low-yielding cattle**.
- **Fodder inflation:**
  - o **Fodder inflation at 30 percent** has been a critical factor. According to ICAR scientists, **fodder and feed account for 70 percent of the cost of milk**.
  - o **Fodder inflation is an endemic issue**, as supply has not kept pace with the demand. It has for decades been **grown on just 4 percent of farmland**.
  - o Fodder development does **not find much of a place in animal husbandry budgets**.

Government's Initiatives Related to the Dairy Sector
- Several measures have been initiated by the government to increase the productivity of livestock, which has resulted in increasing milk production significantly.
- **"Dairy Sahakar" scheme:**
  - o Union Minister of Home Affairs and Corporation launched the "Dairy Sahakar" scheme **at Anand**, Gujarat, during the function organised by Amul **for the celebration of the 75th Foundation Year of Amul**.
    - ▪ The Dairy Sahakar with **a total investment of Rs 5000 crore** will be **implemented by NCDC** under the **Ministry of Cooperation** to realize the vision, "from cooperation to prosperity".
- **Lumpi-ProVacInd:**
  - o It is jointly developed by **ICAR's National Research Centre on Equines (NRCE)** and the **Indian Veterinary Research Institute (IVRI)**.
    - ▪ It is a live attenuated vaccine, similar to those used against tuberculosis, measles, mumps and rubella.
- **National Animal Disease Control Programme (NADCP):**
  - o It is a flagship scheme launched in September 2019 for control of **Foot & Mouth Disease and Brucellosis** by **vaccinating 100% cattle,** buffalo, sheep, goat and pig population for FMD and 100% bovine female calves of 4-8 months of age for brucellosis in five years (2019-20 to 2023-24).
- **Dairy Entrepreneurship Development Scheme (DEDS):**
  - o The department of Animal Husbandry, dairying and fisheries is implementing DEDS for **generating self-employment opportunities** in the dairy sector, covering activities such as **enhancement of milk production, procurement, preservation, transportation**, processing and marketing of milk by providing back ended capital subsidy for bankable projects.
- **e-GOPALA:**
  - o The web version of the e-GOPALA application developed by the National Dairy Development Board (NDDB) has been launched to aid dairy farmers.
- **Launching of Dairy mark:**
  - o **The National Dairy Development Board (NDDB)** and **Bureau of Indian Standards (BIS)** together developed **a dedicated 'Dairy Mark' logo** as a unified quality mark across India to boost the confidence of consumers in milk and milk products.
    - ▪ **A unified Conformity Assessment Scheme** has been chalked out by BIS with the help of NDDB after extensive stakeholder consultations.

Suggestions & way ahead
- **Dairy product demand is growing rapidly** with rising population, incomes, urbanisation and changing diets.
- For a sector that supports more than 80 million farmers, and one that can provide a livelihood to many more small and marginal farmers (120 million of them, with plots too small for viable farming), **it is worth investing in policies to address embedded supply constraints**.
- Today, there is room for all players to grow, given the demand scenario.
- **For producers:**
  - o For sustainable dairy development, it is important that **producers, most of whom are poor**, are **spared price volatility** — they deserve price assurance of some sort.

- **Cooperatives:**
  - o Cooperatives revolutionised dairying, but due to a variety of factors their success has not gone beyond Gujarat and Karnataka.
- **For private players:**
  - o Private players should be nudged to invest in supply chains in this capital-intensive business.

BOOSTING FARM MECHANIZATION EFFORTS

Context: According to a recently released white paper by the **National Council of Applied Economic Research (NCAER)**, the farm machinery industry in India faces significant challenges in meeting the demands of small and marginal farmers.

The **farm machinery industry is characterised by both demand and supply-side challenges.** Farm mechanisation in India, at 40-45%, remains low compared to the rest of the world; in the US it is 95%, Brazil 75%, and China 57%.

Despite low levels of farm mechanization in India, skills shortages and a lack of awareness among farmers about technology and machinery management pose significant obstacles to progress.

What is the Farm Machinery Industry?

- The Farm Machinery Industry is an **industry sector that produces and supplies a range of machinery**, equipment, and tools used in agriculture and farming activities such as ploughing, planting, harvesting, and more.
- These machines are **designed to improve productivity and efficiency in farming operations**, and the industry encompasses both small-scale and large-scale farming equipment.
  - o Some examples of products offered by this industry include tractors, combine harvesters, irrigation systems, tillers, and more.

What are the Challenges with the Farm Machinery Industry?

- **Skills Shortage:**
  - o The **shortage of skills is a pressing issue** that creates a low-equilibrium trap for the industry.
  - o At the bottom of the industry pyramid, **village craftsmen represent the largest group**, primarily catering to Indian farmers by supplying, repairing, and maintaining farm machinery.
- **Lack of Adequate Information:**
  - o There is a **lack of adequate information and awareness** amongst farmers about the technology and the management of machinery.
  - o Consequently, their selection of machinery is poor, often making it a wasted investment.
- **Lack of Skilled Personnel**:
  - o The **Micro, Small, and Medium Enterprises (MSMEs) face a shortage of skilled personnel. Semi-skilled workers, lacking proper equipment,** often fabricate agricultural tools and machinery. The absence of qualified supervisors in small-scale fabrication makes it challenging to ensure quality. Moreover, finding qualified personnel for testing machinery is also difficult.
- **High Capital Cost:**
  - o Farm machinery is **expensive, and farmers may not have the resources to invest in new equipment.** This can lead to a lack of access to the latest technology and reduced efficiency in farming operations.
- **Rapidly Changing Technology:**
  - o Farm machinery technology is **evolving rapidly, and manufacturers must continually invest in research** and development to keep up. This can be challenging for smaller manufacturers who may not have the resources to innovate quickly.
- **Dependence on Weather Conditions:**
  - o Farm machinery is **highly dependent on weather conditions** and adverse weather can cause delays and disrupt farming operations. This can result in lost productivity and reduced profitability.
- **Maintenance and Repair:**

- o Farm machinery **requires regular maintenance and repairs** to keep it running efficiently. This can be costly and time-consuming, especially for smaller farmers who may not have the resources to maintain their equipment properly.
- **Environmental Concerns:**
  - o There is growing concern over the environmental impact of farming, including the use of fossil fuels in farm machinery. Manufacturers are under pressure to develop more sustainable and environmentally friendly equipment.

What Should be the Way Forward?
- **Training Young Farmers/Owners/Operators:**
  - o Tractor training centres, **Krishi Vigyan Kendras**, and industry **should be made responsible for training young farmers/owners/operators** on how to select, operate and service farm machinery.
  - o They **should also provide information on developments in mechanisation including** the availability of new and better farm equipment for different applications.
- **Strengthening Front-line Demonstration:**
  - o **Front-line demonstration of farm machinery should be strengthened** and handheld training to users of new-generation farm machinery may encourage the extension and adoption of farm power.
- **Address Skilling Shortages:**
  - o The **Agricultural Skills Council of India should work at the district level to address skills shortages** on the demand side.
  - o **Public-private partnerships** with Custom Hiring Centres may be especially useful, and **Indian Council of Agricultural Research (ICAR)** institutes can offer short courses that address skills shortages on the demand side.
  - o **Industrial Training Institutes (ITIs)** can be leveraged to address the skill gaps in repair and maintenance, and service centres at the regional and State levels may be promoted in the private and industrial sectors.
- **Provisioning available Technical Knowledge and Skills:**
  - o The **District Industries Centre should work with local industrial clusters** so that ITIs can provide relevant courses with the latest available technical knowledge and skills.
  - o **Dual vocational skilling programmes will greatly benefit industrial clusters** located in tier-II and tier-III cities, and MSMEs should also leverage the Apprentices Policy of the Central Government.

WHY UREA RULES INDIA'S FARMS

Context: The efforts of the government such as launching **Nano Urea and coating all indigenously manufactured and imported urea with neem oil** have not been successful in reducing the urea consumption.
What do the current statistics say about the use of urea?
- **Sales of urea crossed a record 35.7 million tons (mt) in the fiscal year 2022-23.**
  After neem-coating was fully enforced from December 2015, consumption of the urea dipped in the initial two years. However, the trend reversed from 2018-19**.**
- **Urea sales in 2022-23 were about 5.1 mt higher than in 2015-16 and over 9 mt than in 2009-10.**
  All other fertilisers, except single super phosphate (SSP), have registered much lower increases or even declines.

What is nutrient-based subsidy (NBS) and why hasn't it been successful?
- The data reveals worsening of nutrient imbalance, with **urea consumption rising by over a third since 2009-10.**
- This has been **due to a slower rise in the prices of urea**. The price increased only by 16.5%, after the introduction of NBS.
- The current government has also **brought back price controls on DAP.** Companies are not allowed to charge more than Rs 27,000 per tonne.
- These reasons have led to an increase in the sales of fertilisers in the fiscal year 2022-23.

What are the harms of using excess fertilizers?

- Fertilisers are essentially food for crops. They, like humans, need nutrients for growth and grain yield.
- Initially, **the crop yield on the use of fertilisers was good**, especially during the Green Revolution. However, with the time, **crop yield response to fertiliser use has more than halved.**
- **For example,** 1 kg of NPK nutrients yielded 12.1 kg of cereal grains in India during the 1960s, but only 5 kg during the 2010s.
- Further, as per recent research, the Nitrogen Use Efficiency (**NUE**) in India has fallen from 48.2% in 1962-63 to 34.7% in 2018. The 34.7% NUE was below the global average of 45.3% and 53.3% for North America in 2018.

Way forward:

- **First,** the consumption of urea can be reduced **by increasing its prices**. However, it is not easy due to political reasons.
- **Second, i**nstead of increasing prices, efforts may be put **towards improving NUE**. This will enable farmers to harvest the same or more grain yields with fewer bags.
- <u>Nano Urea</u> is also primarily aimed at boosting NUE. **For instance,** a single 500-ml Nano Urea bottle containing just 4% N can effectively replace at least one 45-kg bag of regular 46% N urea.
- **Third,** the government should also make **incorporation of urease and nitrification inhibitors compulsory in urea.**
- These are chemical compounds that inhibit the activity of **urease** (a soil enzyme that breaks down urea into ammonium and further to ammonia) and **nitrifying bacteria** (that convert ammonium to nitrate), making more N available to the crops.

DE-DOLLARISATION OF TRADE: OPPORTUNITIES AND CHALLENGES

- The global dominance of the US dollar in international trade and finance has long been a topic of discussion among policymakers and economists. In recent years, there has been a growing trend towards "De-dollarisation of global trade", where countries seek to reduce their dependence on the US dollar in international transactions. This shift is driven by a desire to reduce exposure to currency risk and increase economic autonomy. While there are opportunities associated with de-dollarisation, such as increased trade and financial independence, there are also significant challenges, including the potential for increased currency volatility and geopolitical tensions.

What is the De-dollarisation of global trade?

- De-dollarization of trade refers to the process of reducing dependence on the US dollar for international transactions, trade settlements, and financial operations. This can be achieved by using alternative currencies or assets, such as the Euro, Chinese Yuan, or even cryptocurrencies. The primary goal of de-dollarization is to diversify the global economy, minimize risks associated with the US dollar's dominance, and reduce the impact of US monetary policy and political decisions on other countries.

What is the need for the De-dollarisation of global trade?

- **The weaponization of trade:** Countries need to reduce their reliance on the US dollar to protect their economies from sudden policy changes or geopolitical tensions that result from US monetary policies and sanctions. This necessity is evident in Russia's push for de-dollarisation due to the impact of US sanctions on its economy.
- **Monetary Sovereignty breach:** There is a need for countries to establish greater control over their monetary policies and enhance their financial autonomy. This can be achieved through de-dollarisation, as demonstrated by China promoting the use of the yuan in international trade to increase its economic influence and independence.
- **Global Financial Instability:** The need for de-dollarisation arises from the desire to create a more diverse global reserve currency system, reducing the risks associated with overreliance on a single dominant

currency like the US dollar. The European Union's efforts to increase the international use of the euro are driven by this need for greater financial stability.

- **Exposure to Currency Fluctuations:** Dollarisation has increased countries' exposure to currency fluctuations resulting from the US dollar's volatility. For example, countries with high levels of dollar-denominated debt can be severely affected by fluctuations in the US dollar's value, leading to increased debt servicing costs and financial instability.

What are the global efforts towards the De-dollarisation of trade?

- **Aftermath of the 2022 Russia-Ukraine conflict:** As the US and its allies imposed strict economic sanctions on Russia, including cutting off its access to the SWIFT payment system, Russia had to find alternative ways to conduct international trade and financial transactions. In response, Russia has been accelerating its de-dollarization efforts, increasing the use of alternative currencies like the Euro and Chinese Yuan for international trade, and developing its own payment systems like the System for Transfer of Financial Messages (SPFS) and the Mir payment card system.

- **China's Cross-Border Interbank Payment System (CIPS):** Launched in 2015, CIPS is a payment system that facilitates cross-border transactions in the Chinese yuan.

- **SDR-like basket currency for BRICS nations:** BRICS nations (Brazil, Russia, India, China, and South Africa) have displayed increased cooperation and intent to change the dollar-dominated financial system.

- **African Continental Free Trade Area (AfCFTA):** AfCFTA, which started its operational phase in July 2019, aims to create a single market for goods and services across the African continent. One of the key objectives is to promote intra-African trade using local currencies, which can help reduce the reliance on the US dollar for trade settlements among African countries.

- **European Central Bank's TARGET2 System**: Launched in 2007, the TARGET2 (Trans-European Automated Real-time Gross Settlement Express Transfer System) is a payment system for the real-time processing of cross-border transfers within the European Union. This system enables EU member countries to conduct trade and financial transactions in euros, reducing their reliance on the US dollar.

How is India pursuing the de-dollarisation of trade?

- **Promoting Bilateral Trade Settlements in Indian Rupees:** In this respect, the Reserve Bank of India (RBI) has permitted banks from 18 countries to open Special Vostro Rupee Accounts for settling payments in Indian rupees. This allows partner countries to bypass the US dollar and use Indian rupees for trade transactions, reducing reliance on the US currency and promoting the use of local currencies in international trade. Bangladesh has become the 19th country to settle bilateral trade with India using Indian rupees and Bangladeshi taka.

- **Strengthening Trade Pacts with Partner Countries:** India has been working on finalizing trade pacts with several partner countries, such as the UAE and Australia, to facilitate the use of Indian rupees in bilateral and global trade. By negotiating trade agreements with countries like the UK and the European Union, India is making efforts to establish the Indian rupee as a more prominent currency in international trade, furthering the de-dollarization process.

- **Establishing Currency Swap Agreements**: India has also been entering into currency swap agreements with different countries to facilitate trade and investment. For instance, the Reserve Bank of India (RBI) has signed an agreement to extend up to a USD 200 million currency swap facility to Maldives Monetary Authority (MMA) under the SAARC Currency Swap Framework.

- **Expanding Local Currency Settlement Frameworks**: India has been working towards expanding its local currency settlement frameworks with other countries to promote de-dollarization. In 2020, India and Japan expanded their Bilateral Swap Arrangement (BSA) to include local currency settlement, enabling trade settlements in Indian rupees and Japanese yen.

- **Encouraging Regional Financial Integration:** India has been actively participating in regional financial integration initiatives to promote the use of local currencies in trade. For example, India is a member of the South Asian Association for Regional Cooperation (SAARC) and has been working towards promoting the use of local currencies within the SAARC region.

- **Promoting Cross-Border Digital Payments:** India has been investing in cross-border digital payment systems to facilitate trade and financial transactions in local currencies. For instance, India and the United Arab

Emirates (UAE) launched a Remittance Facility, which allows instant money transfers between the two countries in Indian rupees and UAE dirhams.

- **Strengthening Economic Ties with Emerging Economies:** India has been focusing on strengthening its economic ties with emerging economies like Brazil, Russia, China, and South Africa (BRICS) to diversify its trade partners and reduce its reliance on the US dollar. India, along with other BRICS countries, is exploring the possibility of creating a new development bank and a common currency for settling trade transactions among the member countries.

What are the opportunities provided by the de-dollarisation of global trade?

- **Diversification of Risks:** De-dollarization helps countries diversify their risks by reducing dependence on a single currency, the US dollar. By using alternative currencies, countries can better manage the impact of fluctuations in the dollar's value and minimize the effects of US monetary policies on their economies. For instance, during the US-China trade war, China increased its use of the Yuan in international transactions to reduce the impact of tariffs and the dollar's fluctuation on its economy. Increased

- **Monetary Policy Autonomy:** De-dollarization allows countries to exercise greater autonomy in their monetary policies, as they become less influenced by the US Federal Reserve's decisions. For example, Russia's efforts to de-dollarize its economy since 2014 have allowed it to maintain more control over its monetary policy, even amid economic sanctions imposed by the US and its allies.

- **Strengthening Regional Currencies:** De-dollarization can strengthen regional currencies by encouraging their use in international trade and finance, boosting their credibility and attractiveness to investors. Such as the promotion of the Chinese Yuan in the Belt and Road Initiative has led to its increased use in international trade and finance, raising its profile as a global currency.

- **Encouraging Regional Cooperation:** De-dollarization can foster greater regional cooperation among countries by promoting the use of regional currencies, leading to stronger trade ties and economic integration. For example, the BRICS nations (Brazil, Russia, India, China, and South Africa) have been exploring the possibility of using their national currencies for trade settlements and creating a new global reserve currency as an alternative to the US dollar.

- **Reducing Sanctions' Impact:** De-dollarization can help countries insulate themselves from the effects of economic sanctions imposed by the US or other entities, by enabling them to conduct trade and financial transactions through alternative channels. For instance, Iran has been increasingly using barter arrangements, local currencies, and cryptocurrencies to bypass US sanctions and maintain its international trade.

What are the challenges associated with the de-dollarisation of global trade?

- **Currency volatility:** De-dollarisation can lead to increased currency volatility as countries transition to using new currencies for trade. This can create uncertainty for businesses and investors.

- **Limited acceptance of local currencies:** Local currencies may not be widely accepted outside of their home countries, which can create difficulties for international trade. Lack of liquidity: Local currencies may have limited liquidity compared to the US dollar, which can create challenges for large transactions.

- **Limited use in financial markets:** Local currencies may not have the same level of use in global financial markets as the US dollar, which can limit their usefulness for international trade.

- **Resistance from established players:** Established players in the global financial system, such as the US and other Western powers, may resist de-dollarisation efforts, which can create geopolitical tensions.

- **Implementation challenges:** There may be challenges in implementing de-dollarisation, including developing new payment systems and addressing legal and regulatory barriers.

Should India focus on the de-dollarisation of trade?

- Yes, India should focus on the de-dollarisation of trade, this can be done through:

- **Reducing Dependence on a Single Currency:** De-dollarisation will reduce India's dependence on the US dollar as a global reserve currency, which will help insulate the Indian economy from any potential negative impacts of global events. For instance, in recent years, India has faced difficulties due to the impact of global events like US sanctions on Iran and Russia, and the COVID-19 pandemic. De-dollarisation can help minimize the risks associated with these events.

- **Promoting Regional Trade:** De-dollarisation can promote regional trade and cooperation, particularly with BRICS nations, which will help India reduce its dependence on Western powers. For example, India has been exploring the idea of using the Indian rupee in bilateral trade with oil-exporting countries and has created a multi-agency task force to compile a list of countries where India could trade in rupees. This will promote regional trade and reduce dependence on the US dollar.
- However, de-dollarisation comes with challenges, including the need for infrastructure to support new payment systems and potential currency volatility. India will need to carefully navigate these challenges to successfully implement a de-dollarisation strategy.

GIG WORKERS

Context: The Rajasthan Government is about to bring the **Rajasthan Platform-based Gig Workers (Registration and Welfare) Bill, 2023**, which has stringent provisions against errant aggregators, including barring them from operating in the State.

Highlights of the Bill
- **Rajasthan Platform-based Gig Workers Welfare Board:** It will design **welfare policies and hear grievances** of the workers hired on a piece rate basis. The Bill gives powers to the board to decide the **quantum of cess that every aggregator** will have to pay towards this social welfare corpus. This cess shall be a percentage of every transaction that takes place on the platform.
- **Unique ID:** All platform-based gig workers registered with any platform shall be **automatically registered with the board** irrespective of the duration of their engagement with the platform. The board shall generate a unique ID for every platform-based gig worker registered with one or more aggregators in the State. **This unique ID will be valid for three years.**
- **Penalty:** Data of the gig workers employed with the board and sharing data of every transaction that takes place on their platform, can be fined up to **?10 lakh for the first contravention and up to ?1 crore for subsequent ones.**
  - The Bill also empowers the board to **recommend suspension of operations** of the errant aggregator temporarily or permanently in the State.
- The draft Bill that is with the Law department currently, will be put in **public domain** soon inviting feedback.

Who are gig workers?
- Non-standard or gig work consists of **income-earning activities outside of standard, long-term employer-employee relationships.**
- A gig economy is a labor market that relies **heavily on temporary and part-time positions** filled by **independent contractors and freelancers** rather than full-time permanent employees.
- The term is borrowed from the music world, where performers book **"gigs"** that are **single or short-term engagements** at various venues.
- The gig economy uses **digital platforms** to connect freelancers with customers to provide **short-term services or asset-sharing**.
- Examples include **ride-hailing apps, food delivery apps, and holiday rental apps.**

Reasons for a rise in Gig Workers
- **Post Pandemic:** The trend accelerated during the 2020 COVID-19 pandemic, the gig economy experienced significant increases as gig workers delivered necessities to **home-bound consumers,** and those whose **jobs had been eliminated turned to part-time and contract work for income.**
- **Freedom to work from anywhere:** These types of positions facilitate independent contracting work, with many of them not requiring a freelancer to come into an office.
- **Wide Range of Applicants:** Employers also have a wider range of applicants to choose from because they don't have to hire someone based on their proximity.
- **Rise of Technology and Internet:** Rise of fast internet and smartphones have made it easier to work from anywhere easily.
- **Convenient for Small Organisations:** Employers who cannot afford to hire full-time employees to do all the work will often hire part-time or temporary employees to take care of busier times or specific projects.

- **More income with more work:** People often find they need to move or take multiple positions to afford the lifestyle they want. It's also common to change careers many times throughout a lifetime, so the gig economy can be viewed as a reflection of this occurring on a large scale.
- **Benefits Employers:** Employers do not need to provide related benefits, such as medical insurance, Provident Fund, and year-end bonuses which make it a better option for them to pay only for work on a unit basis.
- **Work for All:** Students can choose lower-skilled jobs and work without academic or professional qualifications. Retirees, housewives, etc. may find it difficult to find part-time jobs on weekdays, but now they can make good use of their spare time to earn extra money.

Challenges

- **Hurdle in growth of full time employee:** While not all employers are inclined to hire contracted employees, the gig economy trend can make it harder for full-time employees to develop in their careers since temporary employees are often cheaper to hire and more flexible in their availability.
- **Work-life balance:** For some workers, the flexibility of working gigs can actually disrupt the work-life balance, sleep patterns, and activities of daily life
- **Can replace Full time employees:** The number of full-time employees required by the company can be reduced as freelance workers take over the work.
- **No job security:** In effect, workers in a gig economy are more like entrepreneurs than traditional workers. While this may mean greater freedom of choice for the individual worker, it also means that the security of a steady job with regular pay and benefits.
- **No regular job benefits:** Many employers save money by avoiding paying benefits such as health coverage and paid vacation time. because there is no formal employment relationship with the platform company, there are usually no employee benefits in short-term contracts, which are less guaranteed than full-time and part-time jobs, and are difficult to write on resumes.

India and Gig Economy

- In 2020, 7.7 million workers were engaged in the gig economy.
- The gig workforce is expected to expand to 23.5 million workers by 2029-30.
- At present about 47% of the gig work is in medium skilled jobs, about 22% in high skilled, and about 31% in low skilled jobs.
- Trend shows the concentration of workers in medium skills is gradually declining and that of the low skilled and high skilled is increasing.
- It may be expected that while the domination of medium skills would continue till 2030, gig work with other skills will emerge.

Steps Taken by Government of India for Gig Workers

- **Code of Social Security, 2020:** The Government has formulated the Code on Social Security, 2020 which envisages framing of **suitable social security schemes for gig workers and platform workers** on matters relating to life and disability cover, accident insurance, health and maternity benefits, old age protection, etc. However, these provisions under the Code have not come into force.
  - **Platform workers** are those whose work is based on **online software apps or digital platforms. Non-platform gig workers** are generally **casual wage workers and own-account workers** in the conventional sectors, working part-time or full time.
- **e-Shram Portal:** The Government has also launched e-Shram portal in 2021 for registration and creation of a **Comprehensive National Database of Unorganized Workers including gig workers and platform workers.**
  - It allows a person to register himself or herself on the portal on a self-declaration basis, which is spread across around 400 occupations.

MAHILA SAMMAN SAVING CERTIFICATE ACCOUNT

Context: The Union Minister for Women and Child Development and Minority Affairs opened a Mahila Samman Savings Certificate (MSSC) account.

About Mahila Samman Savings Certificate Scheme

- It is a new **small savings scheme** launched **specifically for female investors** and was announced in Budget 2023 to **promote investment among women.**
  - Accounts opened under this scheme will be **single-holder accounts** that can be opened at the Post Office or any registered bank.
- **Who can open a Mahila Samman Savings account: Any woman can** open a Mahila Samman account that can be opened for herself or on behalf of a little girl.
  - A time gap of three months shall be maintained between the existing account and the opening of other account.
- **Limit on minimum and maximum investment:** The minimum investment amount is **Rs 1000**, and the maximum investment authorised under the plan is **Rs 2 lakh.**
- **Interest rate: 7.5% annually**
- **Payment on maturity:** After two years from the date opening eligible balance will be paid to the depositor.
- **Withdrawal from account:** The account holder may withdraw **up to 40%** of the balance after the first year from the date of account opening but before the account matures.
- **Premature closure of account:** The account shall not be closed before maturity except in the following cases, namely:
  - On the death of the account holder
  - On extreme compassionate ground (i) Life threatening decease of account holder (ii) death of the guardian on production of relevant documents.
  - When an account is closed prematurely, **interest on the principal amount is payable at the rate applicable to the Scheme** for which the account was held.

CYBER SECURITY

DRUG TRAFFICKING AND THREAT TO SECURITY

Context: The **global drug trade is a major problem** that has put **security and law enforcement agencies on high alert worldwide**, including in India.

- Traditionally India has been seen **as sandwiched between the Death (Golden) Crescent and Death (Golden) Triangle** and is being flooded with drugs, especially heroin and methamphetamine, from these two regions by drug lords indirectly supported by intelligence setups.

Why is Drug Trafficking Dangerous?

- It is a **social problem that harms youth and families** and the money it generates is diverted for disruptive activities that have bearings on national security.
- Criminal networks traffic a range of drugs including cannabis, cocaine, heroin and methamphetamine.
  - **Methamphetamine (meth)** is an addictive drug and can cause considerable health adversities that can sometimes result in death.
  - Recently, USA has witnessed a new **zombie drug (fentanyl)** gripping its population.
    - This drug can cause raw wounds on the user's skin that can spread rapidly with repeated exposure.
    - It starts with ulcers, hardens to dead skin called eschar, and if left untreated can result in amputation.
- Drug trafficking is often associated with other forms of crime, such as **terrorism**, **money laundering** or corruption.
- Trafficking routes can also be used by criminal networks to transport other illicit products.

What is the Status of Drug Addiction in India?

- In 2018, The Ministry of Social Justice and Empowerment has conducted a **"National Survey on Extent and Pattern of Substance Use in India"** in collaboration with AIIMS, New Delhi. The survey's findings are as follows:

Name of the substance	Prevalence of use (Age Group 10-75 years)
Alcohol	14.6%
Cannabis	2.83%
Opiates/ Opioids	2.1%

- According to **World Drug Report 2022**, India has the **fourth largest quantity of opium seized in 2020** at 5.2 tons and the third-highest amount of morphine was also seized in the same year at 0.7 tons.

From where the Illegal Drugs are trafficked in India?

- **Threats from Death (Golden) Crescent:** Comprises Afghanistan, Iran, and Pakistan.
  - Parts of Pakistan adjoining Afghanistan are also used by Pakistani drug traffickers to convert Afghan opium to heroin and then sent to India.
- **Threats from Death (Golden) Triangle:** Consists of Vietnam, Thailand, Laos and Myanmar.
  - The Shan and Kachin provinces of Myanmar bordering China also pose challenges.
- **China Factor:** These heroin and methamphetamine-producing areas have porous borders and are, reportedly, **under the control of rebel groups, indirectly supported by the Chinese.**
  - Illicit arms are manufactured here and supplied to underground groups active in India.
- According to the latest annual report by the **Narcotics Control Bureau (NCB)**, **drug trafficking through sea routes in the Arabian Sea and the Bay of Bengal, estimated to account for around 70% of the total illegal drugs smuggled into India.**

What are the Initiatives taken by India to curb the Drug Menace?

- **The Narcotic Drugs and Psychotropic Substances Act, (NDPS) 1985:** It prohibits a person from producing, possessing, selling, purchasing, transporting, storing, and/or consuming any narcotic drug or psychotropic substance.
- **National Action Plan for Drug Demand Reduction**: The Ministry of Social Justice and Empowerment has prepared a plan for Drug Demand Reduction for the period of 2018-25. This plan focuses on:
  - Preventive education
  - Awareness generation
  - Identification, counselling, treatment and rehabilitation of drug dependent persons
  - Training and capacity building of service providers through collaborative efforts of government and NGOs.
- **National Fund for Control of Drug Abuse:** It was created in accordance with a provision of the NDPS, 1985 for meeting the expenditure incurred in measures taken for:
  - Combating illicit trafficking
  - Controlling abuse of drugs and substances
  - Identifying, treating and rehabilitating addicts
  - Preventing drug abuse
  - Educating public against drug abuse
- **Nasha Mukt Bharat Campaign:** Nasha Mukt Bharat Abhiyaan (NMBA) was launched in 2020 to tackle the issue of Substance Abuse and a vision to make India Drug Free. It is a three-pronged attack combining:
  - The supply curb by Narcotics Control Bureau
  - Outreach and Awareness and Demand Reduction effort by Social Justice and Empowerment
  - Treatment through Health Department.
- **Initiatives of Indian Coast Guards**: The Indian Coast Guard (ICG) has developed a good synergy with the security agencies and with the coast guards of Sri Lanka, Maldives and Bangladesh for seizure of such drugs.
  - It seized 2,160 kgs of meth in two different instances recently near the Andaman and Nicobar Islands.
- **International Treaties and Conventions to Combat Drug Menace:** India is signatory of the following international treaties and conventions:
  - **United Nations (UN) Convention on Narcotic Drugs (1961)**
  - **UN Convention on Psychotropic Substances (1971).**
  - **UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)**
  - **UN Convention against Transnational Organized Crime (UNTOC) 2000**

What are the Challenges in tackling Drug Trafficking in India?

- **Dark Net:** Darknet markets are difficult to trace because of their anonymity and low risks. They have taken over the traditional drug markets. Studies reveal that 62% of the darknet is being used for illicit drug trafficking.
  - The success rate in catching traffickers using the darknet has been very low the world over.
- **Transactions in Cryptocurrency:** Cryptocurrency payments and doorstep deliveries, through courier services, have made darknet transactions attractive.
- **Traffickers have become Creative and Tech Savvy:** The traffickers have adopted to new age technologies such as supplying drug and guns through drones in Punjab which have posed new challenges before the security forces.
- **Using more Safe and Anonymous methods:** The drug traffickers have started relying more upon courier/parcel/post after the restrictions imposed on vehicular/ship/airline movement during Covid-19 pandemic.
  - In 2022, a person was arrested for doing the drugs business through making an e-commerce dummy website.
  - In one more instance, few persons were arrested for selling drugs through e-commerce websites like amazon by listing fake products on the website.

- **Nexus between Drugs Lords and NRIs:** Recent investigations have revealed the connection of the drug cartels with NRIs based in Canada, Australia, Singapore, Hong Kong and several European countries along with local drug lords and gangsters in India, who have links with Khalistani terrorists and the ISI in Pakistan.
- **Trafficking through Local Gangs:** A new trend has emerged wherein organised gangs, which primarily used to carry out extortion activities in their local areas are being used for drug trafficking as they are ready-made logistics to carry out such activities.

Way Forward

- To stop drugs from entering the country, **measures must be taken such as controlling cross-border trafficking and improving drug enforcement.** However, to fully address the problem, India must also work on reducing the demand for drugs through measures such as imposing harsher punishments under NDPS Act, 1985.
- **Awareness must be spread** among the people to lower down the drug addiction **through campaigns and NGOs.** The stigma associated with drug taking needs to be reduced. Society needs to understand that drug-addicts are victims and not criminals.
- **Certain crop drugs which have more than 50% alcohol and opioids need to be contained.** Strict action is required from police officers and the excise and narcotics department to curb the problem of drug menace in the country.
- Education curriculum should include chapters on drug addiction, its impact and also on de-addiction. Proper Counselling is another alternative.
- **Concerted and coordinated efforts of all the agencies** will be required to tackle this growing threat.
- **Creating more employment opportunities** would solve the problem to some extent as Quick, and more, money attracts unemployed youth towards such activities.

SCIENCED AND TECHNOLOGY

HUMAN GENOME EDITING: SIGNIFICANCE AND ASSOCIATED CHALLENGES

Context: Experts from around the world recently gathered in London for the Third International Summit on Human Genome Editing. The summit discussed the latest advancements in technology and emphasized the importance of responsible use. While human genome editing offers potential solutions to many challenges, it also raises ethical, legal, and regulatory concerns. Therefore, it is crucial to understand and address these challenges to ensure ethical and responsible use of the technology.

What is Human genome editing?
- Genome editing is a method for making specific changes to the DNA of a cell or organism. It can be used to add, remove or alter DNA in the genome. Human genome editing technologies can be used on somatic cells (non-heritable), germline cells (not for reproduction) and germline cells (for reproduction).
- For example, scientists can use CRISPR-Cas9, a type of genome editing tool, to cut and modify specific parts of the DNA in a cell. This could potentially be used to treat genetic diseases by correcting the underlying genetic mutations responsible for the disease.

What is the need for Human genome editing?
- **Increasing Genetic disorders**: India is considered as the **"Pandora's Box of genetic disorders**. India has a high prevalence of rare recessive genetic diseases due to its population's heterogeneity and inbreeding rates. Human genome editing could potentially address this issue by correcting or eliminating disease-causing mutations in affected individuals or preventing the transmission of these mutations to future generations.
- **Rising incidence of viral disease**: According to the World Health Organization, an estimated 2.1 million people in India were living with HIV in 2019, with a prevalence rate of 0.2.
- **Cancer as a growing health concern:** According to The Report of National Cancer Registry Programme, 2020 India's cancer burden could increase from 1.39 million during this year to 1.57 million in 2025. Human gene editing can address this burden.
- **Rising issues of side effects of treatment**: Genome editing can be used to create personalized medicine based on an individual's unique genetic makeup. This could lead to more effective and efficient treatments with fewer side effects.
- **Increasing food allergies**: According to a study published in the Indian Journal of Pediatrics, the prevalence of food allergies in Indian children is estimated to be around 6-8%. Human gene editing can also be used to create allergy-free foods.

What are the advantages of Human genome editing?
- **Potential cures for genetic diseases**: Genome editing could potentially offer a cure for genetic diseases that currently have no effective treatments. For example, using genome editing to correct the genetic mutation responsible for cystic fibrosis could cure the disease.
- **Can treat cancer diseases**: Human gene editing can improve the accuracy and efficiency of cancer modelling, which is crucial for developing cancer therapies. For instance, The Cancer Genome Atlas (TCGA), a cancer genomics program in the US, has already mapped genomic changes in 33 cancer types in order to improve cancer treatment.
- **Can treat viral diseases**: Human genome editing has the potential to cure viral diseases by modifying the patient's own immune cells to better target and destroy the virus. One approach is to use CRISPR-Cas9 to edit the DNA of T cells, a type of immune cell, to make them resistant to HIV infection. Another approach is to use CRISPR-Cas9 to remove the hepatitis B virus from infected liver cells.
- **Increase understanding of the human genome:** Studying the effects of editing specific genes could help researchers better understand the role of those genes in human biology and disease.

- **Advancements in scientific research**: Genome editing can be used to create animal models of human diseases, allowing scientists to better understand the mechanisms of these diseases and develop new treatments.
- **Enhanced biosecurity**: Genome editing can be used to develop disease-resistant animals, preventing the spread of zoonotic diseases.
- **Improving agricultural productivity:** Genome editing could be used to create crops that are more resistant to pests, require less water or are more nutritious, leading to increased agricultural productivity and food security. It's worth noting that while there are potential advantages to genome editing, there are also significant ethical and safety concerns that must be carefully considered before any widespread use of the technology.

What are the challenges associated with Human genome editing?
- **Ethical concerns:** The use of gene editing raises ethical questions such as whether it is appropriate to genetically engineer embryos, or to modify traits that are not related to the disease. For instance, editing genes to enhance intelligence or physical appearance could lead to unintended consequences and exacerbate social inequalities.
- **Concerns over "designer babies":** There are concerns that genome editing could be used to create "designer babies" for social rather than medical reasons. This raises ethical concerns and could lead to the creation of a genetically-engineered elite. For example, editing the genes of an embryo to increase its intelligence could create a societal divide between those who have access to technology and those who do not.
- **Off-target effects**: Gene editing could unintentionally modify genes other than the targeted one, causing unpredictable consequences. For example, a study published in 2017 reported that CRISPR-Cas9 gene editing resulted in unexpected mutations in mice.
- **Safety concerns**: Gene editing could lead to unintended consequences, such as off-target effects or immune reactions, that could pose a risk to the health of the individual undergoing the procedure. For example, editing the wrong gene could cause a person to develop cancer.
- **Germline editing:** Until now, all therapeutic interventions in humans using genome editing have been performed in somatic cells (i.e. only the patient gets affected, no chance of inheriting the altered genes by the patient's offspring).
- But, editing the germline can lead to unpredictable changes that can be passed on to future generations. This raises ethical and safety concerns. For example, editing the genes of a human embryo can result in unintended genetic changes that can be passed down to offspring.
- **Lack of long-term data:** The long-term effects of gene editing are not yet fully understood, and there are concerns that modifications made to an individual's DNA could have unintended consequences that only become apparent years or even decades later. For example, there may be unforeseen consequences of using CRISPR to eliminate a particular disease-causing gene that is not fully understood.
- **Regulatory challenges**: At present, there is no regulating body to keep a check on the practices and applications of Human genome editing technology. It may therefore lead to reduced transparency, low quality and may also increase the unnecessary delay in the treatment of patients.
- Further creating a strong regulatory oversight can be difficult to achieve given the rapidly evolving nature of the technology and the varying regulatory approaches taken by different countries.
- For example, the US FDA currently regulates gene-edited animals as drugs, while in Europe they are considered to be genetically modified organisms (GMOs) and are subject to different regulations.
- **Ecological impacts:** Gene drives can be used to propagate a set of genes with negative traits throughout a population, which can lead to severe ecological consequences. For example, introducing gene-edited mosquitoes that are resistant to malaria could lead to the elimination of the mosquito population, which could disrupt the ecosystem.
- **Uncontrolled clinical trials**: There are currently no standard norms for clinical trials to check the efficacy of genome editing treatment. This can lead to uncontrolled clinical trials, which can result in patients receiving ineffective or potentially harmful treatments.

What should be done before permitting widespread applications of human genome editing?

- **Continued research:** Further research is needed to fully understand the potential benefits and risks of human genome editing. This includes long-term studies on the safety and efficacy of different gene editing techniques, as well as research on the ethical, social, and legal implications of the technology.
- **Responsible use**: It is important that human genome editing is used responsibly and ethically, with appropriate regulation and oversight. This includes ensuring that the technology is used only for medical purposes and that it does not exacerbate existing inequalities.
- **Collaboration and transparency:** Collaboration between scientists, policymakers, and the public is important to ensure that human genome editing is used responsibly and transparently. This includes open communication about the potential benefits and risks of the technology, as well as consultation with the broader public on key ethical and policy issues.
- **Development of ethical guidelines:** The development of clear ethical guidelines is important to ensure that human genome editing is used responsibly and ethically. This includes guidelines on issues such as the use of gene editing for non-medical purposes, the editing of germline cells, and the informed consent of individuals undergoing the procedure.
- **Investment in infrastructure:** Investment in infrastructure is needed to support the development and deployment of gene editing technologies. This includes investment in research facilities, regulatory agencies, and public health systems, as well as the development of international standards and protocols for the use of gene editing.
- **Educate the public**: The public should be educated about the potential benefits and risks of human genome editing, as well as the ethical and social implications of the technology. This can help to ensure that public opinion and policy decisions are informed by accurate and up-to date information.

AWAITING LIFT-OFF INTO THE SECOND SPACE AGE

Context: The **Space Age began in 1957** with the launch of satellite **Sputnik 1**, and in **1961, cosmonaut Yuri Gagarin** became the world's first person in space.
- **Neil Armstrong** made history by walking on the **moon** in **1969**.

Second Space Age:
- **There is no precise date** for its beginning, the contrast in today's space domain is stark.
- **The origins of the Second Space Age** can be traced to the Internet.
- **In India,** the process began accelerating as the 1990s saw the emergence of private TV channels, together with cable TV followed by direct-to-home transmissions.
- **The demand for satellite transponder**s and ground-based services exploded.
- **Majority actors** in space are private companies.
- **Last year, there were 180 rocket/space launches:**
  - 61 **by** SpaceX
- **90% of global space launches** since **2020** are by and for the private sector.

Background of space technology development:
- **Between the 1950s to 1991**, a period dominated by the Cold War
  - **60 to 120 space launches** took place annually
  - **93% of these** were by the **United States** and the erstwhile **USSR**

India's space journey:
- **India made an entry** into the **First Space Age** in the **1960s**.
- **The first sounding rocket**, a U.S. supplied **Nike-Apache**, was launched at Thumba (Kerala) in 1963.
- **In 1969,** the Indian Space Research Organisation (ISRO) was set up.
- **ISRO's first major project** was **Satellite Instructional Television Experiment (SITE)** that involved leasing a **S. satellite** in 1975-76 for educational outreach across 2,400 villages covering five million people.
- **Satellite technology** was a new mass communication tool.

- o This led to the **INSAT series** in the **1980s**, followed by **GSAT**
- o **It provided the backbone** for the country's **tele-communication** and **broadcasting infrastructure.**
- **Remote sensing capability development:** The use of space-based imagery for:
- weather forecasting
  - o resource mapping of forests
  - o analyzing agricultural yields
  - o groundwater and watersheds,
  - o fisheries
  - o urban management.
- **Oceansat and Cartosat series:** The field of satellite-aided navigation emerged later
  - o It began with **GAGAN**, a joint project between **ISRO** and the **Airports Authority of India**
    - ▪ to augment **Global Positioning System (GPS) c**overage of the region
    - ▪ improve air traffic management over Indian airspace.
    - ▪ **Expanded to a regional navigation satellite** system called **Navigation with Indian Constellation (NavIC).**
  - o **Development of satellite launch capabilities:** Beginning with the **SLV-1** in the 1980s
  - o **ISRO developed the PSLV series** that has become its workhorse with over 50 successful launches.

Space potential:
- **The last 15 years w**itnessed another transformation
  - o **India was in lockstep** with the developed world.
- **The age of mobile telephony,** followed by smartphones shows how data-rich society India is.
- **Broadband, OTT and now 5G promis**e a double-digit annual growth in demand for satellite-based services.
- **In 2020,** the global space economy was estimated at $**450 billion**, growing to $**600 billion by 2025**.
- **The Indian space economy,** estimated at $**6 billion in 2020**, is expected to be $**13 billion by 2025**.
- **The Indian space industry** could easily exceed $**60 billion by 2030,** directly creating more than **two lakh jobs.**
- **End-user revenue,** only a fifth is generated by the government.
- **Media and entertainment** account for **26%** of India's space economy
- **Consumer and retail services** account for another **21%**.
- **In terms of space activities,**
  - o **downstream activities** such as satellite services and associated ground segment are dominant
    - ▪ **Accounting** for over **70%** of India's space economy
  - o **Upstream activities o**f satellite manufacturing and launch services contribute the smaller share.
  - o **India has been** an early adopter of digital app-based services.

- **Role of Private sector:**
- **According to the United Nations Office for Outer Space Affairs (UNOOSA):** There are **8,261 satellites in orbit,** of which nearly **5,000** are active.
- **Till 2010**, about 60 to 100 satellites were launched annually.
  - o **In 2020, 1,283 satellites** were launched.
- **Starlink operates a constellation** of over **3,500 satellites** and has a million paying customers.
- **Starlink and OneWeb (in which Airtel has a stake) project** constellations of 40,000 satellites each.
- **Amazon** has launched **Project Kuiper** to bring **low-latency broadband c**onnectivity around the globe.

Indian Private Sector:
- **The Indian private sector** is responding to the demands of the Second Space Age.
- **From $3 million in 2018**, it doubled in **2019** and **crossed $65 million in 2021**.

-

Role of ISRO:
- **ISRO** manages four to five launches annually.
- **It manages 53 operational satellites** – **21** for communication, **21** for earth observation, **eight** for navigation and the remaining as scientific experimental satellites (**China operates 541)**.
- **ISRO has missions** such as Chandrayaan, Mangalyaan and Gaganyaan (manned space mission).
- **ISRO has always** been an open organization that has worked closely with the Indian private sector.
- **Start-ups:** Their revenue stream depends on space-related activities and they need a different relationship with ISRO and government.
- **ISRO today is the operator,** user, service provider, licensor, rule maker and also an incubator.

Way Forward
- **ISRO has steered India through the First Space Age** and needs to do what it can do best now within its resources and its high-quality manpower — research.
- **commercializing the PSLV and SSLV** launch services and New Space India Limited (NSIL) was set up to replace Antrix.
- **The Indian National Space Promotion and Authorization Centre (IN-SPACe)** was set up in 2020 as a single-window-clearance for the private sector.
  - However, it is unclear whether it will emerge as the licensing authority or a regulator.
  - **An Indian Space Association (ISpA**) was created as an **industry association.**
- **Need of legislation (a space activities act)**: This provides the legal grounding that policy papers lack.
  - **It helps set up a regulatory authority a**nd create an enabling environment for raising venture capital funding into the Indian space start-up industry.
- **The window of opportunity** for India to join the Second Space Age exists and it should not be lost.
- **The country's private sector** has the talent and experience to shorten that distance if India creates the enabling policy environment.

INDIAN SPACE POLICY 2023

Context: The **Indian Space Policy 2023** was approved by the **Cabinet Committee on Security.** The policy **seeks to institutionalise** private sector participation in the space sector, with ISRO focusing on **research and development of advanced** space technologies.

What are the Major Provisions of Indian Space Policy 2023?
- **About:**
  - The policy will pave the **way forward with much-required clarity in space reforms** and augment private industry participation to drive the space economy opportunity for the country.
- **Delineation of Roles:**
  - The policy delineates the roles and responsibilities of **Indian Space Research Organisation (ISRO)**, **space sector PSU NewSpace India Limited (NSIL)**, and **Indian National Space Promotion and Authorization Center (IN-SPACe).**
  - **Strategic activities related to the space sector will be carried out by NSIL**, which will work in a demand-driven mode.
  - **IN-SPACe** will be the interface between **ISRO and non-governmental entities.**
  - **ISRO** will **focus its energies on developing new technologies,** new systems and research and development.
  - The operational part of ISRO's missions will be moved to the **NewSpace India Limited.**
- **Entry of Private Sector:**
  - The policy will allow the **private sector to take part in end-to-end space activities** that include building satellites, rockets, and launch vehicles, data collection and dissemination.
  - The **private sector can use ISRO facilities** for a small charge and is encouraged to invest in creating new infrastructure for the sector.
- **Impact:**

- The policy will help India increase its share in the global space economy substantially from less than **2% to 10% in the future.**

What is the Current Status of India's Space Sector?
- **About:**
  - The **Indian Space Sector has been globally recognised for building cost-effective satellites**, and now India is even taking foreign satellites to space.
  - As part of **India's commitment to the Geneva Conference on Disarmament,** the country continues to advocate peaceful and civilian use of outer space and oppose any weaponization of space capabilities or programs.
  - ISRO is the **6th largest space agency in the world** and holds an exceptional success rate.
    - With over **400 private space companies,** India ranks fifth globally in no. of space companies.
- **Recent Developments in India's Space Sector:**
  - **Defence Space Agency:** India has recently set up its **Defence Space Agency (DSA) supported by the Defence Space Research Organisation (DSRO)** that has the mandate to create weapons to **"degrade, disrupt, destroy or deceive an adversary's space capability".**
    - Also, the Indian Prime Minister launched the **Defence Space Mission** at the Defence Expo 2022, Gandhinagar.
  - **Expanding Satellite Manufacturing Capabilities:** India's satellite-manufacturing opportunity **will reach USD 3.2 billion by the year 2025** (in 2020 it was USD 2.1 billion)
  - **SAMVAD Program:** To encourage and nurture space research among young minds, ISRO launched its **Student Outreach Program called SAMVAD** at its Bengaluru facility.

What are Current Major Challenges Related to the Space Sector?
- **Lack of Regulations on Commercialisation:** The **commercialization of outer space** is accelerating due to the development of private satellite expeditions for **Internet services (Starlink-SpaceX) and for space tourism.**
  - It is possible that if **no regulatory framework is put in place,** rising **commercialisation may lead to monopolisation in the future.**
- **Rising Space Debris:** As outer space expeditions increase, **more space debris will accumulate.** Because objects orbit Earth at such high speeds, **even a small piece of space debris can damage a spacecraft.**
- **China's Space Leap:** Compared to other countries, the Chinese space industry has grown rapidly. It has **successfully launched its own navigation system, BeiDou.**
  - It is very likely that China's Belt Road Initiative (BRI) members will contribute to or join the Chinese space sector, **solidifying China's global position and may lead to weaponization of outer space.**
- **Increasing Global Trust Deficit:** An **arms race for weaponization of outer space is** creating an **environment of suspicion, competition, and aggressiveness** across the globe, potentially leading to conflict.
  - It would also **put at risk the entire range of satellites as well as those involved in scientific explorations** and communication services.

Way Forward
- **Defending India's Space Assets:** In order to effectively defend its space assets, including **debris and spacecraft,** India needs **reliable and accurate tracking capabilities.**
  - **Project NETRA**, an **early warning system** in space to detect debris and other hazards to Indian satellites is a good step in this direction.
- **Permanent Seat in Space:** India should take the **initiative to cooperate with international bodies** and plan for a **planetary defense program and joint space missions in the long term.**
  - Also, with the **Gaganyan mission**, **ISRO has begun to focus on manned space** flight as part of its rethinking of India's space presence.
- **Replicating Space4Women in India**: **Space4Women is a United Nations Office** for Outer Space Affairs (UNOOSA) project that promotes gender equality and women's empowerment in the space sector.

- o It would be beneficial to **initiate space awareness programmes at the rural level in India,** and **College-ISRO Internship corridors can be built specially for female students** to introduce them to the possibility of stretching their wagon beyond earth.
  - o **AzaadiSAT**, **made by 750 schoolgirls** from India is a firm step in this direction.
- **Technological Intervention for Cleaner Space:** Technologies like **self-eating rockets, self-vanishing satellites and robotic arms** to catch space debris can make India an explorer cum problem solver in the space arena.

GENOME INDIA PROJECT

Context: Government aims to sequence 10,000 genomes by the end of the year 2023 under the **Genome India Project (GIP).**
- The Department of Biotechnology, Ministry of Science and Technology has sequenced close to 7,000 genomes and 3,000 of these are already available for public access.

What is the Genome India Project?
- **Need:**
  - o India's population of **1.3 billion is made up of over 4,600 diverse population groups**, many of which are endogamous (Matrimony in Close Ethnic Groups). These groups have **unique genetic variations and disease-causing mutations** that cannot be compared to other populations. By creating a database of Indian genomes, researchers can learn about these unique genetic variants and use the information to create personalized drugs and therapies. The **United Kingdom, China, and the United States** are among the countries that **have programmes to sequence at least 1,00,000 of their genomes.**
- **About:**
  - o It is a scientific initiative inspired by the **Human Genome Project (HGP),** an international effort that successfully decoded the entire **human genome between 1990 and 2003.**
  - o The project was started **in 2020,** aiming to **better understand the genetic variations and disease-causing mutations** specific to the Indian population, which is one of the most genetically diverse in the world.
  - o By sequencing and analyzing these genomes, researchers hope to gain insights into the **underlying genetic causes of diseases and develop more effective personalized therapies.**
  - o The project involves the collaboration of 20 institutions across India and is being **led by the Centre for Brain Research at the Indian Institute of Science** in Bangalore.

What is the Significance of the GIP?
- **Precision Healthcare:**
  - o GIP aims to develop personalized medicine based on **patients' genomes to anticipate and modulate diseases.**
  - o By mapping disease propensities to genetic variations, interventions can be targeted **more effectively, and diseases can be anticipated before they develop.**
    - ▪ For example, variations across genomes may explain **why cardiovascular disease leads to heart attacks in South Asians** but to strokes in most parts of Africa.
- **Sustainable Agriculture:**
  - o Similar benefits will come to agriculture if there is a better understanding of the **genetic basis of the susceptibility of plants to pests,** insects and other issues hampering productivity.
  - o This can **reduce dependence** on chemicals.
- **International Cooperation:**
  - o Global science will also benefit from a **mapping project in one of the world's most diverse gene pools.**
  - o The project is said to be among the most significant of its kind in the world because of its **scale and the diversity it would bring to genetic studies.**

What are the Challenges?
- **Scientific Racism:**
  o The GIP raises concerns about the **potential for scientific racism and the reinforcement of stereotypes** based on heredity and racial purity. Similar scientific studies in the past have been used to **justify slavery and other forms of discrimination.**
  o In a country like India, which is already divided by identity politics, genetic mapping may **further deepen these divisions.**
- **Data Privacy:**
  o The project also raises questions about **data privacy and storage.** In the absence of a comprehensive data privacy bill in India, concerns about the possible misuse of genetic information collected by the GIP cannot be overlooked.
- **Ethical Concerns:**
  o It raises ethical questions about the **potential for doctors to privately perform gene modification** or selective breeding.
  o Such practices have always been controversial, in 2020 there was sentencing of a scientist in China who **created the world's first gene-edited babies highlighting the seriousness** of these concerns.

What is a Genome?
- The discovery of the structure of DNA by Watson and Crick in 1953 marked the beginning of the **study of genetics, which seeks to understand how genes** influence **traits and diseases.**
  o **DNA, or Deoxyribonucleic acid**, is a molecule that carries the **genetic instructions for the development, functioning, growth, and reproduction** of all living organisms.
- The genome of an organism is the complete set of its genetic material, including all of its genes. It contains all the information required to build and maintain the organism.
- In humans, the genome is **composed of more than 3 billion DNA base pairs**, arranged in a double helix structure.
- The study of genomics, which involves the analysis of genomes, has revolutionized many fields, including **biotechnology, medicine, and agriculture, by providing new insights into the mechanisms of disease,** drug development, and the improvement of crops and livestock.

What is Genome Sequencing?
- Genome sequencing is figuring out the order of DNA nucleotides, or bases, in a genome—the order of adenine (A), thymine (T), cytosine (C), and guanine (G), that make up an organism's DNA.

Way Forward
- It is important that the GIP is conducted with adequate safeguards in place to ensure that the project is conducted ethically and in a manner that respects individual privacy and human rights.
- The project has the potential to advance biotechnology, agriculture, and healthcare in India. However, **it should be approached with both speed and caution to ensure that privacy concerns** are addressed, potential misuse of data is prevented, and medical ethics are upheld.

LARGE HADRON COLLIDER

Context: The **LHC (Large Hadron Collider)** has recently undergone upgrades to make it more accurate and sensitive and will start collecting data in May 2023.
- The LHC has undergone upgrades to increase its sensitivity and accuracy, allowing scientists to **study particles with even higher energy.**

What is Hadron?
- Hadron is any member of a class of subatomic particles that are built from quarks and thus react through the agency of the strong force. The hadrons embrace mesons, baryons (e.g., protons, neutrons, and sigma particles), and their many resonances.

What is LHC?
- **About:**
  - The LHC is a huge experiment that collides two beams of particles to study physics at very high energies. It's the largest science experiment in the world and is operated by **CERN (European Organisation for Nuclear Research)**
  - The LHC is a circular pipe that is **27 km long and is located on the Franco-Swiss border near Geneva, Switzerland.**
  - It consists of **two D-shaped magnetic fields created by almost 9,600 magnets.**
- **Working Mechanism:**
  - Protons, which are subatomic particles made up of **quarks and gluons, are accelerated inside the LHC** using these magnets.
    - Quarks and gluons are subatomic particles that **make up protons and neutrons.** Quarks come in six different "flavors": up, down, charm, strange, top, and bottom. Gluons are particles that "glue" **quarks together inside protons and neutrons** through the strong **nuclear force.**
    - **Protons are not the only particles accelerated in the LHC.**
  - By switching the direction of the magnetic field rapidly**, protons can be accelerated through the beam pipe.**
  - Other components help to focus the particles and keep them from hitting the pipe's walls.
  - The protons eventually move **at 99.999999% of the speed of light.**
- **Significance:**
  - At such high energies, the **LHC can create conditions that existed only fractions of a second** after the **Big Bang**.
  - Scientists use detectors placed along the beam pipe to observe the **interactions of the accelerated particles**, which can reveal new insights into the nature of matter and the universe.
  - The LHC has already **discovered the Higgs boson in 2012 and confirmed their findings in 2013**, which is a particle that gives other particles mass.
  - The LHC also helps to **test theories in particle physics,** such as supersymmetry and extra dimensions.

What are Supersymmetry and Extra Dimensions?
- **Supersymmetry:**
  - It proposes that **every known particle in the universe has a yet-to-be-discovered "superpartner" particle,** which would have opposite spin and different quantum numbers.
  - This would mean that every particle in the universe would have a **partner that has not yet been observed,** and it could help to solve some of the problems with the current standard model of particle physics, such as the hierarchy problem.
- **Extra Dimensions:**
  - Extra dimensions propose that the **universe has more than the three dimensions** of space and one dimension of time that we are familiar with.
  - The idea is that there **may be additional dimensions that are "curled up"** or compactified and are too small to be detected by our current experiments.
  - The concept of extra dimensions arises in certain theories of gravity, such as **string theory, which suggest that gravity is stronger** than expected at small distances because it "feels" extra dimensions.

What are the Related Challenges?
- The LHC faces many technical challenges, such as **maintaining the stability of the magnets and avoiding collisions** between particles and the pipe's walls.
- The LHC generates enormous amounts of data. Handling and processing this data is a challenge that **requires advanced computing and storage systems.**
- The LHC is an international collaboration that involves thousands of scientists from different countries and institutions. Coordinating this collaboration and ensuring that all participants have access to the data and facilities they need is a challenge.

Way Forward
- The LHC is a remarkable scientific achievement, but operating it requires a coordinated effort from many people and institutions. Addressing the challenges **associated with the LHC is crucial to advancing our understanding of the universe.**
- The LHC has tested and disproved some theories that **aim to explain the limitations of the Standard Model**, causing uncertainty in the physics community. To move forward, two ideas have emerged: **upgrading the LHC to increase its luminosity and building a bigger and more expensive version** in the hopes of finding new physics.
- While CERN and China have proposed such a machine, some **physicists question whether the money would be better spent** on less-expensive experiments with guaranteed results.

ROOPPUR NUCLEAR PLANT

Context: Bangladesh and Russia have agreed to use **Chinese yuan to settle payment** for the **construction of Rooppur nuclear plant** as the payment via **Russian ruble was not feasible at present.**

Overview of the Project
- **Bangladesh** is constructing the **first of two nuclear power plants** in collaboration with Russia's state-owned atomic company Rosatom.
- Once completed, the two reactors at the Rooppur site, which is approximately 160 kilometres north-west of Dhaka, will generate **2400 megawatts** of round-the-clock clean electricity.
- The project is a part of an **ambitious initiative** to transform the developing country into a **developed economy by 2041.**
- As the electricity demand is rising by about **7%** annually, Bangladesh is looking to expand as well as diversify and decarbonize its electricity sector through the addition of nuclear power and renewables. Currently, **natural gas** provides nearly **80% of the country's electricity.**

Involvement of International Atomic Energy Agency (IAEA)
- Bangladesh is among 28 countries that are considering, planning or starting the introduction of nuclear power. The IAEA assists countries interested in **developing peaceful applications** of nuclear energy, including nuclear power.
- The IAEA's milestones approach provides **step-by-step guidance** on the infrastructure for a new nuclear power programme.

India's Role
- India has a nuclear cooperation agreement with Russia and Bangladesh. The Rooppur project is the first initiative under an Indo-Russian deal to undertake **atomic energy projects in third countries.**
- **Nuclear Power Corporation of India (NPCIL)** is the commanding authority from the Indian side to assist in the construction, installation and also work in capacity building, as well as provide support to Russia which will take the lead in designing, manufacturing and supply of equipment and construction of the facility.
- This will also be the first time Indian companies will be able to participate in a nuclear power project abroad. India is not a member of the **Nuclear Suppliers Group (NSG)** and hence cannot participate directly in construction of atomic power reactors.

Significance for India
- While India has been steadily undertaking strategic agreements with major powers like the US, Russia and Japan, this agreement marks the first project that India is undertaking on foreign soil, signifying India's deeper involvement in the **global civil nuclear sector.**
- It has also given a huge boost to the country's **'Make in India'** initiative by proposing the production of some nuclear equipment for the plant in domestic shores.
- This agreement is also important in the context of India's **'Neighbourhood First' policy,** making its role in South Asia noteworthy. It is a major step in achieving the objectives of non-reciprocity towards India's

smaller neighbours in South Asia as highlighted in the Gujral doctrine, furthering India's status as a responsible nuclear power.

- It will also help India in realising other **strategic objectives,** including for instance, a free-transit agreement with Bangladesh which will reduce its dependence on the Siliguri Corridor and contribute towards the development of the northeastern region.

INDIA'S EXPORT CAPABILITIES

Context: Jamnagar in Gujarat is the top exporting district in India. It formed about **24% of India's exports in value terms in FY23** (till January).

- **Surat in Gujarat and Mumbai Suburban in Maharashtra** feature second and third by a distance, forming only about 4.5% of the country's exports in the period.
- The other districts in the **top 10 are Dakshina Kannada (Karnataka), Devbhumi Dwarka, Bharuch and Kachchh (Gujarat), Mumbai (Maharashtra), Kancheepuram (Tamil Nadu) and Gautam Buddha Nagar (Uttar Pradesh).**

Status of the Export Sector in India:
- **Status of Trade:**
  o The **merchandise trade deficit,** which is the gap between exports and imports, increased by over **39% in 2022-23** to record USD 266.78 billion, as compared to **USD 191 billion in 2021-22.**
  o Merchandise imports increased by **16.51% in 2022-23,** while merchandise exports rose by 6.03%.
    ▪ Overall trade deficit, however, stood at **USD 122 billion in 2022-23, as compared to USD 83.53 billion** in the 2022, **gaining support from trade surplus in services.**

- **India's Major Export Arenas:**
  o **Engineering Goods:** They **registered a 50% growth in exports**, at USD **101 bn in FY22.**
    ▪ Currently, **all pumps, tools, carbides, air compressors, engines, and generators manufacturing MNC companies** in India are trading at all-time highs and shifting more production units to India.
  o **Agriculture Products:** Agricultural exports were buoyed by the government's push to meet global demand for food amid the pandemic. **India exports rice worth USD 9.65 bn**, the highest among agricultural commodities.
  o **Textile and Apparels:** India's **textile and apparel exports** (including handicrafts) stood at **USD 44.4 billion in FY22, a 41% increase on a YoY basis.**
    ▪ Government's scheme like **Mega Integrated Textile Region and Apparel (MITRA) Park** are giving a strong boost to this sector.
- **Pharmaceuticals and Drugs:** India is the **third-largest producer of medicines** by volume and the biggest supplier of generic drugs.
  o **India supplies over 50% of Africa's requirement for generics**, around 40% of generic demand in the US and 25% of all medicine in the UK.
- **Challenges Related to Export Sector:**
  o **Access to Finance:** Access to affordable and timely finance is crucial for exporters.
  However, many **Indian exporters face challenges in obtaining finance due to high interest rates**, collateral requirements, and lack of credit availability from financial institutions, particularly for small and medium-sized enterprises (SMEs).

  o **Limited Diversification of Exports: India's export basket is concentrated** in a few sectors, such as **engineering goods, textiles and pharmaceuticals**, which makes it vulnerable to global demand fluctuations and market risks.
    ▪ Limited diversification of exports poses a challenge to India's export sector as it can **limit its resilience to changing global trade dynamics.**

o **Rising Protectionism and Deglobalisation:** Countries around the globe are moving towards protectionist trade policies due to disrupted global political order **(Russia-Ukraine War) and** <u>weaponization of supply chain,</u> that is in way shrinking India's export capacities.

Way Forward

- **Investment in Infrastructure:** Improved infrastructure and logistics are critical for enhancing export competitiveness.
  o India should **prioritise investments in transportation networks, ports, customs clearance processes,** and export-oriented infrastructure such as **export promotion zones and specialised manufacturing zones.**
  o This can **reduce transportation costs, improve supply chain efficiency,** and boost export capabilities.
- **Skill Development and Technology Adoption:** Skill development programs should be implemented to enhance the **availability of skilled labour in export-oriented industries.**
  o Additionally, incentivizing and promoting technology adoption, such as **automation,** <u>digitization,</u> **and** <u>Industry 4.0 technologies,</u> can boost productivity, competitiveness, and innovation in the export sector.
- **Exploring Joint Development Programmes:** Amidst a wave of deglobalisation and slowing growth, exports cannot be the sole engine of growth.
  o India can also explore joint development programmes with other countries in sectors like **space, semiconductor**, **solar energy to improve India's medium-term growth prospects.**

QUANTUM COMPUTING TECHNOLOGY AND ASSOCIATED APPLICATIONS — EXPLAINED, POINTWISE

Introduction

- Quantum computing technology has emerged as a revolutionary field, holding the potential to transform numerous industries and applications. With the Indian Union Cabinet's approval of the ₹6,003 crore National Quantum Mission, India is set to join the global race in developing cutting-edge quantum computing, communication, and sensing technologies.
- As the world's leading nations continue to invest heavily in quantum research and development, this rapidly evolving domain promises to unlock extraordinary capabilities, reshaping the future of computing and its associated applications.

What is Quantum computing and how it is different from classical computing?

- Quantum computing is a revolutionary approach to computation that leverages the principles of quantum mechanics to process information. It differs significantly from classical computing, which is based on classical physics and uses bits to represent data as either 0 or 1.
- The main differences between quantum computing and classical computing are as follows:
- **Fundamental units:** While classical computing uses bits as its fundamental units of data, quantum computing uses quantum bits, or qubits. Qubits can represent data as 0, 1, or both 0 and 1 simultaneously, thanks to a quantum phenomenon called superposition.
- **Superposition:** Classical bits can only exist in a single state at any given time, either 0 or 1. Qubits, however, can exist in a superposition of states, meaning they can be in multiple states at once. This property allows quantum computers to perform complex calculations and solve problems that are infeasible for classical computers.
- **Entanglement:** Another key difference between quantum and classical computing is the concept of entanglement. In quantum computing, qubits can become entangled, meaning the state of one qubit is directly related to the state of another, even when they are far apart. Entanglement allows for faster and more efficient information processing, as changes in one qubit can instantaneously affect the entangled qubits.
- **Parallelism**: Due to superposition and entanglement, quantum computers can perform multiple calculations simultaneously. This inherent parallelism allows them to solve certain problems much faster than classical computers, which process data sequentially.

- **Problem-solving capabilities:** Quantum computing has the potential to solve complex problems in areas such as cryptography, optimization, materials science, and drug discovery that are currently intractable for classical computers.
- However, quantum computers are not intended to replace classical computers but rather complement them by tackling specific types of problems.

What is the need for developing quantum computing?

- **Limitations of Classical Computing:** Classical computers struggle to handle complex problems and large data sizes. Quantum computing promises to address these challenges, allowing us to solve problems that are beyond the capabilities of classical computers.
- **Irregular Growth and Progress:** The need for quantum computing development is to ensure continued growth and progress in multiple domains. As the world becomes increasingly reliant on technology and computation, quantum computing can help meet the demands and keep up with the rapid pace of change.
- **Complex global issues:** Quantum computing is needed to address complex global issues like climate change, disease outbreaks, and resource management, as it can process vast amounts of data and provide timely solutions.
- **Insecure communications:** Current encryption methods may become vulnerable with the advent of quantum computing. Developing quantum technologies is necessary to ensure secure communication and protect sensitive information. Advancing scientific research: Quantum computing is needed to simulate quantum systems accurately, which can help unlock new discoveries in areas like physics, chemistry, and biology.
- **Uncompetitiveness:** As other nations invest heavily in quantum technology, it is essential for countries to develop their own capabilities to remain competitive and maintain their strategic edge.
- **Unknown future challenges:** Investing in quantum computing today is necessary to build a strong foundation for tackling unknown challenges and opportunities that may emerge in the future.
- **How India is developing quantum computing technologies?**
- India's Approach to Developing Quantum Computing Technologies:
- **National Quantum Mission:** The Indian Union Cabinet approved the ₹6,003 crore National Quantum Mission, an eight-year project aimed at developing quantum computing, quantum communication, and quantum sensing technologies, bringing India on par with global leaders like the US and China.
- **Research and Development:** India is investing in quantum computing research through various institutions, including the Indian Institute of Science (IISc), the Tata Institute of Fundamental Research (TIFR), and the Indian Institutes of Technology (IITs), where projects such as quantum cryptography and quantum simulations are being explored.
- **Government support and funding:** The Indian government has allocated significant funds (in 2020 budget) to support quantum technology research and development, such as the ₹8,000 crore National Mission on Quantum Technologies and Applications (NMQTA), which will fund projects across academia, research institutions, and industry.
- **Research Institutions and Industry Collaboration:** Indian research institutions like the Indian Institute of Science (IISc), Indian Institutes of Technology (IITs), and the Raman Research Institute collaborate with the Indian Space Research Organisation (ISRO) and the industry to advance quantum computing technologies.
- **Quantum startup ecosystem:** India is witnessing the growth of quantum computing startups, such as QNu Labs and QuScTec, working on developing quantum algorithms, hardware, and software solutions to tackle real-world problems.
- **Skill development and education:** Indian universities and research institutions, like IIT Madras, are focusing on developing quantum expertise by offering specialized courses and degrees in quantum computing and related fields, preparing the next generation of quantum scientists and engineers.
- **Military applications:** The Indian Army has established a quantum research facility in Madhya Pradesh, focusing on the development of quantum technologies for military applications, such as secure communication and advanced sensing capabilities.

How other countries are developing quantum computing technologies?
- **United States:** The US has a strong focus on quantum computing research, with companies like IBM, Google, and Rigetti Computing leading the way. The US government has also established the National Quantum Initiative to support and coordinate quantum research and development.
- **China:** China is investing heavily in quantum computing research, with the Chinese Academy of Sciences and leading universities collaborating on projects. In 2020, China achieved a major milestone by demonstrating quantum supremacy with its Jiuzhang quantum computer.The country has also made significant progress in quantum communication with the launch of the world's first quantum satellite, Micius.
- **European Union:** The European Union has launched the Quantum Technologies Flagship, a €1 billion initiative to support quantum research and development across Europe. Key players in the region include companies like IQM Quantum Computers and research institutions like the Max Planck Institute for Quantum Optics.
- **Canada:** Canada is also a significant player in the field of quantum computing, with the University of Waterloo's Institute for Quantum Computing and companies like D-Wave Systems and Xanadu contributing to advancements in the technology.

What are the potential applications of quantum computing?
- **Secure Communication:** Quantum computers can enable ultrasecure communication using quantum encryption, making it nearly impossible for hackers to intercept sensitive information.
- **New Medicines:** Quantum computing can help simulate complex molecular interactions, allowing researchers to discover new drugs and optimize existing ones.
- **Improved Climate Predictions:** Quantum computers can process vast amounts of data, leading to more accurate climate models and better-informed policies for environmental preservation.
- **Enhanced AI Models:** Quantum computing can dramatically improve machine learning algorithms, enabling more efficient and accurate AI models for various applications.
- **Logistics and Supply Chains:** Quantum computing can find optimal solutions for complex optimization problems, such as routing and scheduling, to improve efficiency in logistics and supply chains.
- **Better Investment Strategies:** Quantum computing can analyze complex financial data, allowing for improved risk assessment and investment strategies in the financial sector.

What are the challenges in developing quantum computing technology?
- Developing practical and reliable QCs faces significant challenges:
- **Engineering larger quantum processors:** A practical QC needs at least 1,000 qubits. Currently, the largest quantum processor has 433 qubits. Engineering barriers need to be overcome to create larger processors.
- **Maintaining specific conditions:** Qubits require extremely low temperatures, radiation shielding, and protection against physical shock to maintain their superposition states.
- **Error-correction:** Quantum error-correction is tricky due to the no cloning theorem, which states that a qubit's state cannot be perfectly cloned. Error-correction requires entangling each qubit with thousands of physical qubits.
- **Error amplification:** Researchers must develop QCs that don't amplify errors when more qubits are added. Keeping error rates below a certain threshold is crucial, as more qubits could otherwise increase informational noise.

What are the challenges in developing quantum computing technology in India?
- **Limited Facilities:** India faces challenges in establishing advanced research facilities and providing adequate resources for quantum computing development.
- **Insufficient Funds:** Securing funding for research and development in quantum computing remains a challenge, with limited private and public investment compared to global competitors.
- **Talent Shortage:** India faces a shortage of skilled professionals and researchers in the field of quantum computing, making it difficult to build a strong talent pool.

- **Weak Partnerships:** Lack of strong collaborations between academic institutions, research organizations, and industries can slow down the progress of quantum computing development in India.
- **IP Protection:** India needs to improve its intellectual property (IP) protection and technology transfer mechanisms to encourage innovation and safeguard researchers' work in quantum computing.

What should be done?
- **Invest in Facilities:** The government and private sector should invest in building state-of-the-art research facilities and providing resources for quantum computing development.
- **Increase Support:** Both public and private entities should increase funding and investment in quantum computing research, development, and innovation.
- **Education and Training:** India should focus on enhancing education and training programs in quantum computing, including specialized courses and workshops to build a strong talent pool.
- **Promote Partnerships:** Encourage collaborations between academic institutions, research organizations, and industries to create a robust ecosystem for quantum computing development.
- **Government Policies:** The government should develop policies that support and encourage the growth of the quantum computing sector, including incentives for research and development, and the establishment of quantum computing hubs.

ANTUM COMPUTING TECHNOLOGY AND ASSOCIATED APPLICATIONS

Context: Quantum computing technology has emerged as a revolutionary field, holding the potential to transform numerous industries and applications. With the Indian Union Cabinet's approval of the ₹6,003 crore National Quantum Mission, India is set to join the global race in developing cutting-edge quantum computing, communication, and sensing technologies.

As the world's leading nations continue to invest heavily in quantum research and development, this rapidly evolving domain promises to unlock extraordinary capabilities, reshaping the future of computing and its associated applications.

What is Quantum computing and how it is different from classical computing?
- Quantum computing is a revolutionary approach to computation that leverages the principles of quantum mechanics to process information. It differs significantly from classical computing, which is based on classical physics and uses bits to represent data as either 0 or 1.
- The main differences between quantum computing and classical computing are as follows:
- **Fundamental units:** While classical computing uses bits as its fundamental units of data, quantum computing uses quantum bits, or qubits. Qubits can represent data as 0, 1, or both 0 and 1 simultaneously, thanks to a quantum phenomenon called superposition.
- **Superposition:** Classical bits can only exist in a single state at any given time, either 0 or 1. Qubits, however, can exist in a superposition of states, meaning they can be in multiple states at once. This property allows quantum computers to perform complex calculations and solve problems that are infeasible for classical computers.
- **Entanglement:** Another key difference between quantum and classical computing is the concept of entanglement. In quantum computing, qubits can become entangled, meaning the state of one qubit is directly related to the state of another, even when they are far apart. Entanglement allows for faster and more efficient information processing, as changes in one qubit can instantaneously affect the entangled qubits.
- **Parallelism**: Due to superposition and entanglement, quantum computers can perform multiple calculations simultaneously. This inherent parallelism allows them to solve certain problems much faster than classical computers, which process data sequentially.
- **Problem-solving capabilities:** Quantum computing has the potential to solve complex problems in areas such as cryptography, optimization, materials science, and drug discovery that are currently intractable for classical computers.

- However, quantum computers are not intended to replace classical computers but rather complement them by tackling specific types of problems.

What is the need for developing quantum computing?

- **Limitations of Classical Computing:** Classical computers struggle to handle complex problems and large data sizes. Quantum computing promises to address these challenges, allowing us to solve problems that are beyond the capabilities of classical computers.
- **Irregular Growth and Progress:** The need for quantum computing development is to ensure continued growth and progress in multiple domains. As the world becomes increasingly reliant on technology and computation, quantum computing can help meet the demands and keep up with the rapid pace of change.
- **Complex global issues:** Quantum computing is needed to address complex global issues like climate change, disease outbreaks, and resource management, as it can process vast amounts of data and provide timely solutions.
- **Insecure communications:** Current encryption methods may become vulnerable with the advent of quantum computing. Developing quantum technologies is necessary to ensure secure communication and protect sensitive information. Advancing scientific research: Quantum computing is needed to simulate quantum systems accurately, which can help unlock new discoveries in areas like physics, chemistry, and biology.
- **Uncompetitiveness:** As other nations invest heavily in quantum technology, it is essential for countries to develop their own capabilities to remain competitive and maintain their strategic edge.
- **Unknown future challenges:** Investing in quantum computing today is necessary to build a strong foundation for tackling unknown challenges and opportunities that may emerge in the future.

How India is developing quantum computing technologies?

- India's Approach to Developing Quantum Computing Technologies:
- **National Quantum Mission:** The Indian Union Cabinet approved the ₹6,003 crore National Quantum Mission, an eight-year project aimed at developing quantum computing, quantum communication, and quantum sensing technologies, bringing India on par with global leaders like the US and China.
- **Research and Development:** India is investing in quantum computing research through various institutions, including the Indian Institute of Science (IISc), the Tata Institute of Fundamental Research (TIFR), and the Indian Institutes of Technology (IITs), where projects such as quantum cryptography and quantum simulations are being explored.
- **Government support and funding:** The Indian government has allocated significant funds (in 2020 budget) to support quantum technology research and development, such as the ₹8,000 crore National Mission on Quantum Technologies and Applications (NMQTA), which will fund projects across academia, research institutions, and industry.
- **Research Institutions and Industry Collaboration:** Indian research institutions like the Indian Institute of Science (IISc), Indian Institutes of Technology (IITs), and the Raman Research Institute collaborate with the Indian Space Research Organisation (ISRO) and the industry to advance quantum computing technologies.
- **Quantum startup ecosystem:** India is witnessing the growth of quantum computing startups, such as QNu Labs and QuScTec, working on developing quantum algorithms, hardware, and software solutions to tackle real-world problems.
- **Skill development and education:** Indian universities and research institutions, like IIT Madras, are focusing on developing quantum expertise by offering specialized courses and degrees in quantum computing and related fields, preparing the next generation of quantum scientists and engineers.
- **Military applications:** The Indian Army has established a quantum research facility in Madhya Pradesh, focusing on the development of quantum technologies for military applications, such as secure communication and advanced sensing capabilities.

How other countries are developing quantum computing technologies?

- **United States:** The US has a strong focus on quantum computing research, with companies like IBM, Google, and Rigetti Computing leading the way. The US government has also established the National Quantum Initiative to support and coordinate quantum research and development.
- **China:** China is investing heavily in quantum computing research, with the Chinese Academy of Sciences and leading universities collaborating on projects. In 2020, China achieved a major milestone by demonstrating quantum supremacy with its Jiuzhang quantum computer. The country has also made significant progress in quantum communication with the launch of the world's first quantum satellite, Micius.
- **European Union:** The European Union has launched the Quantum Technologies Flagship, a €1 billion initiative to support quantum research and development across Europe. Key players in the region include companies like IQM Quantum Computers and research institutions like the Max Planck Institute for Quantum Optics.
- **Canada:** Canada is also a significant player in the field of quantum computing, with the University of Waterloo's Institute for Quantum Computing and companies like D-Wave Systems and Xanadu contributing to advancements in the technology.

What are the potential applications of quantum computing?

- **Secure Communication:** Quantum computers can enable ultra secure communication using quantum encryption, making it nearly impossible for hackers to intercept sensitive information.
- **New Medicines:** Quantum computing can help simulate complex molecular interactions, allowing researchers to discover new drugs and optimize existing ones.
- **Improved Climate Predictions:** Quantum computers can process vast amounts of data, leading to more accurate climate models and better-informed policies for environmental preservation.
- **Enhanced AI Models:** Quantum computing can dramatically improve machine learning algorithms, enabling more efficient and accurate AI models for various applications.
- **Logistics and Supply Chains:** Quantum computing can find optimal solutions for complex optimization problems, such as routing and scheduling, to improve efficiency in logistics and supply chains.
- **Better Investment Strategies:** Quantum computing can analyze complex financial data, allowing for improved risk assessment and investment strategies in the financial sector.

What are the challenges in developing quantum computing technology?

- Developing practical and reliable QCs faces significant challenges:
- **Engineering larger quantum processors:** A practical QC needs at least 1,000 qubits. Currently, the largest quantum processor has 433 qubits. Engineering barriers need to be overcome to create larger processors.
- **Maintaining specific conditions:** Qubits require extremely low temperatures, radiation shielding, and protection against physical shock to maintain their superposition states.
- **Error-correction:** Quantum error-correction is tricky due to the no cloning theorem, which states that a qubit's state cannot be perfectly cloned. Error-correction requires entangling each qubit with thousands of physical qubits.
- **Error amplification:** Researchers must develop QCs that don't amplify errors when more qubits are added. Keeping error rates below a certain threshold is crucial, as more qubits could otherwise increase informational noise.

What are the challenges in developing quantum computing technology in India?

- **Limited Facilities:** India faces challenges in establishing advanced research facilities and providing adequate resources for quantum computing development.
- **Insufficient Funds:** Securing funding for research and development in quantum computing remains a challenge, with limited private and public investment compared to global competitors.
- **Talent Shortage:** India faces a shortage of skilled professionals and researchers in the field of quantum computing, making it difficult to build a strong talent pool.
- **Weak Partnerships:** Lack of strong collaborations between academic institutions, research organizations, and industries can slow down the progress of quantum computing development in India.

- **IP Protection:** India needs to improve its intellectual property (IP) protection and technology transfer mechanisms to encourage innovation and safeguard researchers' work in quantum computing.
- **Way forward:**
- **Invest in Facilities:** The government and private sector should invest in building state-of-the-art research facilities and providing resources for quantum computing development.
- **Increase Support:** Both public and private entities should increase funding and investment in quantum computing research, development, and innovation.
- **Education and Training:** India should focus on enhancing education and training programs in quantum computing, including specialized courses and workshops to build a strong talent pool.
- **Promote Partnerships:** Encourage collaborations between academic institutions, research organizations, and industries to create a robust ecosystem for quantum computing development.
- **Government Policies:** The government should develop policies that support and encourage the growth of the quantum computing sector, including incentives for research and development, and the establishment of quantum computing hubs.

ENVIRONMENT

CONFERENCE ON HUMAN-WILDLIFE CONFLICT

Context: Recently, the **International Conference on Human-Wildlife Conflict and Coexistence** was held in Oxford, the United Kingdom, which has brought hundreds of activists from 70 countries to discuss solutions to address **Human-Wildlife Conflicts.**

- The Conference was organized by the **International Union for Conservation of Nature (IUCN)**, the **Food and Agriculture Organization (FAO),** the **UN Development Programme** and several other organizations together.

What does the Conference Aim at Achieving?
- Facilitate dialogue and peer-to-peer **learning across sectors and actors on the topic** for partnerships and collaboration across people and institutions working on human-wildlife conflict.
- Generate **interdisciplinary and shared understanding** of the latest insights, technologies, methods, ideas, and information from the field of human-wildlife conflict, coexistence and interactions.
- Mainstream **human-wildlife conflict as one of the top global priorities** in biodiversity conservation and the **Sustainable Development Goals** for the next decade, catalysing opportunities for working together on national, regional or global policies and initiatives.
- **Identify and develop a collective way forward** for addressing knowledge and implementation gaps for effective efforts to reduce and manage human-wildlife conflict.

What is the Need for this Conference?
- Human-wildlife conflicts across the world are a major challenge to conservation of species, making coexistence with nature difficult and hinders biodiversity protection.
  - Conflict-related killing affects **more than 75% of the world's wild cat species,** according to the **United Nations Environment programme (UNEP).**
- It will provide a platform for experts from the fields of "ecology, animal behaviour, psychology, law, conflict analysis, mediation, peacebuilding, international development, economics, anthropology and others, to understand **human-wildlife conflict through various viewpoints, learn from each other,** and build new links and collaborations.
  - Effective management of human-wildlife interactions is prescribed in **Target 4 of the Kunming-Montreal Global Biodiversity Framework** agreed at the UN Biodiversity Conference in December 2022.

What is Human-Animal Conflict?
- **About:**
  - Human-animal conflict **refers to situations where human activities,** such as agriculture, infrastructure development, or resource extraction, **come into conflict with wild animals,** leading to **negative outcomes for both humans and animals.**
- **Implications:**
  - **Economic Losses:** Human-animal conflict can result in **significant economic losses for people, especially farmers** and livestock herders. Wild animals can destroy crops, damage infrastructure, and kill livestock, leading to financial hardship.
  - **Threats to Human Safety:** Wild animals can pose a **threat to human safety, especially in areas where people and wildlife coexist.** Attacks by large predators such as lions, tigers, and bears can result in serious injury or death.
  - **Ecological Damage:** Human-animal conflict can have a **negative impact on the environment.** For example, when humans kill predators, it can lead to **an increase in prey populations,** which can then cause ecological imbalances.
  - **Conservation Challenges:** Human-animal conflict can also **pose a challenge to conservation efforts**, as it can lead to negative perceptions of wildlife and make it difficult to implement conservation measures.

- o **Psychological Impacts:** Human-animal conflict can also have psychological impacts on people, especially those **who have experienced attacks or property damage.** It can lead to fear, anxiety, and trauma.

- **Government Measures:**
  - o **The Wildlife Protection Act, 1972:** This act provides the legal framework for the activities, Prohibition of hunting, Protection and management of wildlife habitats, Establishment of protected areas etc.
  - o **The Biological Diversity Act, 2002:** India is a part of the **United Nations Convention on Biological Diversity.** The provisions of the Biological Diversity Act are in addition to and not in derogation of the provisions in any other law relating to forests or wildlife.
  - o **National Wildlife Action Plan (2002-2016):** It focuses on strengthening and **enhancing the protected area network,** on the conservation of Endangered wildlife and their habitats, on controlling trade in wildlife products and on research, education, and training.
  - o **Project Tiger:** Project Tiger is a **Centrally Sponsored Scheme** of the Ministry of Environment, Forests and Climate Change (MoEFCC) launched in 1973. It provides **havens for tigers in the country's national parks.**
  - o **Project Elephant:** It is a centrally sponsored scheme and was launched in February 1992 for the protection of elephants, their habitats and corridors.

TIME TO PUT A PRICE ON CARBON EMISSIONS

Context: India can take the lead, as president of the G-20 this year, in carbon pricing, which will open unexpected avenues of decarbonisation.
About Carbon pricing

Meaning:
- Carbon pricing is an instrument that captures the external costs of greenhouse gas (GHG) emissions, the costs of emissions that the public pays for, such as damage to crops, health care costs from heat waves and droughts, and loss of property from flooding and sea level rise—and ties them to their sources through a price, usually in the form of a price on the carbon dioxide (CO_2) emitted.
- A price on carbon helps shift the burden for the damage from GHG emissions back to those who are responsible for it and who can avoid it.

Three ways of pricing carbon are:
- The establishment of a carbon tax domestically, as in Korea and Singapore;
- The use of an emissions trading system (ETS), as in the European Union (EU) and China; and
- The application of an import tariff on the carbon content, as the EU is proposing.

IMF's suggestion:
- Some 46 countries price carbon, although covering only 30% of global greenhouse gas (GHG) emissions, and at an average price of only $6 a ton of carbon, a fraction of the estimated harm from the pollution.
- The International Monetary Fund has proposed price floors of $75, $50, and $25 a ton of carbon for the United States, China, and India, respectively.
  - o It believes this could help achieve a 23% reduction in global emissions by 2030.

Benefits:
- The economy-wide benefits of carbon pricing in terms of damages avoided (plus revenue generation) generally outweighed the cost it imposed on individual industries in the EU, British Columbia, Canada, and Sweden.
- A key dynamic is that carbon pricing, by signalling a price for cleaner air, makes investment in renewable energy such as solar and wind, which has huge prospects in India, more attractive.

Carbon pricing for India

- **Carbon tax:**
  - o Among the three ways of pricing, India could find a carbon tax appealing as it can directly discourage fossil fuels, while raising revenues which can be invested in cleaner sources of energy or used to protect vulnerable consumers.
  - o It could replace the more inefficient scheme of petroleum taxes which are not directly aimed at emissions.
    - ▪ Saudi Arabia and Russia are at the low end of gasoline prices (including taxes and subsidies), China and India in the mid-range, and Germany and France at the high end.
- **How?**
  - o In most countries, including India, fiscal policy has set in place the basic structures needed to implement a carbon tax.
    - ▪ For example, they can be woven into road-fuel taxes, which are established in most places, and extended to industry and agriculture.
  - o Policymakers have to choose the tax rate, which varies widely from Japan's $2.65 a ton of CO_2 to Denmark's $165 a ton set for 2030.
  - o India could start with the IMF figure of $25 a ton.
- **Challenges:**
  - o The main obstacle is the argument by industrial firms about losing their competitive advantage to exporters from countries with a lower carbon price.
  - o It would stand to reason, therefore, for all high, middle and low income countries to set the same rate within each bracket.

Significance
- **Notable climate effects:**
  - o A high enough carbon tax across China, the U.S., India, Russia, and Japan alone (more than 60% of global effluents), with complementary actions, could have a notable effect on global effluents and warming.
- Decarbonisation as a formula:
  - o It could also pave the way to seeing decarbonisation as a winning development formula.
- For India:
  - o As carbon pricing gains acceptance, the first movers will be the most competitive.
  - o India, as president at the G-20 summit, can play a lead role by tabling global carbon pricing in the existential fight against climate change.

Suggestions
- Allowing companies 'high-quality international carbon credits':
  - o It might also make sense to allow companies to use high-quality international carbon credits to offset up to a certain percentage of their taxable emissions.
  - o Global examples:
    - ▪ The EU excludes transport, where higher costs would have been passed on to consumers directly, Singapore provides vouchers for consumers hit by utility price rises, and California uses proceeds from the sales of carbon permits partly to subsidise purchases of electric cars.
    - ▪ Some make a case for exempting "emission intensive trade exposed" enterprises from the carbon tax, but output-based rebates would be superior ways of doing the same.
- **Awareness:**
  - o Communicating the idea of wins at the societal level, even in the presence of some individual producers' losses, is vital.

Way ahead
- India is currently marching towards its target of reducing its carbon intensity by 45 per cent by 2030. This goal is a part of India's updated Nationally Determined Contributions (NDC).
- India must set an example by balancing energy use and climate goals.

U.N. WATER CONFERENCE 2023

Context: Recently**, the United Nations 2023 Water Conference** was held in New York.

- The Conference was held **after a gap of 46 years**. It coincided with the review of **Implementation of the UN Decade for Action on Water and Sanitation (2018-2028)**.
- The review was necessitated after realisation that **we are not on track to meet the 2030 Sustainable Development Goal (SDG) no. 6 for water:** "Ensure availability and sustainable management of water and sanitation for all".
- The theme was "**Our watershed moment: uniting the world for water**"
- The first water conference was held in **1977 in Mar de Plata, Argentina.** It resulted in the **first global 'Action Plan' r**ecognizing that "all peoples have the right to have access to drinking water in quantities and of a quality equal to their basic needs".

Initiatives taken at the Conference:

- **Water Action Agenda :** 700 voluntary commitments to form the Water Action Agenda.
- **Climate resilient water and sanitation infrastructure** - USA announced a commitment of up to $49 billion in investments to support climate resilient water and sanitation infrastructure and services
- **Quality Infrastructure -** Japan announced that it will contribute 500 billion yen to the solution of water-related social issues faced by the Asia-Pacific region by developing quality Infrastructure
- **River basins management and clean running water** –Vietnam pledged to develop policies for major river basins management by 2025 and clean running water by 2030
- **Africa's water investments gap** - The African Union Commission and Continental Africa Investment Programme (AIP) aims to close Africa's water investments gap by mobilising at least $30 billion per year by 2030.
- **European Union (EU) -** The EU aims to support 70 million individuals to an improved drinking water source and sanitation facility by 2030.
- **Water Convention and transboundary cooperation** – Switzerland submitted 5 commitments in the areas of Water Convention and transboundary cooperation.

Challenges :

- The commitments are non-binding in nature and unlike 50 years ago, today's problems are more complex.
- The water sector is particularly prone to fragmentation because water problems and their solutions tend to be local. Such global mobilisations are not that effective as compared to those in other fields.
- The water problems we face today are no longer about access and therefore infrastructure spending no longer translates directly to sustained access to water and sanitation.
- The conference failed to address the violence and threats faced by communities trying to protect dwindling water sources.

IMPACTS OF HYDROPOWER PROJECTS IN THE HIMALAYAN REGION

Context: Disasters linked to **hydropower projects in the Himalayan** region have become more frequent in recent years.

What is the Potential of Hydropower Projects in Himalayan Region?

- With its abundant waterbodies and ideal topography to utilize the resource for electricity generation, the Himalayan region is regarded as the powerhouse of India.
- Government estimates suggest that the region has a **potential to generate 115,550 MW** with its **installed capacity of 46,850 MW.**
- Till November 2022, the **10 states** and **two Union territories** in the region had **81 large hydropower projects** (above 25 MW) and 26 projects under construction.
- Another **320 large projects are in the pipeline**, according to the **Central Electricity Authority** under the Union Ministry of Power.

What are the Risks and Impacts of Hydropower Projects in the Himalayan Region?
- **Vulnerability:**
    o The Himalayas are part of a **seismically active zone.**
    o Despite the climate and seismic activities in the Himalayas making its river valleys **prone to <u>landslides</u>**, hydropower projects are mushrooming in the region. In **Uttarakhand's Joshimath town**, where more than 800 buildings have developed cracks **due to <u>subsidence</u>**, the government on January 5, 2023, imposed a ban on construction activities, including on the works at Tapovan Vishnugad hydropower project.
- **Impact:**
    o Hydropower projects in the region have become more frequent in recent years, and disasters linked to these projects have increased.
    o **In 2012**, flooding in the Assi Ganga river **damaged** the Assi **Ganga hydroelectric projects (HEP)** 1 and 2.
    o The **2013 <u>Kedarnath   floods</u>** severely **damaged**   **Phata-Byung,** Singoli-Bhatwari, and **Vishnuprayag** HEPs.
    o In **2021**, a rock and ice **avalanche destroyed the Rishi Ganga project** and damaged the Vishnugad-Tapovan HEP, leaving **over 200 dead** and estimated losses of Rs 1500 crore.
    o **Vishnugad-Tapovan** had already suffered recurring damages due to terrain fragility, according to various media reports.
    o **In December, 2022**, a significant slope failure occurred at the **Urni landslide** zone in Kinnaur district of **Himachal Pradesh**, where construction works have been going on at the 1,091 MW **Karcham Wangtoo hydroelectric plant.**
    o These landslide dams usually result in impounding of lakes, landslide lake outburst flood, secondary landslides, channel avulsion, and formation of flood terraces in the downstream region, affecting the environment and local communities.

What are the Government Initiative Taken So Far?
- **National Mission on Sustaining Himalayan Ecosystem (NMSHE)** is one of the eight missions under the **National Action Plan on Climate Change (NAPCC)**. The mandate is to evolve measures to sustain and safeguard the Himalayan glaciers, mountain ecosystems, biodiversity and wildlife conservation & protection.
- **Environment Impact Assessment** for large hydro power plants.

What Steps can be taken to Reduce the Impact?
- The risks posed by landslides in the Himalayas have been aggravated in recent years, making hydropower projects more dangerous and unsustainable.
- There is a dire **need to re-evaluate these projects** based on current scientific data.
- Most of the existing or under-construction projects in the Himalayas were envisaged 10-15 years ago, and the **government should look at new science and then decide.**
- Even if the government decides in favor of the project, **let the local panchayat give it in writing** that they are in favor of the project.
- Constitution of expert committee to study impact of HEP in Himalayan region. For e.g., Ravi Chopra committee set up by the ministry to examine the role of 24 such hydropower projects in the Alaknanda and Bhagirathi basin.

CHALLENGES AND SOLUTIONS FOR MANAGING SOLAR PV WASTE IN INDIA

Context: Despite the efforts of Indian policymakers to transition to a **circular economy**, there is currently a lack of clear directives for waste management in the solar photovoltaic (PV) industry.

What is PV Waste?
- <u>**Photo-Voltaic waste**</u> **is the electronic waste generated by discarded solar panels**. PV waste may contain hazardous materials, including heavy metals **such as cadmium, copper, lead, antimony, and selenium.**

- PV waste are sold as scraps in India. It can increase by at least four-five-fold by the next decade. India should focus its attention on drafting comprehensive rules to deal with solar waste.
- **Composition of Solar PV:**
  o India's solar PV installations are dominated by **crystalline silicon (c-Si) technology. A typical PV panel is made of c-Si modules (93%) and cadmium telluride thin-film modules (7%).**
    ▪ A **c-Si module mainly consists of a glass sheet, an aluminum frame, an encapsulant, a back sheet, copper wires, and silicon wafers.** Silver, tin, and lead are used to make c-Si modules. The thin-film module is made of glass, encapsulant, and compound **semiconductors.**
- **Status of India in PV Waste:**
  o Globally, India has the **world's fourth-highest solar PV deployment.** The installed solar capacity was nearly 62GW in November 2022. This leads to a huge amount of solar PV waste.
  o According to a 2016 report by the **International Renewable Energy Agency**, **India could generate 50,000-3,25,000 Tonnes of PV waste by 2030 and more than four million Tonnes by 2050.**

Can this Waste be Recovered or Recycled?
- As **PV panels near expiration, some portions of the frame are extracted** and sold as scrap, and junctions and cables are recycled according to e-waste guidelines.
- The glass laminate is partly recycled, while silicon and silver can be extracted by burning the module in cement furnaces. However, **approximately 50% of the total materials can be recovered**, and only about 20% of the waste is recovered in general, with the rest being treated informally.
- This growing informal handling of PV waste has led to **waste accumulation at landfills, polluting the surroundings.** Incinerating the encapsulant also releases sulphur dioxide, hydrogen fluoride, and hydrogen cyanide into the atmosphere.

What are the Challenges in Managing PV Waste in India?
- **Informal Handling of PV Waste:**
  o Despite some portions of the PV panels being extracted and recycled, a significant portion of the waste is treated informally, leading to the accumulation of waste in landfills and polluting the surroundings.
- **Limited Market for Reusing Recycled PV Waste:**
  o The market to reuse recycled PV waste is currently extremely small in India due to a lack of suitable incentives and schemes in which businesses can invest.
    ▪ The lack of central insurance or regulatory body to protect against financial losses incurred in waste collection and treatment.
- **Lack of Specific Guidelines for PV Waste Treatment:**
  o Simply clubbing PV waste with other e-waste could lead to confusion, and there is a need for specific provisions to be formulated and implemented within the ambit of the e-waste guidelines.
    ▪ Need for specific provisions for PV waste treatment within e-waste guidelines to avoid confusion.
- **Hazardous Waste Classification:**
  o The waste generated from PV modules and their components is classified as 'hazardous waste' in India.
    ▪ Conducting awareness campaigns and sensitization programs about managing PV waste can help people understand the importance of properly handling hazardous waste. This will encourage more people to participate in proper waste management and disposal practices.
- **Limited Local Solar PV-panel Manufacturing:**
  o India **needs to pay more attention to domestic R&D efforts** as depending on a single module type will dis-uniformly deplete certain natural resources and stunt the local capacity for recycling and recovery of critical materials. The domestic development of PV waste recycling technologies must be promoted through appropriate infrastructure facilities and adequate funding.

What are India's Initiatives?
- **Draft EPR Notification: Plastic Packaging Waste.**
- **Plastic Waste Management Amendment Rules, 2021.**
- **E-Waste (Management) Rules, 2016.**

- E-waste (Management) Amendment Rules, 2018.
- Central Pollution Control Board.

Why should India Act now?
- India is expected to generate a vast amount of PV waste over the next 20 years, making it one of the **top five leading photovoltaic waste producers worldwide by 2050.**
  - Therefore, India needs to install clear policy directives, well-established recycling strategies, and greater collaboration to prepare for this new challenge. By addressing the gaps in PV waste management, India can achieve its goal of a circular economy and effective waste management while promoting sustainable development.

THE FOREST CONSERVATION BILL - ISSUES & CRITICISMS

Context: The government introduced **The Forest (Conservation), Amendment Bill,** 2023 in Lok Sabha to make changes to The Forest (Conservation) Act, 1980.
  - The proposed amendments to the Act are criticised for weakening the very purpose of the legislation.

Background of the legislation
- **The Forest (Conservation) Act, 1980:**
  - Following Independence, vast swathes of forest land were designated as reserved and protected forests and brought under state forest departments.
  - However, many forested areas were left out — and areas without any standing forests were included in 'forest' lands.
  - The anomalies were supposed to be sorted out through extensive ground surveys — but the process remained incomplete.
- **Apex Court's suspension order, 1996:**
  - In 1996, the Supreme Court suspended the felling of trees across the country, and ruled that the FC Act would apply to all land parcels that were either recorded as 'forest' or resembled the dictionary meaning of forest.
    - This sweeping order helped check rampant deforestation on land not recorded as 'forest'.
    - But the order also came in the way of excluding from recorded forests vast areas that were already in use for agriculture or as homesteads.

The Forest (Conservation) Amendment Bill, 2023
- **Restrictions on activities in forest:**
  - The Act restricts the de-reservation of forest or use of forest land for non-forest purposes.
  - Such restrictions may be lifted with the prior approval of the central government.
    - Non-forest purposes include use of land for cultivating horticultural crops or for any purpose other than reafforestation.
- **Assigning of land through a lease or otherwise:**
  - Under the Act, state government or any authority requires prior approval of the central government to direct the assigning of forest land through a lease or otherwise to any organisation (such as private person, agency, authority, corporation) not owned by the government.

- **Building forest carbon stock & improving livelihood:**
  - The predominant idea of the proposed changes is to build forest carbon stock by raising plantations.
    - The Bill talks about keeping up with "dynamic changes in the ecological, strategic and economic aspirations of the country" and "improvement of livelihoods for forest-dependent communities."
    - The scope of the amendments boils down to pushing plantations to achieve carbon neutrality by limiting the scope of the Act.
    - Indeed, compared to stable natural forests, fast-growing plantations score faster carbon growth.

- Conveniently, both count the same towards increasing the country's green cover, since India does not discriminate between forests and plantations for the purpose.
- **Compensatory afforestation:**
  - o The Bill also seeks to make land available for developers to meet their legal obligation towards compensatory afforestation in lieu of forest land diverted for development projects.
    - ▪ **How?**
      - ▪ If the scope of the FC Act is restricted, fewer projects will be required to obtain forest clearance, which is considered a 'hurdle' by most developers in and outside the government.
      - ▪ But it will also help developers secure forest clearance when they need it.
      - ▪ A key condition for forest clearance is that a developer must carry out compensatory afforestation on equivalent non-forest land or, if non-forest land is not available, on degraded forest land twice the extent of the forest area diverted.

Issues & criticisms
- **Removing the forest protection:**
  - o The amendment Bill, instead of completing the demarcation process on the ground, seeks to limit the applicability of the FC Act only to land recorded as 'forest'.
  - o This will have the effect of removing the protection of the Act from millions of hectares of land that have the characteristics of forests, but are not notified as such.
    - ▪ **How much area will be affected?**
      - ▪ For an idea of the scale, consider the latest State of Forests Report (SFR 2021), which records India's forest cover as 713,789 sq km.
      - ▪ Of this, nearly 28% or 197,159 sq km — roughly the size of Gujarat — is not recorded as 'forest'.
- **Freeing up the land:**
  - o The Bill tries to achieve both the objectives (of build forest carbon stock & afforestation) by restricting the applicability of the FC Act, and by freeing up land that is currently locked up as unrecorded forests.
- **No specific conditions for denying:**
  - o There are no specific conditions laid by the environment ministry for outrightly denying permission for deforestation for development projects.
    - ▪ For example, indiscriminately planting mangroves on mudflats which don't naturally have mangroves to act as a buffer from storms.
    - ▪ Destroying grasslands and open natural ecosystems for solar parks.
- **Beyond compensation:**
  - o What this means is that in addition to livelihood impacts, biodiversity impacts, and hydrological impacts, the climate impacts of such development projects also cannot adequately be 'compensated' by compensatory afforestation.
- **Affecting indigenous communities:**
  - o Any review of the FC Act is an opportunity to make suitable concessions for land that has traditionally been under the control of indigenous and forest communities.
    - ▪ Even after the enactment of the Forest Rights Act, 2006, the scope for their consent has eroded incrementally when it came to the diversion of forest land for development projects.
  - o Now, they may have no say on the extensive plantations that are envisaged on land on which they depend as communities.

- **Choosing plantation over forests:**
  - o Forests are a lot more than a sum of trees. Unlike man-made plantations, natural forests perform a range of ecosystem services that are key to the survival and well-being of the millions of species that they support and also provide direct livelihood and subsistence to crores of people.

Way ahead

- Research has found that natural ecosystems sequester more carbon.
  - We have known all along that creating single-species plantations in, say, Haryana does not really come close to a natural sal forest lost to a development project in, say, Central Indian forests in terms of biodiversity, local livelihoods, hydrological services, and sequestered carbon.
- The recent Intergovernmental Panel on Climate Change (IPCC) report also stated that not degrading existing ecosystems in the first place will do more to lower the impact of the climate crisis than restoring ecosystems that have been destroyed.

5TH INTERNATIONAL CONFERENCE ON DISASTER RESILIENT INFRASTRUCTURE

Context: Recently, the Prime Minister of India, addressed the **5th International Conference on Disaster Resilient Infrastructure (ICDRI) 2023.**

What is ICDRI?
- **About:**
  - **ICDRI is the annual international conference of the Coalition for Disaster Resilient Infrastructure (CDRI)** in partnership with member countries, organizations and institutions to strengthen the global discourse on disaster and climate-resilient infrastructure.
- **Highlights of ICDRI 2023:**
  - The Prime Minister said that since **India is leading the G20 group,** the **CDRI will be included in many important discussions.**
    - This means that the solutions discussed in the CDRI will be considered at the highest levels of global policymaking.

What is CDRI?
- **About:**
  - **CDRI** is an Independent International Organization consisting of global partnership of national governments, **United Nations** agencies and programs, multilateral development banks and financing mechanisms, the private sector, and academic and research institutions.
    - It aims to increase the resilience of infrastructure systems to climate and disaster risks, thereby ensuring **sustainable development.**
    - It was launched in 2019, at the **United Nations Climate Action Summit in New** York.
  - CDRI is India's second major global initiative after the **International Solar Alliance (ISA).**
    - The CDRI **Secretariat is based in New Delhi,** India.
- **Members:**
  - Since its inception, **31 countries, 6 international organisations and 2 private sector organisations** have joined CDRI as members.
- **Significance for India:**
  - CDRI provides a platform for **India to emerge as a global leader in climate Action and Disaster Resilience.**
  - It boosts India's soft power, but more importantly it has wider connotation than just economics, as synergy between disaster risk reduction, **Sustainable Development Goals (SDGs)** and Climate Accord provides for sustainable and inclusive growth.

What are the Initiatives of CDRI?
- **Infrastructure for Resilient Island States (IRIS):**
  - India launched this initiative as a part of the CDRI that would focus on building capacity, having pilot projects, especially in **Small Island Developing States or SIDS**.
    - SIDS face the biggest threat from climate change.
  - India's space agency **ISRO** will build a special data window for them to provide them with timely information about cyclones, coral-reef monitoring, coastline monitoring etc. through satellite.
- **Infrastructure Resilience Accelerator Fund:**

o The Infrastructure Resilience Accelerator Fund is a fund supported by both the **United Nations Development Programme (UNDP)** and **United Nations Office for Disaster Risk Reduction (UNDRR).**
o It is a trust fund that will be managed by the **United Nations Multi-Partner Trust Fund Office (UN MPTFO)** to help in improving the ability of infrastructure systems to withstand disasters, with a special focus on developing countries and Small Island Developing States (SIDS).

INCREASING TIGER POPULATION IN INDIA AND GOVERNMENT INITIATIVES

Context: Recently, the Indian Prime Minister marked the 50th anniversary of Project Tiger by putting out a 5th cycle of India's Tiger Census. Based on the survey, the tiger population in India has grown from 1,411 in 1972 to 3,167 in 2022. The Prime Minister established the **International Big Cats Alliance (IBCA)** to further safeguard these great cats. At the same time, a commemorative coin was made to mark the end of 50 years of "Project Tiger."

Note: The IBCA will focus on the protection and conservation of seven major big cats of the world — Tiger, Lion, Leopard, Snow Leopard, Puma, Jaguar, and Cheetah, with membership in the range of countries harbouring these species.

About the recent increase in tiger population in India

- India since 2006 has been conducting scientific tiger population estimation once every four years. According to the latest report, the number of tigers has recorded a 6.74% increase from 2,967 in the last census in 2018 to 3,167 in 2022. The number was 1,411 in 2006.
- India is now home to 75% of the global tiger population and also the "largest tiger range country in the world".
- The rate of increase has slowed down to less than 7% over the period, down from more than 30% in the previous four years.
- The only landscape in India where the tiger population has gone down is the Western Ghats, where declaring of an ecologically sensitive zone has been hanging since 2010.
- The tiger populations have declined in the central Indian states of Jharkhand, Odisha, Chhattisgarh, Andhra Pradesh and Telangana, even though tigers have been spotted for the first time in Himachal Pradesh and in new areas in Madhya Pradesh and Maharashtra.

What are the reasons led to the increasing tiger population in India?

- **Conservation Efforts**: India has implemented various conservation efforts to protect tigers, including the establishment of protected areas, anti-poaching patrols, and community involvement. For example, Project Tiger was launched in 1973 to protect tigers and their habitats, and it has led to an increase in tiger populations in many areas.
- **Habitat Restoration:** The restoration of tiger habitat has been a key factor in their population recovery. Efforts have been made to reduce human encroachment and restore natural habitats by reforestation and reducing deforestation. For instance, in Sariska Tiger Reserve, where tigers were once completely wiped out, efforts have been made to restore the habitat and reintroduce tigers.
- **Strict laws against poaching:** India has implemented strict laws against poaching and the illegal trade of tiger parts. This has reduced the number of tigers killed for their skin, bones, and other body parts.
- **Prey Base Management**: Managing the prey base for tigers is important to ensure their survival. The increase in prey populations, such as deer and wild boar, has resulted in a rise in tiger numbers. Efforts are being made to improve the prey base by managing their populations and reducing their hunting by humans.
- **Reduced Human-Tiger Conflict:** Human-tiger conflict has been a significant threat to tiger populations. Measures to reduce such conflicts, such as building barriers, compensation for livestock losses, and relocation of problematic tigers, have helped to prevent the loss of tigers due to human-wildlife conflict.

What is the significance of conserving the tiger population?

- **Ecological importance:** Tigers are apex predators in their ecosystem, and their presence helps maintain a balance in the food chain. Their conservation ensures the protection of other species and their habitats, contributing to overall ecosystem health.
- **Economic benefits:** The presence of tigers in protected areas attracts tourists from around the world, generating significant revenue for local communities and governments. Tiger conservation can also create employment opportunities in ecotourism and related industries.
- **Cultural and spiritual significance**: Tigers hold a special place in many cultures and religions, and are often considered symbols of power, strength, and beauty. Conserving tigers help preserve cultural and spiritual heritage for future generations.
- **Genetic diversity:** Tigers are a genetically diverse species, with distinct subspecies found in different regions of the world. Conserving tiger populations helps preserve this genetic diversity, which can be important for the long-term survival of the species.
- **Climate change adaptation:** Tigers require large areas of intact forest habitat to survive, which also provides important ecosystem services such as carbon sequestration and water regulation. Conserving tiger habitats can help mitigate the effects of climate change by preserving these important ecological functions.
- **Scientific Research:** Tigers are a keystone species and their conservation can provide valuable insights into ecological processes and conservation biology. Studying tiger behaviour and their interactions with other species can help in developing effective conservation strategies for other species and ecosystems.

What are the government initiatives focused on improving the tiger population in India?
- <u>**Project Tiger**</u>: The 'Project Tiger' is a Centrally Sponsored Scheme (CSS) of the Ministry of Environment, Forests and Climate Change, providing funding support to tiger range States for in-situ conservation of tigers in designated tiger reserves, and has put the endangered tiger on an assured path of recovery by saving it from extinction, as revealed by the recent findings of the All India tiger estimation using the refined methodology.
- <u>**National Tiger Conservation Authority (NTCA)**</u>**:** It is a statutory body under the Ministry of Environment, Forests and Climate Change constituted under enabling provisions of the Wildlife (Protection) Act, 1972, as amended in 2006, for strengthening tiger conservation, as per powers and functions assigned to it under the said Act.It works closely with state governments and other stakeholders to implement various measures for the protection and management of tiger reserves.
- **Tiger Census**: The government conducts a national tiger census every four years to estimate the tiger population in the country.
- **Community Reserves:** The government has also established Conservation Reserves and Community Reserves to protect critical tiger habitats outside of the designated tiger reserves. These reserves are managed by local communities and provide alternative livelihoods to local people while conserving the tiger population.
- <u>**Eco-Sensitive Zones**</u>: The government has declared several areas around tiger reserves as Eco-Sensitive Zones (ESZs) to protect the biodiversity of these areas. Eco Sensitive Zones act as some kind of "shock absorbers" to the Protected Areas by prohibiting, regulating and promoting activities around Protected Areas.
- <u>**Project Elephant:**</u> While this is not directly related to tigers, Project Elephant was launched in 1992 to protect the elephant population in the country. As elephants and tigers share similar habitats, the initiative has indirectly benefited tiger populations as well. The project aims to protect elephant corridors and habitats, prevent poaching, and mitigate human-elephant conflicts.
- **Global Tiger Forum(GTF):** It is the inter-governmental international body established in 1993 with members from willing countries to embark on a global campaign to protect the Tiger. It is located in New Delhi, India.
- **Global Tiger Initiative(GTI):** It was launched in 2008 as a global alliance of governments, international organizations, civil society and the private sector with the aim of working together to save wild tigers from extinction. In 2013, the scope was broadened to include Snow Leopards.

What are the challenges with the increased tiger population in India?

- With the increased tiger population there are a few challenges also. These include,
- **Firstly**, with the increase in India's human population, the natural habitat of tigers has been gradually destroyed. Consequently, there is a higher likelihood of encounters between humans and tigers as the tiger population expands. Managing man-animal conflict at socially and economically tolerable limits will be challenging.
- **Secondly**, there is a carrying capacity of tiger reserves that can support tigers. Few of the tiger reserves in India are already on the threshold of it.
- **Thirdly**, the population of tigers is dependent on the prey population, which means that for the tiger population to increase sustainably, there must be a corresponding increase in the prey population.
- **Fourthly**, there is a lack of corridors which connect adjacent tiger reserves. These are crucial for the long-term viability of individual tiger populations. But these corridors often pass through unprotected government and private lands.

Way forward:
- **Habitat Restoration**: Restoration of the remaining tiger habitat with a prey base is essential before tigers can occupy it. Prey base in the habitats of states like Chhattisgarh, Jharkhand, Odisha, and North Eastern States of Arunachal, Nagaland, Mizoram, and Assam should be restored.
- **Construction of Corridors for Gene Pool**: Habitat linkages in the form of corridors to form metapopulations by connecting these Tiger Reserves is a vital strategy for long-term viability of individual tiger populations. These corridors often pass through unprotected government and private lands. Infrastructure passing through corridor habitats needs to be mitigated appropriately and land conversions monitored through a legal mechanism to ensure that there is no barrier effect to the movement of tigers.
- **Conflict Management**: Managing the man-animal conflict is easier to achieve in India, where religious and cultural values permit some of the highest levels of tolerance amongst human societies. Sharing revenues from tiger reserves with communities residing in the buffer zone and corridor habitats, compensating for all damage at market rates, and removing problem tigers immediately would prevent a backlash against the species.
- **Need genetic rescue plan**: India should carry a genetic rescue plan or even the introduction of novel genetic variants using genome sequencing technology.
- **Monitoring**: Proper monitoring of tiger populations and their habitats is important to track the success of conservation efforts.
- **Education and Awareness**: Education and awareness campaigns can help in changing people's attitudes towards tigers and their conservation.
- **Government Support**: The government needs to provide adequate funding for conservation efforts and ensure that laws and regulations related to wildlife conservation are strictly enforced.
- **Curbing Illegal Trade**: Illegal trade in tiger parts and products needs to be curbed through strict law enforcement and awareness campaigns.
- **Involve Local Communities**: Involving local communities in conservation efforts and providing them with alternative livelihood options can help reduce the pressure on forests and wildlife.
- **International Cooperation**: International cooperation and collaboration are necessary to address issues such as habitat loss, poaching, and illegal trade, which are global in nature.

FOREST (CONSERVATION) AMENDMENT BILL, 2023

Context: Recently, the government introduced **the <u>Forest (Conservation) Amendment Bill, 2023</u>** in Lok Sabha and proposed changes to **the Forest (Conservation) Act, (FC) 1980.**
- The aim of the proposed changes is to build forest carbon stock by **raising <u>plantations.</u>** The Bill also seeks to make **land available for <u>compensatory afforestation.</u>**

What is the Background and Proposed Changes in FC Act, 1980?
- **Background:**
  o After Independence, **vast areas of forest land were designated as reserved and protected forests.**

- However, many forested areas were left out, and areas without any standing forests were included in **'forest' lands.**
  - o In 1996, the **Supreme Court suspended the felling of trees across the country,** and ruled that the **FC Act would apply to all land parcels that were either recorded as 'forest' or resembled the dictionary meaning of forest.**
  - o In June 2022, the government amended the **Forest Conservation Rules** to propose a **mechanism to allow developers to raise plantations "over land on which the (FC) Act is not applicable"** and to **swap such plots against subsequent requirements of compensatory afforestation.**
- **Proposed Changes:**
  - o **Preamble to the Act:**
    - It proposes to insert a **preamble to the Act to encompass the country's rich tradition of preserving forests,** their bio-diversity and tackling **climate change** challenges within its ambit.
  - o **Restrictions on Activities in Forest:**
    - The Act restricts the **de-reservation of forest or use of forest land for non-forest purposes**. Such restrictions may be lifted with the prior approval of the central government. **Non-forest purposes include use of land for cultivating horticultural crops or for any purpose other than reafforestation**.
    - The Bill adds more activities to this list such as: **(i) zoos and safaris under the Wild Life (Protection) Act, 1972 owned by the government or any authority, in forest areas other than protected areas, (ii) eco-tourism facilities, (iii) silvicultural operations (enhancing forest growth), and (iv) any other purpose specified by the central government.**
  - o **Land under the Purview of the Act:**
    - The Bill provides that two types of land will be under the purview of the Act: **(i) land declared/notified as a forest under the Indian Forest Act, 1927 or under any other law, or (ii) land not covered in the first category but notified as a forest on or after October 25, 1980 in a government record.**
    - Further, the Act will not apply to land changed from forest use to non-forest use on or before December 12, 1996 by any authority authorized by a state/UT.
  - o **Power to Issue Directions:**
    - The Bill adds that the **central government may issue directions for the implementation of the Act** to any other authority/ organisation under or recognised by the centre, state, or union territory.
  - o **Exemptions:**
    - It seeks to exempt all **strategic linear projects of "national importance and concerning national security"** within **100 km of international borders,** the **LAC**, and the **LoC.**
    - The proposed amendment also includes exemptions for **"security-related infrastructure" up to 10 hectares,** and additional activities such as **silvicultural operations, construction of zoos and wildlife safaris, eco-tourism facilities,** and any other activities specified by the Central Government.
- **Issues:**
  - o With the amendments, **all those forest lands which do not fall in the reserved area but are available in government records before 1980** will not come under the purview of the Act.
    - This **diverts away from the Supreme Court's 1996 verdict which had ensured every forest mentioned in government records gets legal protection against deforestation.**
  - o Critics argue that the terms like 'proposed', 'ecotourism facilities', and 'any other purposes' can be **exploited or misused for activities damaging forests** and ecosystems in forest lands.
    - They also argue that **plantations are a significant threat to Indian forests as they replace the natural ecosystems**, affect soil quality, and **particularly threaten the native biodiversity.**

WILDLIFE PROTECTION ACT, 1972

Context: The Wildlife (Protection) Act, 1972 **has completed 51 years since its inception**, and over the years, it has been successful in protecting several endangered species. The act has **played a critical role in conserving the country's diverse wildlife.**

What is the Wildlife (Protection) Act, 1972?
- **About:**
  o The **Wild Life (Protection) Act, of 1972** provides a **legal framework for the protection of various species of wild animals and plants**, management of their habitats, regulation, and control of trade in wild animals, plants, and products made from them
  o The act also lists schedules of plants and animals that are afforded varying degrees of protection and monitoring by the government.
  o India's entry to the **CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)** was made easier by the Wildlife Act.
  o Earlier, **Jammu and Kashmir was not covered by the Wildlife Protection Act of 1972.** The Indian Wildlife Protection Act now applies to J&K as a result of the **reorganisation act.**
- **Constitutional Provisions for the Wildlife Act:**
  o The **42nd Amendment Act,** 1976, **Forests and Protection of Wild Animals and Birds was transferred from State to Concurrent List.**
  o Article 51 A (g) of the Constitution states that it shall be the **fundamental duty** of **every citizen to protect and improve the natural environment including forests and Wildlife.**
  o Article 48 A in the Directive Principles of State policy, **mandates that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.**
- **Schedules under the Act:**
  o **Schedule I:**
    ▪ It covers **endangered species that need rigorous protection.**
    ▪ A person is **liable to the harshest penalties for violation** of the law under this Schedule.
    ▪ Species under this Schedule **are prohibited to be hunted throughout India,** except under threat to human life or in case of a disease that is beyond recovery.
    ▪ Some of the animals listed under Schedule I include **the Black Buck, Snow Leopard, Himalayan Bear and Asiatic Cheetah.**
  o **Schedule II:**
    ▪ **Animals under this list are also accorded high protection with the prohibition on their trade.**
    ▪ Some of the animals listed under Schedule II include **Assamese Macaque, Himalayan Black Bear and Indian Cobra.**
  o **Schedule III & IV:**
    ▪ Species that are **not endangered are included under Schedule III and IV.**
    ▪ This includes **protected species with hunting prohibited but the penalty for any violation is less compared to the first two schedules.**
    ▪ Animals protected under Schedule III include Chital (spotted deer), Bharal (blue sheep), Hyena, and Sambhar (deer).
    ▪ Animals protected under Schedule IV include **Flamingo, Hares, Falcons, Kingfishers, Magpie, and Horseshoes Crabs.**
  o **Schedule V:**
    ▪ This schedule contains animals that are considered as **vermin** (small wild animals that carry disease and destroy plants and food). These animals can be hunted.
    ▪ It includes only four species of wild animals: **Common Crows, Fruit Bats, Rats, and Mice.**
  o **Schedule VI:**
    ▪ It provides for **regulation in the cultivation of a specified plant** and restricts its possession, sale, and transportation.
    ▪ Both cultivation and trade of specified plants can only be carried out with the prior permission of the competent authority.

- Plants protected under Schedule VI include **Beddomes' cycad (Native to India), Blue Vanda (Blue Orchid), Red Vanda (Red Orchid), Kuth (Saussurea lappa), Slipper orchids (Paphiopedilum spp.) and Pitcher plant (Nepenthes khasiana).**
- **Bodies Constituted under the Act:**
  o **National Board for Wildlife (NBWL):**
    - **NBWL** serves as an **apex body for the review of all wildlife-related matters** and for the approval of projects in and around national parks and sanctuaries.
  o **State Board for Wildlife (SBWL):**
    - The Chief Minister of the state/UT is the chairperson of the board.
  o **Central Zoo Authority:**
    - The **Central Zoo Authority** consists of a total 10 members including the Chairperson and a Member-Secretary.
    - The **authority provides recognition to zoos and is also tasked with regulating the zoos across the country.**
    - It lays down **guidelines and prescribes rules under which animals may be transferred among zoos nationally and internationally.**
  o **National Tiger Conservation Authority (NTCA):**
    - Following the recommendations of the Tiger Task Force, **NTCA** was constituted in 2005 for strengthening tiger conservation.
      - The Union Environment Minister is the Chairperson of NTCA and the State Environment Minister is the Vice-Chairperson.
    - The Central Government on the recommendations of NTCA declares an area as a **Tiger Reserve.**
  o **Wildlife Crime Control Bureau (WCCB):**
    - The act provided for the constitution of **WCCB** to combat organized wildlife crime in the country.
- **Protected Areas Under the Act:**
  o There are five types of protected areas under the Act which are: **Sanctuary, National Parks, Conservation Reserves, Community Reserves and** Tiger Reserves.

- **Important Amendments done to the Act:**
  o **Wildlife (Protection) Amendment Act of 1991:**
    - This amendment **strengthened the penalties and fines for wildlife-related offences** and also **introduced provisions for the protection of endangered species.**
  o **Wildlife (Protection) Amendment Act of 2002:**
    - This amendment introduced the **concept of** community reserves and conservation reserves as protected areas.
  o **Wildlife (Protection) Amendment Act of 2006:**
    - This amendment dealt with the issue of **human-wildlife conflict** and provided for the creation of a **National Tiger Conservation Authority (NTCA)** to manage and **protect tiger reserves.**
    - It also made provisions for the creation of a **Tiger and Other Endangered Species Crime Control Bureau** to deal with wildlife-related crimes.
  o **Wildlife (Protection) Amendment Act, 2022:**
    - The Act seeks to **increase the species** protected under the law and implement CITES.
    - The **number of schedules has been reduced to four:**
      - **Schedule I containing animal species enjoying the highest level of protection.**
      - **Schedule II for animal species subject to a lesser degree of protection.**
      - **Schedule III for protected plant species,** and
      - **Schedule IV for scheduled specimens under CITES.**
    - The Act permits the **use of elephants** for **'religious or any other purposes'.**
    - The penalties have also been increased for general and specially protected animals' violations.

What are the Initiatives of Wildlife Development Under WPA, 1972?
- **Project Tiger Conservation:**

- o **Project Tiger Conservation to conserve the population of tigers.** Launched in 1973, the project is still ongoing with the help of the Ministry of Environment, Forest, and Climate Change.
- ▪ **Project Elephant:**
  - o **Project Elephant is launched by the central government in 1992 to protect and conserve elephants.**
  - o A total of 88 corridors were identified under the Act.
- ▪ **Wildlife Corridors:**
  - o Wildlife corridors **are connected with the protected areas and allow the movement of animals without interfering with human settlements**. Recently, India's first urban wildlife corridor is being planned between New Delhi and Haryana. The corridor is near the **Asola Bhatti wildlife sanctuary** to provide safe passage to wildlife animals such as leopards and other animals.

What are the Challenges in WPA, 1972?
- ▪ **Lack of Awareness:**
  - o Despite being in existence for over 50 years, the **Act has not been able to reach the masses effectively.** Many people are still unaware of the importance of wildlife conservation and the laws surrounding it.
- ▪ **Human-Wildlife Conflict:**
  - o With the **increase in human population and the encroachment of wildlife habitats, there has been a rise in human-wildlife conflict.** This often leads to the killing of wildlife, which is illegal under the WPA.
- ▪ **Illegal Wildlife Trade:**
  - o India has observed a significant increase in illegal wildlife trade, which is a major threat to the country's wildlife. Despite stringent laws, poaching and illegal trade in wildlife products continue to thrive.
- ▪ **Lack of Coordination:**
  - o There is often a **lack of coordination between the forest department and other government agencies such as the police, customs, and revenue departments.**
    - • This makes it difficult to effectively enforce the WPA and curb illegal wildlife trade.
- ▪ **Inadequate Penalties:**
  - o The penalties for wildlife crimes under the WPA are not stringent enough to act as a deterrent. The fines and sentences are often too low to make an impact on the offenders.
- ▪ **Lack of community participation:**
  - o Conservation efforts cannot be successful without the participation of **local communities.** However, there is often a lack of community participation in wildlife conservation efforts.
- ▪ **Climate Change:**
  - o Climate change is a significant threat to wildlife habitats, and it is likely to create threats to existing wildlife. The WPA needs to take into account the impact of climate change on wildlife and their habitats.

Conclusion
- ▪ The WPA 1972 has been in existence for more than 50 years, but it faces several challenges. Addressing these challenges will require a concerted effort from the government, civil society, and the public. Effective enforcement, community participation, and awareness-raising campaigns are some of the steps that can be taken to protect India's wildlife and their habitats.

TRANSLOCATION OF ELEPHANTS

Context: The **Supreme Court** recently dismissed the **Kerala government's appeal** against the order of the **Kerala HC directing the relocation of Arikomban (Wild Elephant)**, the **"rice tusker"** of Munnar, to the **Parambikulam tiger reserve.**

What are the Arguments in Favour of Elephant Translocation?
- • The **Kerala High Court** highlighted that the availability of **natural food and water resources** in the relocation site would **deter the elephant from foraging in human settlements.**
- • The court also emphasised that the elephant will be **radio-collared,** and its **movements monitored by forest/wildlife officials**, which would effectively remove the surprise element of any conflict situation.

What are the Arguments Against Elephant Translocation?
- India's first **radio-telemetry study of a translocated problem elephant** was conducted in **2006** on a large male shifted from the **cropland of West Midnapore in South Bengal to the** Mahananda Sanctuary in Darjeeling district.
  o Almost immediately, the elephant started **damaging houses and raiding crops** in villages and Army areas.
- A study on **translocated problem** Asian elephants **was conducted in 2012,** in which a team of biologists monitored **12 male elephants translocated 16 times to different national parks in Sri Lanka.**
  o The study found: Translocation caused **wider propagation and intensification of human-elephant conflict, and increased elephant mortality.**
- **Vinayaga,** a bull that **gained notoriety as a crop raider,** was **translocated from Coimbatore to the Mudumalai-Bandipur landscape in December 2018.**
  o It soon started using **gaps in the elephant-proof trench to raid crops,** until he was driven back.

Way Forward
- **Relocation Impact Assessment:**
  o It is important to carefully consider the **specific circumstances and characteristics** of each problem elephant and its **potential relocation site.**
    ▪ Thorough **research and analysis should be conducted to assess the availability of natural food and water resources**, habitat suitability, and potential risks and challenges of translocation.
- **Monitoring and Management:**
  o Proper monitoring and management plans should also be in place, including **post-relocation monitoring** and measures to mitigate any potential conflicts.
  o While translocation of problem elephants may be considered as a strategy to **mitigate human-elephant conflicts,** it should be approached with caution and based on **sound scientific research, community engagement, and comprehensive management plans** to minimise potential risks and ensure the well-being of both elephants and local communities.
- **Alternative to Translocation of Elephants:**
  o **Capturing and transforming wild elephants** with the help of **'kunkis'(a trained elephant used to capture wild ones**) presents a promising approach for translocation.
  o This method can offer several benefits, including **increased safety during capture operations,** reduced stress on translocated elephants due to familiarization with trained 'kunkis', and improved success rates of translocation efforts.

INDIA'S FIRST WATER BODY CENSUS

Context: The **Ministry of Jal Shakti** has recently released the report of India's first water bodies census.
More about the census
- **About:**
  o India's first water bodies census contains a comprehensive **database** of **ponds, tanks, lakes, and reservoirs in the country**.
  o The census was **conducted in 2018-19**, and enumerated **more than 2.4 million water bodies** across all states and Union Territories.
- **Background:**
  o The Centre earlier maintained a database of water bodies that were getting central assistance under the scheme of Repair, Renovation and Restoration (RRR) of water bodies.
  o **Recommendation for the census:**
    ▪ In 2016, a Standing Committee of Parliament pointed to the need to carry out a separate census of water bodies.
  o The government then commissioned the first census of water bodies in 2018-19 along with the **sixth Minor Irrigation (MI) census**.

- **Objective of carrying out census:**
    - The objective was **to collect information** "on all important aspects of the subject including their size, condition, status of encroachments, use, storage capacity, status of filling up of storage etc.".

About "Water Bodies"

- **What consists of "Water Bodies"?**
    - First Census Report considers "**all natural or man-made** units **bounded on all sides** with some or no masonry work used for storing water for irrigation or other purposes (e.g. industrial, pisciculture, domestic/ drinking, recreation, religious, ground water recharge etc.)" as water bodies.
        - According to the census, the water bodies "are **usually of various types** known by different names like **tank, reservoirs, ponds** etc.".
    - A structure where **water from ice-melt, streams, springs, rain or drainage** of water from residential or other areas is accumulated or water is stored by diversion from a stream, nala or river will also be treated as a water body.
- **Excluded Water Bodies**
    - Seven specific types of water bodies were excluded from the count. They were:
        - Oceans and lagoons;
        - Rivers, streams, springs, waterfalls, canals, etc. which are free flowing, without any bounded storage of water;
        - Swimming pools;
        - Covered water tanks created for a specific purpose by a family or household for their own consumption;
        - A water tank constructed by a factory owner for consumption of water as raw material or consumable;
        - Temporary water bodies created by digging for mining, brick kilns, and construction activities, which may get filled during the rainy season; and
        - Pucca open water tanks created only for cattle to drink water.

Water bodies Census Data highlights

- **Districts with highest number of water bodies:**
    - As per the report, **West Bengal's South 24 Pargana** has been ranked as the district having the highest (3.55 lakh) number of water bodies across the country.
    - The district is followed by **Andhra Pradesh's Ananthapur** (50,537) and **West Bengal's Howrah** (37,301).
- **Encroachment of water bodies:**
    - The census found that **1.6% of enumerated water bodies** — 38,496 out of 24,24,540 — had been encroached upon.
        - **More than 95% of these** were in **rural areas** — which is logical because more than 97% of the water bodies covered by the census were in the rural areas.
        - In almost 63% of encroached water bodies, **less than a quarter of the area was under encroachment**;
        - In about 12% water bodies, more than three-quarters of the area was under encroachment.
    - **Uttar Pradesh** accounted for **almost 40% (15,301) of water bodies under encroachment**, followed by **Tamil Nadu (8,366) and Andhra Pradesh (3,920)**.
        - **No encroachment** was reported from West Bengal, Sikkim, Arunachal Pradesh, and Chandigarh.
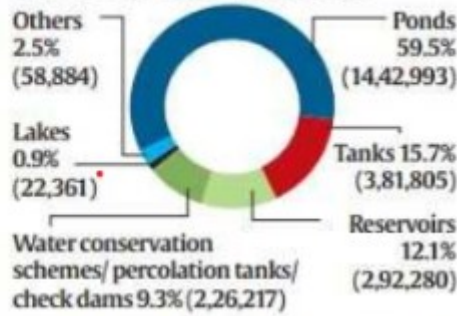
MAIN FINDINGS

24,24,540
water bodies in India

7.47 lakh
West Bengal has largest number

3.55 lakh
South 24-Parganas in West Bengal is the district with the most water bodies

MOST IN THE COUNTRY

Ponds, reservoirs	West Bengal
Tanks	Andhra Pradesh
Lakes	Tamil Nadu
Conservation Schemes	M'rashtra

TYPES OF WATER BODIES

- Others 2.5% (58,884)
- Ponds 59.5% (14,42,993)
- Lakes 0.9% (22,361)
- Tanks 15.7% (3,81,805)
- Water conservation schemes/ percolation tanks/ check dams 9.3% (2,26,217)
- Reservoirs 12.1% (2,92,280)

1 LAKH+ (BESIDES BENGAL)

Uttar Pradesh 2.45 lakh	Assam 1.72 lakh
Andhra Pradesh 1.90 lakh	Jharkhand 1.07 lakh
Odisha 1.81 lakh	Tamil Nadu 1.06 lakh

Threats faced by water bodies in India

- **Increasing temperatures:**
  - India is witnessing a repeat of 2021 conditions, when temperatures touched 40 degrees Celsius as early as February in some parts of the country.
- **Climate Change's Impact:**
  - Climate change impacts are about heat — increased and scorching temperatures — and about variable and extreme rain.
  - Both have a direct correlation with the water cycle.
- **Possibility of El Nino conditions:**
  - Globe saw the event of triple dip La Niña in the last few years — the Pacific water currents that are known to bring cooler temperatures globally.
    - But global warming has offset this cooling effect of La Niña.
  - Situation is bound to be worse in El Nino conditions.
- **Varying Rain Pattern:**
  - The number of rainy days in India will further go down, but extreme rainy days will increase.
  - This will have a huge impact on India's plans for water management.

Significance of Water Security for India & way ahead

- **To Address Rising Demand:**
  - With total water demand in India expected to rise by over 70% by 2025, a huge demand-supply gap is expected in the coming years.
- **Ensuring Health:**
  - Poor water quality and lack of adequate access to sanitation are also major causes of disease and poor health.
  - Proper access to potable water will minimise health issues and medical expenses.
- **Supporting Economy:**
  - Adequate water security will act as a potentially significant booster on economic growth as it will reduce the costs for water infrastructure.

INDIA'S CHEETAH TRANSLOCATION PROJECT

Context: India's ambitious Cheetah Translocation Project is facing a new set of challenges as two cheetahs have died, bringing the number of cheetahs left in the project to 18 out of the initial 20. Uday, a six-year-old male cheetah, died on April 23, 2023, in Kuno National Park, and Sasha, a five-year-old female cheetah, died on March

27, 2023, in the same park. Therefore, the government is now considering alternative conservation models, such as the South African model of conserving cheetahs in fenced reserves.

Were these Deaths Expected?
The project anticipated a high mortality rate, and its short-term goal was to achieve a 50% survival rate for the first year, which is 10 out of 20 cheetahs.
However, experts pointed out that the project had overestimated Kuno National Park's carrying capacity for cheetahs, and this added pressure on the project staff to look for alternative sites.

Causes of Death:
- A South African study found that predation was the biggest killer, accounting for 53.2% of cheetah mortality. Lions, leopards, hyenas, and jackals were primarily responsible.
- Cheetahs suffer very high cub mortality – up to 90% in protected areas – mainly due to predation.
- In Africa, the lion is the chief predator of cheetahs; in India, where lions are absent (except in Gujarat), leopards are likely to slip into that role in potential cheetah landscapes.
- Other causes of mortality can be holding camps, immobilization/transit, tracking devices, and other wildlife killing cheetah (cubs) including warthogs, baboons, snakes, elephants, crocodiles, vultures, zebras, and even ostriches.

South African Model for Conserving Cheetahs:
- In South Africa, a conservation strategy called meta-population management was used to protect cheetahs.
- This strategy involved moving cheetahs from one small group to another to ensure that they have enough genetic diversity and to maintain a healthy population.
- This approach was successful in maintaining a viable population of cheetahs in South Africa; in 6 years, the meta-population grew to 328 cheetahs.

What are the Options Available to the Project?
- The authorities are exploring the possibility of preparing Gandhi Sagar Wildlife Sanctuary in the Chambal River valley as the second home for cheetahs.
- Another option is to move a few cheetahs from Kuno to the safety of an 80-sq-km fenced area in Rajasthan's Mukundra Hills Tiger Reserve.
- However, both options would mean shifting the project's goal from establishing the cheetah in an open landscape to managing the African imports as a few pocket populations in fenced-in or restricted areas.

Gandhi Sagar Wildlife Sanctuary
- It is located in Madhya Pradesh on the northern boundary of the Mandsaur and Nimach districts, adjoining Rajasthan
- The landscape is characterized by vast open landscapes and rocky terrain
- The vegetation includes northern tropical dry deciduous forest, mixed deciduous forest, and scrub
- Some of the flora found in the sanctuary are Khair, Salai, Kardhai, Dhawda, Tendu, and Palash.
- The fauna includes Chinkara, Nilgai, Spotted Deer, Striped Hyena, Jackal and crocodiles.

Mukundra Tiger Reserve
- It is situated near Kota, Rajasthan, in a valley formed by two parallel mountains, Mukundra and Gargola.
- The valley is bounded by four rivers - Ramzan, Ahu, Kali, and Chambal - and drained by their tributaries.
- **Protected area:**
- Mukundra Hills was declared a Wildlife Sanctuary in 1955 and a National Park (Mukundra Hills (Darrah) National Park) in 2004.
- It was declared a Tiger Reserve in 2013, becoming the third in Rajasthan after Ranthambore and Sariska.
- **Parks and sanctuaries**:
- Mukundra TR consists of three Wildlife Sanctuaries - Darrah, Jawahar Sagar, and Chambhal - and covers four districts of Rajasthan: Kota, Bundi, Chittorgarh, and Jhalawar.

Way Forward
- The success of the cheetah project should align with India's traditional conservation ethos. India's conservation approach emphasizes protecting naturally dispersing wildlife in viable non-fragmented habitats.

- The Cheetah Project can choose to cut the risk by settling for the South African model of retaining a few pocket populations in fenced-in reserves.
- However, keeping cheetahs in leopard-proof enclosures might not be a sustainable solution. Also, repeated sedate-and-recover interventions to restrict cheetahs to sanctuaries and national parks can harm the animals.

SC'S MODIFIED JUDGMENT ON ECO-SENSITIVE ZONES

Context: The Supreme Court has recently modified its judgment to have mandatory eco-sensitive zones (ESZ) around protected forests.

The previous judgment of SC:
- On June 3, 2022, the apex court had ordered the 1-km buffer zone for protected areas to act as a "shock absorber".
- Its judgment was to have mandatory eco-sensitive zones (ESZ) of a minimum one kilometre around protected forests, national parks and wildlife sanctuaries across the country.

Issue:
- However, the Centre and several States, including Kerala, had returned to the apex court seeking modification of the June 2022 judgment, saying the judicial direction affected hundreds of villages in the peripheries of forests.

Apex court's opinion:
- Agreeing, the court said "the purpose of declaring ESZs is not to hamper the day-to-day activities of the citizens. If the direction as issued is continued, it would certainly hamper the day-to-day activities of the citizens residing in ESZs. As such, we find that the direction needs to be modified".
- **Modified judgment:**
- SC Bench reasoned that ESZ cannot be uniform across the country and has to be "protected area-specific".
- The court said a stringent observance of the June 2022 judgment would cause more harm than good. For one, man-animal conflict would only increase rather than abate.

Eco Sensitive Zone (ESZ)
- The Eco-Sensitive Zone (ESZ) are areas in India notified by the Ministry of Environment, Forest and Climate Change (MoEFCC), GoI around Protected Areas, National Park and Wildlife sanctuaries.

Range:
- All identified areas around Protected Areas and wildlife corridors to be declared as ecologically fragile under the Environment (Protection) Act, 1986 (National Wildlife Action Plan, 2002-2016).
- Eco-sensitive zones could go up to 10 Kms around Protected Areas.
- In cases where sensitive corridors, connectivity and ecologically important patches, crucial for landscape linkage, are even beyond 10 Kms width.
- Further, Eco-sensitive zones may not be uniform all around and it could be variable in width and extent.

Prohibited activities:
- Activities like industries that cause pollution Commercial mining, saw mills, establishment of major hydroelectric projects (HEP), commercial use of wood, Tourism, discharge of effluents or any solid waste or production of hazardous substances are all prohibited.

Regulated activities:
- Activities like felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, e.g. adoption of heavy technology, pesticides etc., widening of roads.

Permitted activities:
- Activities like ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities are permitted.

Significance of Eco Sensitive Zone (ESZ)

1. **Conservation:**
- ESZs help in in-situ conservation, which deals with conservation of an endangered species in its natural habitat.
- For example, the conservation of the One-horned Rhino of Kaziranga National Park, Assam.
- They minimize forest depletion and man-animal conflict.

2. **Buffer zone:**
- The protected areas are based on the core and buffer model of management, through which local area communities are also protected and benefitted.
- ESZs are created as "shock absorbers" for the protected areas, to minimize the negative impact on the "fragile ecosystems" by certain human activities taking place nearby.
- These areas are meant to act as a transition zone from areas requiring higher protection to those requiring lesser protection.

3. **Mitigating climate change:**
- Biodiversity and climate change are interconnected. Creation of SEZs may help in reducing the rise in temperature.
- Significance of Recent Judgment:
- It can lead to more sustainable development.
- Tribal rights will also be protected with the recent judgment i.e., their culture, diversity etc will be preserved.

Criticisms

Doubts on the methods used:
- The order is criticised for not using a scientific basis for the declaration.
- According to experts, an ESZ should only be declared evolved through participatory planning exercises.

Settlements around protected areas:
- One km area around PA is likely to have low-income housing colonies, historical monuments and livelihood use areas like river floodplains.
- In the case of Kerala, there is a high density of human population near the notified protected areas.

Topographical differences:
- There are several habitat types like mountains, grasslands, forests, oceans. But the order does not mention that.
- In case of Sundarbans, the whole area is eco-sensitive. It is difficult to enforce a 1 km boundary in marine space that is interconnected.
- The destruction of nature in the name of development cannot be allowed to continue.

Way Ahead
- The declaration of protected areas should be a participatory planning process.
- The Centre needs to come up with a plan to incentivise farmers for sticking to green practices in Eco-Sensitive Zones (ESZs).
- Communities living around Protected Areas in several states should promote the conservation of Eco-Sensitive Zones (ESZs).

FINANCE IS THE BINDING CONSTRAINT IN EFFORTS TO FIGHT CLIMATE CHANGE

Context: Countries around the world are adopting climate mitigation technologies to tackle climate change. However, climate finance still remains a hindrance towards adopting such technologies.

What are different climate mitigation technologies being adopted and what are the concerns associated with them?
- **Renewable Power:** The most mitigation technologies being adopted are solar, wind, hydropower, etc. The cost of solar panels, wind turbines, storage batteries and other components have declined dramatically such that the cost of renewable power is now comparable to fossil-fuel based power. However, despite the low cost of renewable power, renewable energy still accounts for only around 15% of global power generation.

- **Green Hydrogen:** The cost of green hydrogen has been dependent on the cost of electrolyzers, which has come down, making green hydrogen commercially viable and attracting large-scale corporate investment, including in India. However, despite this, the rollout of green hydrogen on a scale is just starting.
- **Carbon Capture and Sequestration (CSS):** CCS technologies are needed to capture carbon and store it till it can be broken down for commercial use. However, existing CSS technologies are very expensive. Much investment is required in R&D to reduce costs before CSS technologies become commercially viable.
- **Carbon Sink:** Terrestrial and underwater forests are the natural carbon sinks that contain the carbon load in the atmosphere. But the level of emissions has gone far beyond the capacity of natural 'carbon sinks' to absorb the additional carbon load. Hence, to lower the ambient carbon load and eventually reverse global warming, it is necessary to invest heavily in R&D to create technologies that synthetically imitate and improve the capacity of natural carbon sinks.
- These all imply that vast amounts of capital are required to successfully address the climate crisis.
- As per the Emission Gap Report 2022, the current annual investment in climate finance of about $571 billion needs to rise to at least $1.7-2 trillion.

What measures can be taken for climate finance?
- First, Global public sector finance can be considered to finance global public goods.
- However, the report of the G20-appointed Committee to Review the Multilateral Development Banks' (MDBs) Capital Adequacy Framework indicates that MDBs may at best generate additional assistance of $1 trillion for all purposes. There is doubt even over this amount.
- Second, Private capital may be relied upon and may act as an alternative to public capital. However, most of this capital originates in advanced countries and would not easily flow to tropical developing countries.
- Third, along with private capital flows, developing countries must focus on creating a suitable ecosystem including universally accepted concepts, definitions and standards for climate finance, appropriate rating systems and technical assessment methodologies.
- Fourth, developing countries will also require de-risking of such private capital flows, along with its attendant moral hazard. MDBs can play a crucial role by providing credit guarantees.

ENERGY

INDIA'S FOSSIL FUEL LESSONS FOR NET ZERO

Context: India has faced many challenges in creating self-sufficiency. The same practices should not be repeated in the case of renewable energy.

What are the challenges India faced in the case of hydrocarbon and how can they be used as lessons for renewable energy?

1. **Challenges in accessing indigenous resources**– Although, India had the raw material of oil and gas. But the hydrocarbon resources are located in harsh terrain and complex geology. Which were difficult to **locate** and even if located, they were difficult to produce on a **commercial basis**. The reason is the **high cost of drilling and development.**

   Similarly, it is difficult to create a world class hub for the manufacture of batteries, solar cells, wafers and modules, on the basis of availability of technical talent and capital. Process cost, due to land acquisition, erratic supplies of water and power and legal redress, needs to be minimised.

2. **Issue with use of technology**– The **recovery rate of oil and gas** from India's producing fields has averaged between 25-30%, compared to world average of 40-60 per cent. it is not due to access to Enhanced oil recovery technologies. The reason is the **utilisation of these technologies, which is not** efficiently implemented.

   Therefore, clean energy sector should not take the availability of tech as manufacturing competitiveness. China's dominance in PV solar cell manufacturing is because, its engineers have been successful in implementation of the several technological steps, required to convert raw material into an end product, efficiently.

3. **Incentive model**– The **exploration sector** was leiberalised in the expectation of more foreign investment. But, international companies shown lack of interest, stating **our geology as high risk.** India **fiscal and commercial terms** were not i**nternationally competitive** for them.

   A similar disappointment is possible in case of the **PLI scheme for clean energy sector**. This is because the incentives offered are small compared to the benefits provided by the US through the "**inflation reduction act"** and Europe through its **"net zero industry act".**

   The US offers, for instance, subsidies up to $10 billion or single factories. It is equivalent to total subsidy under PLI. Therefore, India cannot compete on the size of the incentive package with advanced economies. The focus should instead be to lower entry barriers, ease business conditions.

4. **External dependence**– Finally, India remains **dependent on the external market** for supplies of petroleum. There is no easy solution to reverse this imbalance and address its vulnerability to **unexpected supply disruptions.** However, The government has successfully diversified its supplies without involving in domestic or regional politics and conflicts.

   Similarly, clean energy minerals and components are internationally available. Instead of creating **high-cost, domestic, clean energy hub dependent upon subsidies, government should strengthen the trading relationship with exporting countries.**

Course	Fee
HPAS Offline/Live Batch 20th March 2023	Fee 65000/-
HPAS Online Course 29th March 2023	Fee 25000/-
NT/Allied Offline/Live Batch 22nd March 2023	Fee 38000/-
NT/Allied Online Course	Fee 12500/-
HP TGT Non-Medical Online Course 20th March 2023	Fee 6000/-
HP TGT Medical Online Course 20th March 2023	Fee 6000/-
HP TGT Arts & Commerce Online Course 20th March 2023	Fee 5000/-
HP Patwari Online Course 18th March 2023	Fee 3000/-
HP Sub - Inspector Online Course	Fee 4000/-
HP High Court Clerk/JOA(IT) Online Course	Fee 5000/-
HP JBT COMMISSION Online Course	Fee 2499/-
HPAS Prelims + Mains Test Series	Fee 10000/-

CivilsTap Himachal — FREE INITIATIVES

- Hp Economic Survey 2022-23
- Basic Knowledge about Himachal Pradesh GK
- Past Year Question Papers Discussion
- Current Affairs Magazine
- Mains Answer Writing Practice
- HPGK MCQs Revision Series
- FREE NCERT COURSE
- Daily 15 MCQs Revision Series
- HP Sub-Inspector Free MCQ Crash Course