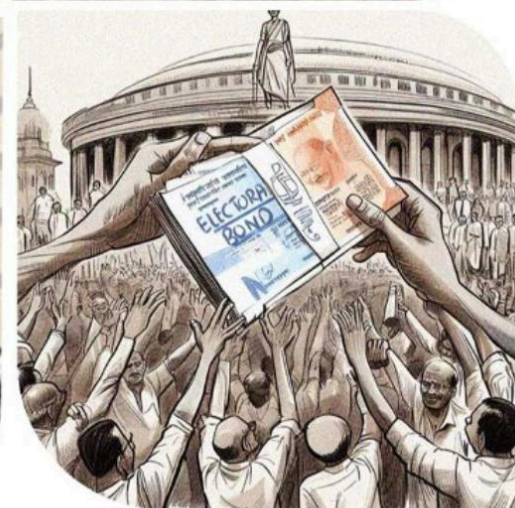


CURRENT AFFAIRS MAGAZINE FEBRUARY, 2024



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- > **SC DECISION ON ELECTORAL BOND**
- > **LAW PANEL READIES REPORT ON SIMULTANEOUS POLLS**
- > **INTERIM BUDGET 2024**
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Mains Daily Analysis

General Studies - I

1. Multidimensional poverty - meaning, numbers

Why in news?

- In her Interim Budget speech, Finance Minister Nirmala Sitharaman said 25 crore Indians had been pulled out of poverty over the past decade.

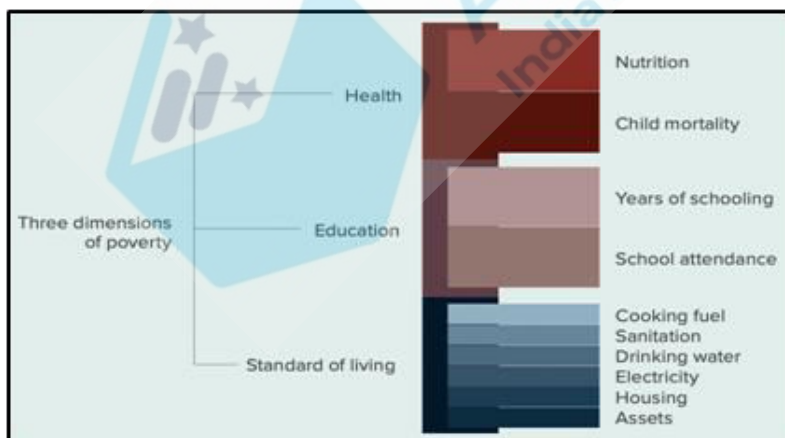
Multidimensional Poverty

- A person who is poor can suffer multiple disadvantages at the same time – for example they may have poor health or malnutrition, a lack of clean water or electricity, poor quality of work or little schooling.
- Focusing on one factor alone, such as income, is not enough to capture the true reality of poverty.
- Multidimensional Poverty is a measure of poverty that captures deprivations in education and access to basic infrastructure in addition to income or consumption at the \$2.15 international poverty line (as per World Bank).
 - The World Bank defines the international poverty line at USD 2.15 (in 2017 purchasing power parity terms) daily to measure monetary value.

Global Multidimensional Poverty Index:

• About

- The global Multidimensional Poverty Index (MPI) is a key international resource that measures acute multidimensional poverty across more than 100 developing countries.
- The MPI is published by the Oxford Poverty and Human Development Initiative (OPHI) and the UNDP's Human Development Report Office.
- The Index tracks deprivation across the following 3 dimensions and 10 indicators:



- The MPI ranges from 0 to 1, and higher values imply higher poverty.
- According to the MPI method, if a person is deprived in a third or more of 10 (weighted) indicators, they are identified as “MPI poor”.

• India and Global MPI 2023

- According to the 2023 Global MPI, **India lifted 415 million people out of poverty between 2005-06 and 2019-21.**
- India is one of 25 countries that have successfully halved their global MPI values within 15 years.
- **Comparison of Global MPI with India's National MPI**
 - **NITI Aayog** had published the first edition of national Multidimensional Poverty Index for India in
 - The **Indian MPI has two additional indicators:**
 - maternal health (under the health dimension) and
 - bank accounts (under the standard of living dimension).
 - This has been done, according to the NITI Aayog, to align the MPI with India's national priorities.

News Summary: Multidimensional poverty - meaning, numbers

- In her Interim Budget speech, **Finance Minister said "with the pursuit of 'Sabka ka Saath' in these 10 years, the Government has assisted 25 crore people to get freedom from multidimensional poverty."**

Basis for this assessment

- This number appeared in a discussion paper, **Multidimensional Poverty in India Since 2005-06**, published by **NITI Aayog in January 2024.**
- **As per the paper:**
 - Multidimensional poverty in India was found to decline from 29.17% in 2013-14 to 11.28% in 2022-23 with about 24.82 crore people escaping poverty during this period.

2. Zero tolerance towards use of children in poll campaigns

Why in news?

- The Election Commission of India (ECI) said it **issued directions to political parties to refrain from using children in election campaigns.**
- The ECI asked parties to **adhere to the Child Labour (Prohibition and Regulation) Act, 1986** and a Bombay High Court order of August 4, 2014.
 - The **Bombay High Court, in August 2014**, emphasised the need to ensure that parties do not allow children to participate in election-related activities.

Child Labour

- **About**
 - According to the ILO, **child labour includes any work that deprives children of their childhood, potential and dignity, physical or mental development.**
 - It perpetuates the vicious cycle of poverty (due to poor education-health, less economic opportunities), denying children their fundamental rights and a better future.
- **Constitutional provision in India**
 - **Article 24 of the Constitution of India prohibits employment of children below the age of 14 years in any factory or mine or in any hazardous employment.**
- **Prevalence of child labour in India**

- According to the International Labour Organization, **India has the highest number of child laborers in the 5-17 age range in South Asia.**
 - In rural areas, **13.9% of children are involved in child labor**, compared to 4.7% in urban areas.
 - 70% of child laborers are in agriculture, 20% in services, and 10% in industry.
 - As per census 2011, **10.1 million children, or 3.9% of the total child population, are "main workers" or "marginal workers".**
- **Reasons behind Child labour in India**
 - **Poverty and lack of social security** are the main causes of child labour.
 - Entry of multi-national corporations into industry without proper mechanisms to hold them accountable has led to the use of child labour.
 - **Lack of quality universal education** has also contributed to children dropping out of school and entering the labour force.
 - Laws that are meant to protect children from hazardous labour are ineffective and not implemented correctly.
 - A growing phenomenon is using **children as domestic workers in urban areas.**
 - **Rigid caste structure and associated socio-economic condition** is also one of the reasons for this.
 - According to many surveys, child labour is highest among schedule tribes, Muslims, schedule castes and OBC children.
 - **India's commitment to eliminate child labour**
 - **India resolves to eliminate child labour by 2025 as per -**
 - The commitments made by the country after ratification of ILO conventions, and
 - The target stipulated in **Sustainable Development Goal 8.7** to end all forms of child labour.

Steps taken by India to eliminate child labour

- **The Child Labour (Prohibition and Regulation) Act, 1986 and its 2016 amendment**
 - **The Child Labour (Prohibition and Regulation) Act, 1986**, prevents children from partaking in certain employments and regulates the conditions of work for children in other fields.
 - In 2016, an amendment completely banned the employment of children below 14 years.
 - It also prohibits employment of adolescents (14-18 years) in hazardous occupations and processes.
- **Child Labour (Prohibition & Regulation) Amendment Rules, 2017**
 - Government has framed the **Child Labour (Prohibition & Regulation) Amendment Rules, 2017.**
 - This rule specifies the duties and responsibilities of State Governments and District Authorities.
- **PENCIL (Platform for Effective Enforcement for No Child Labour) platform**
 - To ensure effective enforcement of the provisions of the Child Labour Act and smooth implementation of the **National Child Labour Project (NCLP) Scheme** a separate online portal PENCIL has been developed.
 - Government had initiated the **NCLP Scheme in 1988 to rehabilitate working children in 12 child labour endemic districts of the country.**
 - Under this Scheme, the **children in the age group of 9-14 years are withdrawn from work and put into NCLP Special Training Centres.**

- Here they are provided with bridge education, vocational training, mid-day meal, stipend, health care etc. before being mainstreamed into formal education system.
- The Portal connects Central Government to State Government(s), District(s) and all District Project Societies.
- **The Factories Act of 1948**
 - This act **prohibits the employment of children under 14 years old in factories.**
- **Right to Education**
 - The **Right to Education Act was passed in 2009** to ensure that all children get an education in place of working.
 - There are several schools set up that impart free education to such children and also offer facilities such as textbooks, uniforms, and others for free.
- **Ratification of two core conventions of the International Labour Organization (ILO) on child labour**
 - In 2017, India ratified two core conventions of the International Labour Organization (ILO) on child labour:
 - **Convention 138:** On the minimum age of employment
 - **Convention 182:** On the worst forms of child labour

3. Weather Information Network and Data System (WINDS)

Why in News?

- The Union Ministry of Agriculture & Farmers Welfare, Government of India, has initiated **the weather information network and data system (WINDS) to generate long-term, hyper-local weather data.**

Why is India Transitioning to Hyperlocal Extreme Weather Forecasting?

- Weather forecasting **plays a pivotal role** in the country's functioning because predicting rain, cyclones, heatwaves and drought accurately are **critical to inform decision making** on disaster management.
- In India, the **Indian Meteorology Department (IMD)** is the principal government agency in all matters relating to meteorology.
 - It specialises in the incredibly complex science of predicting weather patterns by observing, modelling and interpreting a multitude of variables.
- However, in tropical countries like India, **weather variability is inherently higher.**
 - IMD's forecasts have improved vastly in the last few years as it has upgraded to technologies similar to the **US, the UK and Japan**, which are known to produce accurate forecasts.
 - Yet, there are still many days and geographies for which Indian **forecasts go wrong**, especially during winter and summer monsoon.

Major Hurdle in the Indian Weather Forecasting:

- **Lack of weather monitoring ground stations:**
 - Currently, **IMD operates around 800 automatic weather stations (AWS), 1,500 automatic rain gauges (ARG) and 37 doppler weather radars**



Why weather forecasts still go wrong

IMD's forecasts have improved vastly in the last few years due to technological upgradation

- IMD currently operates only around 800 automatic weather stations, 1,500 automatic rain gauges, and 37 doppler weather radars
- Over 300,000 ground stations (either automatic weather stations or automatic rain gauges) and around 70 doppler weather radars are required for reliable weather forecast
- Several State governments and private companies together operate over 20,000 ground stations, many of which are not currently used by IMD
- New ground stations need to be installed by IMD and the available data need to be shared seamlessly with IMD to improve the accuracy of forecasts
- The Ministry of Agriculture & Farmers Welfare has initiated the WINDS system to generate long-term, hyperlocal weather data
- Under the WINDS programme, over 200,000 ground stations will be installed

Slips: Indian forecasts are not accurate especially during winter and summer monsoon

(DWR).

- This is **against the total requirements of more than 3,00,000** ground stations (AWS/ARG) and around 70 DWRs.
- Several Indian State governments and private companies operate a significant network of ground stations (more than 20,000), many of which are not currently used by IMD due to **inaccessibility and reliability of data**.
- **Old prediction technologies:**
 - Currently, most of the prediction software used in forecasting are based on the global forecasting system and weather research and forecasting models, both of which are **not modern**.
 - Thus, there is an **urgent need for an integrated system** to fill these data gaps.

About the WINDS Portal:

- It is a promising step forward by the **Department of Agriculture & Farmers Welfare** launched in July 2023.
- Under this programme, **more than 200,000 ground stations (AWS and ARG) will be installed**.
- It will help tremendously in enhancing weather data utilisation by generating long-term, hyper-local weather data and thus in improving weather predictions and decision making.
- The system will **promote the data for wider applications** in agriculture and other sectors and will help in creating a **national-level data base**.
- It will assist in establishing the protocols required to access the country-wide data by the various public and private concerns.

Challenges in the Prediction of Air Pollution and Way Ahead:

- Air pollution continues to be a challenge. **Dense fog** mainly because of the high particulate matter and smog in the atmosphere have led to an increase in respiratory and other health-related issues.
- **Air quality monitoring systems** are currently very expensive and tend to be imported.
- However, thanks to the **Make in India initiatives**, many Indian companies have started to manufacture low-cost and highly reliable sensor-based air quality monitoring systems.
 - **These are also easy to install and have low maintenance costs**.
- **The IITs are helping** and they have started centres of excellence in this domain, with a mission to establish a nation-wide network of affordable air quality sensors.
- **An integrated AI/ML-based model** with data from the new air quality and weather sensors will be a major step forward to accurately predict fog.
 - It will help in timely decision making around transportation and the health-related impacts of air pollution.

4. Rising Human-Animal Conflict

Why in the News?

- Wayanad is on the boil after a **wild elephant chased a 47-year-old man and trampled him to death**.

What's in Today's Article?

- Human-Animal Conflict (Rising Cases in Kerala, Causes, Measures by State Govt.)
- Elephant Corridors (Definition, Statistics)

Rising Human-Animal Conflict in Kerala:

- The tragedy brings to attention escalating human-animal conflict in the state.
- Increased incidence of wild animals, mainly elephants, tigers, bison, and wild boars, attacking human beings have been reported from across the state.
- **Government data for 2022-23 recorded 8,873 wild animal attacks, of which, 4193 were by wild elephants, 1524 by wild boars, 193 by tigers, 244 by leopards, and 32 by bison.**
 - Of 98 reported deaths, 27 were due to elephant attacks.
- Beyond posing risk to humans, these attacks also devastated Kerala's agriculture sector.
- From 2017 to 2023, there were 20,957 incidents of crop loss due to wild animal raids which also killed 1,559 domestic animals, mainly cattle.
- **Wayanad Worst-affected Region:**
 - Wayanad, which boasts of a **forest cover of 36.48 per cent**, has lost 41 lives to elephant attacks and seven to tiger attacks over the last decade.
 - Its geographical location plays a role in this.

Reasons Behind Rise in Human-Animal Conflict in Kerala:

- A 2018 study by Dehradun's Wildlife Institute of India and the Periyar Tiger Conservation Foundation in Kerala found two major drivers of human-animal conflict in the state.
- **Decline in Quality of Forest Habitats:**
 - Largely due to the cultivation of alien plants — mainly **acacia, mangium and eucalyptus** — in forest tracts for commercial purposes.
 - **With 30,000 hectares of forest land in Kerala being used for cultivation of these species, animals are deprived of their natural habitat and food sources.**
 - Moreover, these water-guzzling species also strain the forest's natural water resources.
 - Elephants are among the worst-affected species due to this. **Invasive species such as lantana, mikania and senna**, planted by forest department over decades, have also hindered growth of natural vegetation in forests.
- **Changing Agri-practices:**
 - The study also found that **changing agri-practices were also responsible for drawing animals**, which do not find enough fodder in their habitats, out of forests.
 - In recent years, owing to poor returns and high wage costs, more and more farmland is being left unattended.
 - This makes them **ideal targets for wildlife looking to snack on bananas and pineapples, among the most cultivated crops in the region.**
 - Moreover, the increase in wildlife attacks has further pushed people to safer settlements away from their farms.
 - This further entices animals to raid estates neighboring forests.
 - **The crisis in Kerala's farm sector has also driven many towards animal husbandry.**
 - In Wayanad particularly, the dairy sector has emerged as a lifeline for villagers.
 - But domesticated animals are also prime targets for tigers and other carnivores, especially older animals less capable of hunting in the wild.

- **Apart from declining quality of forests and changing agri-practices, following human activities also contribute to increasing animal-human conflict in Kerala:**
 - Waste disposal near forested areas,
 - Fragmentation of animal habitats due to wanton construction, and
 - Increased human presence in and around animal habitat

How is Kerala Addressing This Issue?

- The state has several schemes meant to prevent animals from entering human settlements.
- These include schemes for the **construction of elephant-proof trenches, elephant-proof stone walls, and solar powered electric fencing.**
- In 2022-23, the state conducted maintenance of 158.4 km of elephant-proof trenches, and constructed 42.6 km of solar fencing and 237 m of compound walls.
- To keep animals in forests, **Kerala has also undertaken eco-restoration programmes.**
- The state is also running a scheme to acquire land from farmers, to be then converted into forestland.
- However, these measures are far away from addressing the crisis.

What Are Elephant Corridors?

- Elephant corridors are **linear, narrow, natural habitat linkages that allow elephants to move between secure habitats without being disturbed by humans.**
- Elephant corridors are also critical for other wildlife including India's endangered National Animal, the Royal Bengal tiger (*Panthera Tigris*).

Elephant Corridors in India:

- Number of elephant corridors in India have been changing over the years.
- **88 corridors were identified jointly by the Ministry of Environment, Forests and Climate Change and Wildlife Trust of India (WTI), and published in 2005.**
 - Wildlife Trust of India is an Indian NGO committed to nature conservation.
- In 2015, a second round of identification took place — and when published two years later, the number of corridors had gone up to 101.
 - The number of corridors increased because of fragmentation of existing corridors.
- As per the Elephant Corridors of India, 2023 Report, there is a **surge of 62 new corridors, marking a 40% increase since 2010, now totalling 150 corridors across the nation.**
- **West Bengal** has the highest number of elephant corridors, totalling 26.

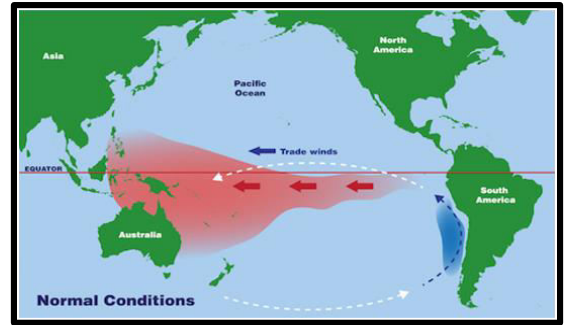
5. Impact of La Nina on Air Quality in India

Why in News?

- According to a new study, an unprecedented La-Nina event, extended by climate change, triggered a peculiar trend in the 2022-23 winter season in India.
- During the 3 consecutive years of La Niña (2020-23) - a rare **“triple-dip” phenomenon** - air quality improved in north India while peninsular India recorded an increase in pollution levels in the 2022-23 winter season.

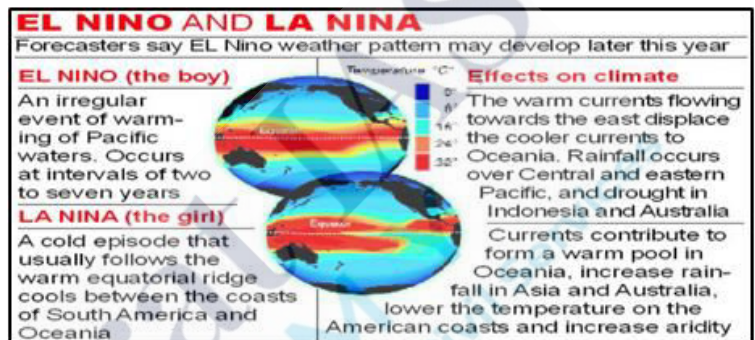
What are the Normal Climatic Conditions?

- In the Pacific Ocean, near the equator, the Sun makes the water especially warm on the surface.
- Normally, a surface low pressure system forms in northern Australia and Indonesia and a high-pressure system develops off the coast of Peru.
- As a result, the **trade winds blow strongly from east to west** over the Pacific Ocean, transporting warm surface waters westward.
- This leads to convective storms (**thunderstorms**) to Indonesia and coastal Australia.



What is El Nino and La Nina?

- El Nino and La Nina are two opposing climate trends that deviate from the normal conditions and normally run nine to twelve months, but can often extend.
- These events occur **every two to seven years on average** (El Nino is more frequent than La Nina), but not on a regular basis and together are referred to as the **El Nino-Southern Oscillation (ENSO)** cycle by scientists.



- El Nino is typically known as the **warm phase** (a band of warmer water spreading from west to east in the equatorial Pacific Ocean) and La Nina is identified as the **cold phase** (a band of cooler water spreads east-west) of ENSO.
- Both El Nino and La Nina can have global effects on **weather, wildfires, ecosystems and economics**.

Findings of the New Study - Impact of La Nina on Air Quality in India:

- The study is conducted by researchers at the National Institute of Advanced Studies (Bengaluru) and the Indian Institute of Tropical Meteorology (Pune).
- **Monsoon rainfall over India** is known to be strongly influenced by El Nino and La Nina events, the alternating warming and cooling of the eastern Pacific Ocean that impacts weather across the world.
- According to the study, **this is the first time that air quality in Indian cities has been linked to a La Nina event** - and indirectly to **climate change**, which is making El Nino and La Nina more severe.
- Normally, northern Indian cities (particularly Delhi) experience very high concentrations of PM2.5 during October to January.
- However, the winter of 2022 **showed a significant deviation from this normal**.
 - Northern Indian cities (including Delhi) were cleaner than usual, while cities in the west and the south, like **Mumbai, Bengaluru and Chennai**, experienced worse-than-usual air quality.
 - The study said PM2.5 concentrations in **Delhi saw a reduction of about 10%**. Simultaneously, the concentrations in **Mumbai rose by 30%, while Bengaluru registered a 20% rise**.
- The researchers had set out to investigate this unusual behaviour when they discovered the potential effects of **La Nina**.
 - Not all La Nina events might produce noticeable changes in wind circulation over India, **but this one was a particularly strong event**.

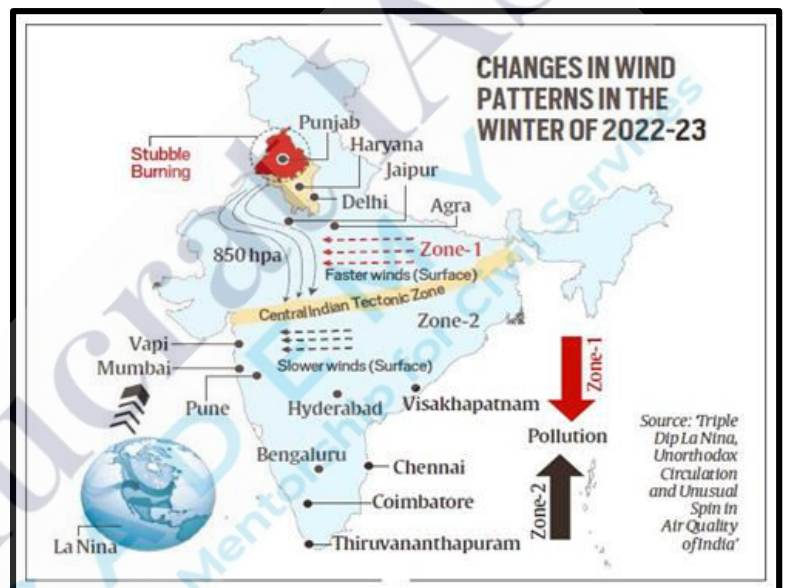
- The impact on air circulation became evident only in the third year of La Nina. So, there may be an **accumulative effect**.
- **It was not yet entirely clear whether El Nino would produce an opposite effect for air quality over India.**

How La Nina Impacted Air Quality in India?

- **By changing wind direction:**
 - During this time, wind usually blows in the **north-westerly direction**: for example, from Punjab towards Delhi and further into the Gangetic plains.
 - This is one of the main reasons why **agricultural waste pollutants in Punjab and Haryana flow into Delhi**.
 - However, the wind circulation was in the **north-south direction** in the winter of 2022. The pollutants from Punjab and Haryana bypassed Delhi and flew over Rajasthan and Gujarat to southern regions.

- **By changing the local circulation of wind near Mumbai:**

- Wind currents alternate between blowing from the land to the sea every few days.
- **When blowing from the land towards the sea, the winds carry pollutants out of the city.**
- However, instead of changing direction every four to five days, **the winds persisted in one direction for more than a week or 10 days**, leading to greater accumulation of pollutants in Mumbai in 2022.



6. Government Allows Donor Egg & Sperm in Surrogacy

Why in the News?

- There is new hope for couples dreaming to become parents via surrogacy.
- The Central government has amended **Surrogacy (Regulation) Rules, 2022** to allow use of a donor gamete – ova or egg cells and sperm.

What's in Today's Article?

- About Surrogacy (Meaning, Surrogacy in India, Law, Key Provisions, etc.)
- News Summary

About Surrogacy:

- A surrogate, sometimes also called a gestational carrier, is **a woman who conceives, carries and gives birth to a child for another person or couple (intended parent/s)**.
- The surrogate agrees to give the child to that person or couple after the birth.
- **Types of Surrogacies:**

- **Commercial Surrogacy:**
 - It includes surrogacy or its related procedures undertaken for a monetary benefit or reward (in cash or kind) exceeding the basic medical expenses and insurance coverage.
- **Altruistic Surrogacy:**
 - It involves no monetary compensation to the surrogate mother other than the medical expenses and insurance coverage during the pregnancy.

Surrogacy in India:

- Since 1978, surrogacy has been practiced in India, which is also known for having a high rate of “**reproductive tourism**” and being a burgeoning hub of the fertility industry.
- Although commercial surrogacy was made legal, no bill or explicit rule was created and put into effect.
 - This led to a sharp rise in uncontrolled surrogacy in India by low-cost fertility clinics.
- Subsequently, in 2021, President of India gave assent to the **Surrogacy Regulation Bill, 2021** which was passed by the parliament.

Key Provisions of the Surrogacy (Regulation) Act, 2021:

- **Regulation of Surrogacy:**
 - The **Act prohibits commercial surrogacy, and allows altruistic surrogacy.**
 - **The Act permits surrogacy when it is:**
 - (i) for intending couples who suffer from proven infertility;
 - (ii) altruistic;
 - (iii) not for commercial purposes;
 - (iv) not for producing children for sale, prostitution or other forms of exploitation; and
 - (v) for any other condition or disease specified through regulations.
- **Eligibility Criteria for Surrogate Mother:** To obtain a certificate from the appropriate authority, the surrogate mother has to:
 - (i) be a **close relative of the intending couple;**
 - (ii) be an **ever-married woman having a child of her own;**
 - (iii) be **25 to 35 years old;**
 - (iv) **not have been a surrogate mother earlier;** and
 - (iv) have a certificate of medical and psychological fitness.

Further, the **surrogate mother cannot provide her own gametes for surrogacy.**

- **Registration of Surrogacy Clinics:**
 - Surrogacy clinics cannot undertake surrogacy or its related procedures unless they are granted registration by the appropriate authority.
- **National and State Surrogacy Boards:**
 - The central and state governments shall constitute the National Surrogacy Board (NSB) and the State Surrogacy Boards (SSBs), respectively.
- **Offences & Penalties:**
 - **The Act creates certain offences which include:**

| SC PROD AFTER FLOOD OF PETITIONS | |
|---|---|
| <ul style="list-style-type: none"> > After notification of March 14 last year, Rule 7 of Surrogacy (Regulation) Act said couple undergoing surrogacy must use own eggs and sperm, donor gametes not allowed > SC was flooded with petitions from women after it granted relief to one woman and prima facie found fault with Rule 7 | <ul style="list-style-type: none"> > On Jan 9, SC referred to grievances raised by a large section of women and said many of them could not afford to approach SC > Now, couples can use donor gametes after district medical board certifies either spouse has a condition preventing use of own gamete. Single women must use own egg cells |

- (i) undertaking or advertising commercial surrogacy;
 - (ii) exploiting the surrogate mother;
 - (iii) selling or importing human embryo or gametes for surrogacy, and
 - (iv) abandoning, exploiting or disowning a surrogate child/
- These offences will attract a penalty of up to 10 years and a fine of up to 10 lakh rupees.
- The Central government has modified the surrogacy rules to permit married couples opting for surrogacy to **use donor gametes** — a move that would come as a big relief to those with medical complications.
 - The Surrogacy (Regulation) Act, 2021, restricted married couples from getting donor gametes.
 - **A gamete is a reproductive cell.** Female gametes are called ova or egg cells, and male gametes are called sperm.
 - A fresh notification issued on 21 February by the Union Ministry of Health and Family Welfare said the couple undergoing surrogacy must use their own gametes for having a surrogate child.
 - However, **in case a District Magistrate Board certifies that either husband or wife suffers from a medical condition, then the couple can use a donor gamete.**
 - But the notification allows only one of the two partners – either wife or husband – to use a donor gamete.
 - A child to be born through surrogacy must have at least one gamete from the intending parents.
 - This means a **married couple where both partners have medical issues or are unable to have their own gametes cannot opt for surrogacy.**
 - The modifications in the Surrogacy Rules by the Central government came after the Supreme Court doubted the correctness of the existing rules.
 - Applications were filed by married women in the Supreme Court who were unable to conceive due to medical complications.

General Studies – II

1. President's Budget Session Speech

Sessions of Parliament:

- According to **Article 85(1)** of the Indian Constitution, **the President** shall from time to time summon each House of Parliament to meet at such time and place as he thinks fit.
 - However, **six months shall not intervene** between its last sitting in one session and the date appointed for its first sitting in the next session.
- In reality, **the power to convene a session of Parliament rests with the government** and the decision is taken by the Cabinet Committee on Parliamentary Affairs.
- As India does not have a fixed parliamentary calendar, **Parliament meets for three sessions** (by convention) in a year.
- **The longest, the Budget Session**, starts towards the end of January, and concludes by the end of April or first week of May.
 - The session (which starts with the presentation of the **Union Budget**) has a recess so that Parliamentary Committees can discuss the budgetary proposals.

What is the Union Budget/ 'Annual Financial Statement'?

- **Article 112 of the Constitution** requires the government to present to Parliament a statement of estimated receipts and expenditure in respect of every financial year, from **April 1 to March 31**.
 - This statement is called the **annual financial statement**.
- It is divided into three parts - **Consolidated Fund, Contingency Fund and Public Account**.
 - For each of these funds, the government has to present a statement of receipts and expenditure.

President Address:

- **Article 87** of the Constitution provides **two instances** when the President specially addresses both Houses of Parliament.
 - The President of India addresses both the Rajya Sabha and the Lok Sabha at the beginning of the first Session after each general election when the reconstituted lower house meets for the first time.
 - The President also addresses both the houses at the beginning of the first session of each year (Budget session).
- **The President's speech essentially highlights** the government's policy priorities and plans for the upcoming year and **provides a broad framework** of the government's agenda and direction.

Highlights of the President's Budget Session Speech:

- **Stating that it was her first address in the newly built Parliament building**, President said the building was constructed during the beginning of the '**Amrit Kaal**' and it has the essence of '**Ek Bharat Shrestha Bharat**'.
- For her government the vision of developed India is not limited to economic prosperity alone, and equal importance is being given to **social, cultural, and strategic strengths**.
- The grand edifice of a developed India will stand on **four strong pillars** - youth power, women power, farmers and the poor and a big portion of tax has been utilised to empower them.

- **Congratulating the PM for the Women's Reservation Bill**, she hailed the members for the passage of the Nari Shakti Vandan Adhinyam (women's reservation bill).

2. Appointment of Governor of State: Banwarilal Purohit Resigns as Punjab Governor Citing 'Personal Reasons'

Office of Governor:

- Everything related to the office of Governor (appointment, powers, etc) have been discussed under **Part VI (Article 153 to Article 162) of the Indian Constitution**.
- It is stated that the **Governor has a dual role - s/he is the constitutional head of state** (bound by the advice of his council of ministers) and **s/he functions as a vital link between the Union and the State govt.**

Constitutional Provisions Related to the Office of Governor:

- **Article 153:** There shall be a Governor for each State and the same person can be the Governor for two/more States.
 - The **second part was added by the 7th Constitutional Amendment Act 1956**.
- **Article 155:** Governor of a State shall be appointed by the President by warrant under his hand and seal.
- **Article 156:**
 - The Governor shall hold office during the pleasure of the President, but his normal term of office will be five
 - The Governor may, by writing under his hand addressed to the President, resign his office.

Functioning of the Governor's Office over the Years:

- Because the President acts with the aid and assistance of the Prime Minister and the Union Council of Ministers, the Governor is appointed and removed by the central government.
- The **Governor enjoys certain discretionary powers under the Constitution (Article 163)**, such as giving or withholding assent to a Bill passed by the state legislature, etc.
 - These discretionary powers have resulted in friction with the state government.
- As a result, **Governors have been seen as acting on the behest of the central government/ as an agent of the Centre, especially by those in opposition.**

Reforming the Office of the Governor:

- The Supreme Court has time and again (in Shamsher Singh, SR Bommai, Nabam Rebia cases) reiterated that the **office of the Governor should be independent on account of its high constitutional importance**.
 - Recently, the courts have also held that constitutional morality requires high functionaries to sort out their differences and behave responsibly to better serve the citizens.
 - This would require clearly laying down the norms.
- The perception of bias in the appointment of the Governor could be addressed by appointing the Governor from a body comprising representatives of both the states and the Centre and also from the judiciary to ensure fair play.

- This would ensure that **cooperative federalism is at play which has worked quite well for India in terms of GST reform which functions through the GST Council with representatives of both the Centre and the states.**
- **Impartiality and independence of the office could be ensured by providing security of tenure.**
 - This has worked quite well in India where the judges of the HCs and the SC and some other constitutional functionaries are given this status.
 - This would mean that Governors make their decision in the public interest rather than in the political interest.
- The removal of the Governor could be done by the appointing committee. This again would ensure that both the Centre and the state have a say in the removal of the Governor.
- **These reforms would also ensure that -**
 - The faith of the citizens in India's democratic institutions increases,
 - The scope for allegations of foul play is reduced, and
 - Energy is devoted towards better governance than to tussles over the functioning of the Governor.

3. The Legal Dispute Over Mathura, Varanasi Mosques

Background:

- When the **Babri-Masjid Ram Janmabhoomi dispute** gained momentum, different organisations took up the case of two other mosques — the **Gyanvapi mosque in Varanasi** and the **Shahi Idgah in Mathura**.
- In September 1991, the then government enacted a special law to freeze the status of places of worship as they were on August 15, 1947.
- The law kept the disputed structure at Ayodhya out of its purview as it was then an ongoing litigation.

About Places of Worship (Special Provisions) Act, 1991:

- It is described as an **Act to prohibit conversion of any place of worship and to provide for the maintenance of the religious character of any place of worship.**
- The Act declares that the religious character of a place of worship shall continue to be the same as it was on **August 15, 1947.**
- It says that no person shall convert any place of worship of any religious denomination into one of a different denomination or section.
- **Exemption:**
 - The **disputed site at Ayodhya was exempted from the Act.** Due to this exemption, the trial in the Ayodhya case proceeded even after the enforcement of this law.
 - Any place of worship which is an ancient and historical monument, or an archaeological site covered by the **Ancient Monuments and Archaeological Sites and Remains Act, 1958.**
 - A suit that has been finally settled or disposed of.
 - Any dispute that has been settled by the parties or conversion of any place that took place by acquiescence before the Act commenced.
- **Criticism:**
 - The law has been challenged on the ground that it bars judicial review, which is a basic feature of the Constitution.
 - It imposes an **“arbitrary irrational retrospective cutoff date,”** and **abridges the right to religion of Hindus, Jains, Buddhists, and Sikhs.**

What is the Status of the Ongoing Cases on the Gyanvapi Mosque?

- A suit was filed in 2022 in the Varanasi district court by a group of Hindu women worshippers seeking to assert their right to worship deities they claim are still found on the premises of the Gyanvapi mosque.
- The plaintiffs say they have a **right to worship Ma Sringar Gauri, Ganesh, Hanuman and other “visible and invisible” deities.**
- Also pending is another batch of suits filed in 1991 seeking a declaration that a part of the site of the **Gyanvapi mosque belongs to Lord Vishweshwar.**
- The main basis for the suits is that the Hindu side says that an **old temple of Lord Vishweshwar lies at the centre of the Gyanvapi compound.**
- **Court’s Judgement:**
 - So far, court orders have **favoured the position that these suits are not barred by the Places of Worship Act.**
 - On the district court’s order, the Archaeological Survey of India (ASI) has conducted a survey of the premises.
 - The ASI’s report, submitted to the Varanasi district court, claims that a temple existed there prior to the construction of the mosque.
 - Subsequently, the court has allowed the conduct of Hindu prayers at a cellar on the premises.

What is the Status of the Ongoing Cases on the Mathura’s Shahi Idgah?

- The suits in Mathura pertain to the Shahi Idgah mosque that stands adjacent to the Krishna Janmabhoomi Temple there.
- These suits claim that the **mosque was built over the birthplace of Lord Krishna.** The mosque committee, however, denies the allegation.
- The dispute was settled through a compromise between the **Sri Krishna Janmasthan Seva Sansthan** and the **Shahi Idgah Trust** in 1968, and implemented through a decree in 1974.
- As part of the settlement, the Sansthan had given up a portion of the land to the Idgah.
- The current suits challenge this compromise as ‘fraudulent’ and seek the transfer of the entire parcel of land to the deity.
- The **Allahabad High Court has transferred to itself all suits pertaining to the Mathura dispute.**

Why Did the Places of Worship (Special Provisions) Act Not Cover Gyanvapi and Shahi Idgah?

- In both disputes, the respective mosque committees sought rejection of the suits on the ground that the Places of Worship Act prohibits such litigation.
- However, court orders so far say the Act does not bar these suits and that they must go on.
- In the Gyanvapi worshippers’ case, the ruling is that the suits aimed to assert the right of worship of the Hindu deities and did not seek to convert the status of the mosque.
- The Allahabad High Court has taken the view that the **Act does not define the term ‘religious character’.**
- A structure cannot have the dual character of being both Hindu and Muslim, and that only an examination of evidence can determine its religious character.
- **The Act cannot be an absolute bar on proceedings to ascertain its religious character,** it held.

- Regarding the Mathura dispute, the district court has taken the view that the **suits are not barred by the Places of Worship Act, as what is under challenge is the compromise decree based on the 1968 agreement.**
- As the decree was drawn up before the commencement of the 1991 Act, it is not applicable to the case, it has held.

4. Bill Allowing Exemption to Industrial Units Tabled in the Rajya Sabha

Why in the News?

- The Central government has introduced the **Water (Prevention and Control of Pollution) Amendment Bill, 2024 in Rajya Sabha.**

Water (Prevention and Control of Pollution) Amendment Bill, 2024:

- **Water (Prevention and Control of Pollution) Act**
 - The **Water (Prevention and Control of Pollution) Act** was enacted in 1974 to provide for the prevention and control of water pollution.
 - The Act prescribes various penal provisions for non-compliance or contravention of the provisions punishable with imprisonment.
- **Rationale behind bringing the amendment**
 - The Amendment Bill emphasizes that the **cornerstone of democratic governance lies in the government trusting its own people and institutions.**
 - The Bill indicates that outdated rules and regulations causes trust deficit.
 - For example, the **Water (Prevention and Control of Pollution) Act, 1974 imprisonment of up to three months for not informing the State Board about abstraction of water from a stream or well.**
 - The Bill amends it to a fine between Rs10,000 and Rs15 lakh.
 - The imprisonment provisions for minor violations which are simple infringements, not leading to any injury to humans or damage to the environment, many a times cause harassment to business and citizen.
 - It is also not in consonance with the spirit of **Ease of Living and Ease of Doing Business.**
 - Therefore, the **Water (Prevention and Control of Pollution) Amendment Bill, 2024 proposes rationalising criminal provisions.**
 - **It also ensures that citizens, business and companies operate without fear of imprisonment for minor, technical or procedural defaults.**

Major Features of the Water (Prevention and Control of Pollution) Amendment Bill, 2024:

- **The Water (Prevention and Control of Pollution) Amendment Bill, 2024, among other things, seeks to provide:**
 - that the manner of nomination of the chairman of the State Pollution Control Board is to be prescribed by the Central Government;
 - that the Central government may exempt certain categories of industrial plants from the application of Section 25 relating to restriction on new outlets and new discharges;
 - that the Central government may issue guidelines on the matters relating to the grant, refusal or cancellation of consent by any State Board for establishment of any industry;

- for decriminalising minor offences and replacing it with monetary penalty in case of continuation of contravention;
- the manner of adjudication of penalties by the adjudicating officer who shall be an officer not less than the rank of Joint Secretary to the Government of India or Secretary to the State government;
- punishment for failure to comply with the provisions of section 25 relating to restrictions on new outlets and new discharges and section 26 relating to existing discharge of sewage or trade effluent, etc.;
- the amount of penalty imposed is to be credited to the **Environmental Protection Fund** established under **section 16 of the Environment (Protection) Act, 1986**.

News Summary:

- The **Water (Prevention and Control of Pollution) Amendment Bill, 2024** was introduced in the **Rajya Sabha**.
- It would be **applicable to Himachal Pradesh and Rajasthan**, and any other state that passes a resolution under the Water (Prevention and Control of Pollution) Act, 1974.
- The Bill enables the Centre to “exempt certain categories of industrial plants” from the restrictions on new outlets and discharges.
- It also **enables the Centre to “issue guidelines” on matters relating to grant, establishment of any industry, etc.**

5. Govt backs SC, ST sub classification

Why in news?

- The Centre supported in the Supreme Court the sub-classification of Scheduled Castes and Scheduled Tribes for grant of quota inside quota.
 - A **seven-judge Constitution bench** headed by **Chief Justice DY Chandrachud** is examining the validity of its 2004 judgement.
 - The judgement had held that states do not have the power to further sub-classify SCs and STs for grant of quotas.

Legality of Sub-categorisation within Castes

- In the last two decades, multiple States like **Punjab, Bihar, and Tamil Nadu** have tried to bring in **reservation laws at the State level in a bid to sub-categorise SCs**.
- However, all plans are held up in courts as the Supreme Court forms its larger Constitution Bench to decide the matter.
- **E. V. Chinnaiah v State of Andhra Pradesh (2004):**
 - In this case, apex court held that once a community is included in the Presidential List for Scheduled Castes under **Article 341** of the Constitution, they become part of a single larger class of people, casting a wide net for the purposes of reservation.
 - The Bench held:
 - that the **State did not have the legislative power to create sub-classifications within this single class** and
 - that such an action would violate the Right to Equality.
 - The Constitution has provided that these lists can only be made by Parliament and notified by the President.

- **Davinder Singh case**

- In 2020, another five-member Supreme Court bench in the **Davinder Singh case** unanimously ruled that sub-categorisation is constitutionally valid and suggested a larger constitutional bench rule on the matter.

- **Matter referred to seven-judge bench**

- A seven-judge Constitution bench is now examining the validity of its 2004 judgment in **E V Chinniah vs State of Andhra Pradesh**.
- **The top court is examining questions:**
 - whether **sub-classification inside the Scheduled Castes and Scheduled Tribes categories be permitted like in the case of other backward classes (OBCs)** and
 - if the state assemblies are competent to introduce laws empowering the states to undertake this exercise.

Steps taken by the Union Government on the issue of sub-classification

- **Earlier steps**

- The Union government had in 2005 considered legal options for sub-categorisation of SCs.
- At the time, the erstwhile Attorney General of India had opined that this could be possible but only if there was unimpeachable evidence to indicate a necessity.
- Also, the **National Commission for Scheduled Castes (NCSC) and the National Commission for Scheduled Tribes (NCST) had opined that a constitutional amendment was not necessary.**
 - They said that **Article 16(4) of the Constitution already provided for States to create special laws for any backward classes it felt was under-represented.**
 - They also argued that just setting aside a quota within the quota would not be enough.
 - Making sure existing schemes and benefits reach them on priority basis was more urgent.

- **Recent step**

- In January 2024, Union government has formed a **five-member committee of Secretaries, chaired by the Cabinet Secretary.**
 - The committee comprises the **Secretaries of the Home Ministry, Law Ministry, Tribal Affairs Ministry, and Social Justice Ministry.**
- The task of this committee is to assess and find a fair way to distribute benefits, programs, and initiatives to the most disadvantaged communities among the 1,200 Scheduled Castes in the country.

News Summary: Govt backs SC, ST subclassification

- Arguing before the Constitution bench, the Centre backed the idea of earmarking most backward categories within SC/STs to enable the states to frame appropriate policies on subclassification and rationalisation of reserved seats.

Key highlights of the stand taken by the Centre

- **Highlighted the flaws in 2004 judgement**

- **The Centre said:**
 - the 2004 judgement disempowered the state to frame appropriate policy by sub-classifying the zone of reservation appropriately and

- diminished the constitutional guarantee of equality of opportunity.
- **Concept of equality operates at dual level**
 - The **concept of Equality of opportunities operates at a dual level:**
 - between open category and backward classes – and
 - secondly, it has to operate even within the backward classes inter-se.
 - The lack of sub-classification perpetuates the zone of inequality within the reserved category and estops the State from framing appropriate policy in this regard.
- **Reservation benefits available are limited in nature**
 - The Centre said that the reservation benefits available are limited in nature.
 - The State can only provide for a limited number of seats in government higher education institutions and posts in the government services which are reserved.
 - The said seats and the posts are **even otherwise a scarce commodity and therefore required to be re-distributed rationally.**
- **Reservation is key to achieve the objectives of upliftment**
 - In order to achieve the actual objective behind reservations, the rationalisation is key and proliferation and deepening of the reservation benefits are necessary.

Observations made by the apex court

- Reservation policy should be organic and evolving, not static.
 - SC said that anyone who reads the daily newspaper would see that there is a sea change. Reservation policy must therefore keep pace with the social dynamics.
- If the government keeps the reservation policy which was there 50 years back, it will get fossilised. It will lose its connection with the contemporary situation

6. 7th Indian Ocean Conference

Why in news?

- The **7th edition of the Indian Ocean Conference is being held in Perth, Australia on 9-10 February, 2024.**
 - It is being held in association with the Department of Foreign Affairs and Trade, Government of Australia, along with S. Rajaratnam School of International Studies, Singapore and Perth-US Asia Centre in Australia.
- The theme of this edition of the conference is "**Towards a Stable and Sustainable Indian Ocean**".

What is Indian Ocean Region (IOR)?

- IOR is a **geographical region that encompasses the Indian Ocean and its surrounding areas, including the littoral states and islands.**
- **The region spans from:**
 - African coast in the west to the Australian coast in the east, and
 - Arabian Peninsula and the Persian Gulf in the north to the southern coast of Sri Lanka and Australia in the south.
- The **Indian Ocean is the world's third-largest ocean**, covering an area of approximately 70.6 million square kilometres.

- It is home to several important sea lanes of communication, including the Strait of Malacca, the Suez Canal, and the Bab-el-Mandeb strait, which connect Asia, Europe, and Africa.

What is the Significance of Indian Ocean Region (IOR)?

- **Geopolitical Importance:**
 - Due to its geographical location, it **serves as a major transit route for global trade, including oil and gas shipments.**
 - It is home to several important chokepoints, such as the **Strait of Malacca and the Bab-el-Mandeb strait.**
- **Economic Importance:**
 - The **IOR is home to several fast-growing economies, including India, China, and several Southeast Asian nations.**
 - The region is rich in natural resources, including oil, natural gas, and fisheries, and is a major destination for foreign investment.
 - **It shares 64% of the global population and 60% of the global GDP.**
- **Security Importance:**
 - The IOR is also a region of great security importance, with several countries in the region facing threats from **terrorism, piracy, and maritime security challenges.**
 - The region has seen increased military activity in recent years, with major powers such as the US, India, and China increasing their presence in the region.
- **Environmental Importance:**
 - The IOR is home to several important marine ecosystems, including **coral reefs and mangrove forests, that are vital for maintaining biodiversity** and supporting local communities.
 - The region is also vulnerable to the impacts of climate change, including rising sea levels and increased frequency of extreme weather events.

What is Indian Ocean Conference (IOC)

- IOC is an **annual international conference that focuses on the geopolitical, economic, and strategic importance of the Indian Ocean region.**
- The conference brings together policymakers, scholars, business leaders, and civil society representatives to discuss issues related to security, trade, and cooperation in the Indian Ocean region.
- **The first edition of the Conference was held in Singapore in 2016. The sixth edition of IOC was organised in 2023 in Dhaka, Bangladesh.**
- **Organised by** - the India Foundation in partnership with other organizations in the region.

News Summary: 7th Indian Ocean Conference (IOC)

Key highlights of the speech delivered by EAM Jaishankar

- **Highlighted the challenges in Indian Ocean**
 - At one extremity, there are **threats to maritime traffic, piracy and terrorism.**
 - At the other, there are challenges to international law, concerns about freedom of navigation and overflights, and of safeguarding of sovereignty and of independence.
 - In between, a range of trans-national and non-traditional threats present themselves, largely visible in a spectrum of interconnected illegal activities.
- **Expressed concern regarding grey areas of various kinds**

- **Some may emanate from climate change and natural disasters.** Also, disruptive events are occurring with greater frequency and deeper impact.
- There are also the consequences of distant happenings, such as the **fuel, food and fertilizer crises** that many countries of the region have experienced.
- Unsustainable debt, opaque lending practices, unviable projects and injudicious choices are also affecting countries of this region.
- **Highlighted the challenges that are structurally inherent in the current form of globalization**
 - The current form of globalization has led to over-concentrations of manufacturing and technology.
 - However, the Covid-19 pandemic has highlighted the importance of disperse production across more geographies and need to build reliable and resilient supply-chains.
 - The digital era and emergence of artificial intelligence has, in parallel, put a premium on trust and transparency.
- **Drivers of the future**
 - Our sustainable future lies in concentrating on the drivers of the future: digital, electric mobility, green hydrogen and green shipping, to cite a few.

7. India to leverage US-led Minerals Security Partnership

Why in news?

- The **Union Mines Ministry has suggested sharing critical mineral block proposals received from partner countries in the US-led Minerals Security Partnership (MSP)** with central public sector undertakings or PSUs.
- This would enable them to **acquire critical mineral assets abroad.**
- Furthermore, the ministry has recommended that PSUs provide clear financial mandates to relevant subsidiaries to expedite the acquisition process.
 - **PSUs such as Coal India Limited, NLC India Ltd, and NTPC Ltd have expressed interest in securing lithium, cobalt, and graphite assets overseas.**

Minerals Security Partnership (MSP)

- **About**
 - Minerals Security Partnership is an **ambitious new US-led partnership to secure supply chains of critical minerals, aimed at reducing dependency on China.**
 - There is no global definition of critical minerals, but essentially, they are mineral deposits with high economic vulnerability and high global supply chain risk.
 - The **partnership was announced at the world's largest mining event, held in Toronto in August 2022.**
- **Members**
 - MSP involves 14 countries including the **UK, Australia, France, and Germany, and the European Union.**
 - India joined the MSP in June 2023 during PM Modi's visit to the US.
- **Goal**
 - The goal of the MSP is to ensure that critical minerals are produced, processed, and recycled in a manner that supports the ability of countries to realize the full economic development benefit of their geological endowments.

- **Demand for critical minerals, which are essential for clean energy and other technologies, is projected to expand significantly in the coming decades.**
- The MSP will help catalyse investment from governments and the private sector for strategic opportunities —across the full value chain.

Benefits of India joining the partnership

- **Critical minerals are necessary for India's growth**
 - India's growth strategy is powered by an ambitious shift in the mobility space through the conversion of a large part of public and private transport to electric vehicles.
 - This, alongside a concerted electronics manufacturing push, underlines the need to secure the supply of critical minerals.
- **MSP has the potential to revamp supply chain of critical minerals**
 - The new grouping could focus on the supply chains of minerals such as **Cobalt, Nickel, Lithium and also the 17 rare earth (RE) minerals.**
 - Cobalt, Nickel and Lithium are required for batteries used in electric vehicles.
 - Rare earth minerals are critical, in trace amounts, in the semiconductors and high-end electronics manufacturing.
- **MSP as an alternative to China**
 - Currently, China has created processing infrastructure in rare earth minerals and has acquired mines in Africa for elements such as cobalt.
 - Hence, the new alliance is seen as being primarily focused on evolving an alternative to China.

What are Critical Minerals?

- **A mineral is critical** when the risk of supply shortage and associated impact on the economy is (relatively) higher than other raw materials.
- These minerals are **essential for economic development and national security**, and their lack of availability/ the concentration of extraction/ processing in a few geographical locations could potentially lead to **supply chain vulnerabilities.**
- These (such as lithium, graphite, cobalt, titanium, and rare earth elements) are essential for the advancement of many sectors, including **high-tech electronics, telecommunications, transport, and defence.**
- **It forms part of multiple strategic value chains**, including -
 - **Clean technologies** initiatives such as zero-emission vehicles, wind turbines, solar panels;
 - **Information and communication technologies**, including semiconductors; and
 - **Advanced manufacturing inputs and materials** such as defence applications, permanent magnets, ceramics.

Recent Efforts by the Indian Govt to Boost its Critical Minerals Sector

- **Identification of 30 Critical Minerals by the Indian Govt**
 - In **July 2023, released a list of 30 critical minerals for India.**
 - These minerals are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.
- **Allowed mining**

- The govt amended a key law to allow for the mining of three critical minerals, **lithium, niobium, and REEs, earlier this year.**
- To attract bidders, the government also specified new royalty rates for critical minerals, matching global benchmarks.
- **Increased exploration work by Geological Survey of India**
 - The **Geological Survey of India has taken up 125 projects in the current fiscal to explore critical mineral reserves in the country.**
 - It had carried out mineral exploration in Salal-Haimna areas (Reasi district, J&K), and estimated 5.9 million tonnes of lithium ore.
 - In the preceding eight fiscal years, a **total of 625 mineral exploration projects were undertaken.**
- **Centre of Excellence for Critical Minerals**
 - Report of the Committee on Identification of Critical Minerals, released in June 2023, recommended that a Centre of Excellence for Critical Minerals should be established.
 - This is to frame policies and incentives for creating a complete value chain of critical minerals in the country.
- **Khanij Bidesh India Ltd. (KABIL)**
 - A joint venture company namely **Khanij Bidesh India Ltd. (KABIL) is mandated to identify and acquire overseas mineral assets of critical and strategic nature** (lithium, cobalt) to ensure supply side assurance.
- **The Mineral Security Partnership (MSP)**
 - In August 2023, India was inducted into MSP.
- **Auction for commercial mining by the private sector**
 - In November 2023, the **Ministry of Mines has floated the Notice Inviting Tender (NIT) for 20 blocks spread over eight states.**
 - **The mineral blocks contain lithium ore and another 10 of the 30 minerals that the government declared as “critical” in July 2023.**
 - This was the first time that rights related to the mining of lithium ore are being auctioned to private parties.

How does India currently get its supplies of critical minerals?

- In FY23, India imported 2,145 tonnes of lithium carbonate and lithium oxide.
 - Lithium carbonate contains up to 19 per cent lithium.
 - Lithium oxide, which is usually converted to lithium hydroxide, contains 29 per cent lithium.
- India also imported 32,000 tonnes of unwrought nickel, and 1.2 million tonnes of copper ore in 2022-23.
- **India is 100 per cent reliant on imports for its lithium and nickel demand.** For copper, this figure is 93 per cent.

8. Granting bail in UAPA cases

Why in news?

- Recently, the **Supreme Court denied bail to Gurwinder Singh, an accused in an alleged Khalistan module.**
 - He has been accused of a being part of a larger conspiracy with Sikhs for Justice, a pro-Khalistan group banned by the Indian government.

- Courts have sometimes granted bail under the UAPA, despite its stricter bail conditions. **They have interpreted Section 43D (5) to allow bail in exceptional cases.**
- However, in most instances, courts still deny bail, even though some rulings have made it harder for the state to oppose bail.

The Unlawful Activities Prevention Act (UAPA), 1967

- **About**

- **Enacted in 1967, UAPA is the primary counter-terror law in India.**
- It was enacted to outlaw and penalise unlawful and terrorist activities, which pose a threat to the integrity and sovereignty of India.
- **These activities include:**
 - Aiding and abetting terrorists
 - Funding terrorists
 - Inciting anti-national feeling in the masses
 - Other unlawful activities against the state

- **Key provisions of UAPA**

- **Wide ranging powers to Central Govt**
 - It provides wide-ranging powers to the Central Government to designate organisations as terrorist organisations
 - It also prescribes the penalties for taking part in the activities of such organisations.
- **Applicability**
 - It is also applicable if the offences are committed outside India. Both Indian and foreign nationals can be charged.
- **Timeline**
 - **A charge sheet can be filed in maximum 180 days after the arrests.**
 - The investigation has to be completed within 90 days.
 - If investigation is not completed with the stipulated time, the accused is eligible for default bail.
- **Special court**
 - The act establishes a special court designated to conduct trials.
- **Sanction to prosecute under UAPA**
 - Section 45(1) of the UAPA says no court shall take cognizance of any offence under the Act without the **previous sanction of the central or state government or any officer authorised by them.**
 - Under Section 45(2), the sanction for prosecution has to be given within a prescribed time only after considering the report by the competent authority.

2019 Amendment of UAPA

- The **original act was amended in the years 2004, 2008, 2013, and 2019** to increase its scope and ambit. 2019 amendment changed the following:
 - **Who may commit terrorism:**
 - The amendment additionally empowers the government to designate individuals as terrorists on the same grounds.
 - **Approval for seizure of property by NIA:**
 - The Amendment adds that if the **investigation is conducted by an officer of the NIA, the approval of the Director General of NIA would be required for seizure of such property.**

- **Insertion to schedule of treaties**

- The Act defines terrorist acts to include acts committed within the scope of any of the treaties listed in a schedule to the Act.
- The Schedule lists nine treaties, including the **Convention for the Suppression of Terrorist Bombings (1997), and the Convention against Taking of Hostages (1979)**.
- The Amendment adds another treaty to the list. This is **the International Convention for Suppression of Acts of Nuclear Terrorism (2005)**.

Section 43D(5) of UAPA

- **About**

- This provision deals with the granting of bail to the terror accused. The **provision makes grant of bail virtually impossible under UAPA**.
- The test for denying bail under the UAPA is that **the court must be satisfied that a “prima facie” case exists against the accused**.
 - It says that someone accused of a crime under this Act can't get bail unless the Public Prosecutor has a chance to speak about it.
 - If the court looks at the case diary and believes there are good reasons to think the accusation is likely true, then the accused person cannot get bail.
 - The law states that if the court relies solely on the police's version, the accused must convince the court that it's not reasonable to believe the accusations are true at first sight.
 - By putting this burden on the accused, the fundamental idea in criminal law that a person is innocent until proven guilty is changed in the UAPA framework.

- **Supreme Court on Section 43D (5) of UAPA**

- In the case of **Zahoor Ahmed Shah Watali**, the Supreme Court in 2019 confirmed that courts must accept the state's case without examining its merits while granting bail.
 - In other words, it **directed courts not to analyse evidence or circumstances but look at the totality of the case presented by the state while deciding on bail petition**.
- In **Union of India v K A Najeeb**, January 2021, SC upheld the grant of bail under UAPA when the accused had undergone incarceration for a significant period.
 - However, it recognised that bail under UAPA was an exception.
 - SC was of the view that the legislative policy against grant of bail would not hold ground if:
 - there is **no likelihood of trial being completed within a reasonable time and**
 - the period of incarceration already undergone has exceeded a substantial part of the prescribed sentence.
- In this case, **SC tried to ensure that provisions like Section 43D(5) of UAPA** is not used as the sole metric for the denial of bail.
- It incorporated the constitutional right to speedy trial as a ground for granting bail.
- In July 2023, the Supreme Court, in the case of **Vernon Gonsalves v State of Maharashtra**, disagreed with the Watali ruling regarding how the "prima facie true" test should be applied.
 - The bench stated that the test wouldn't be satisfied unless there's some basic analysis of the evidence's value during the bail examination, and the quality of evidence convinces the court of its worth.
 - Since both the **Watali and Gonsalves rulings came from benches with the same number of judges, it remains to be seen how future benches will use the test**.

- If there's significant disagreement between different two-judge benches, a larger bench will need to settle the law.

9. Regulating Online Gaming in India

Why in News?

- The Union Ministry of Electronics and Information Technology (MeitY) will now prepare a framework for permitting and certifying online games which involve money.
- This means, the **Government of India will act as a regulator for the online gaming sector rather than an industry-led self-regulatory organisation (SRO).**

Types of Online Gaming:

- **e-Sports:** These are **video games** that were played privately or on consoles in video game stores in the 1990s, but are currently played online in a structured manner between professional players, either individually or in teams.
- **Fantasy sports:** These are games in which the player selects a team of real sports players from several teams and earns points based on how well the players perform in real life. **For example, Dream11.**
- **Online casual games:**
 - These could be **skill-based**, where the outcome is heavily impacted by mental or physical skill or chance-based, where the outcome is heavily influenced by some randomised activity, such as rolling a die.
 - **A game of chance** may be considered as gambling if players bet money or anything of monetary value.

The Online Gaming Market in India - How big is it?

- The online gaming industry in India is predominantly a **home-grown start-up ecosystem growing at 27%** compound annual growth rate (CAGR).
- It is widely estimated that AI and online gaming can add up to \$300 billion to India's GDP by 2026-27.
- **India's percentage of new paying users (NPU)** in gaming has been the fastest rising in the world, with 40% in 2020 and expected to reach 50% in 2021.
- According to a FICCI report, **transaction-based games revenue increased by 26% in India**, while the number of paying players increased from 80 million in 2020 to 95 million in 2021.

Challenges Faced by the Online Gaming Market in India:

- **Lack of regulatory oversight:**
 - There is currently **no regulatory framework to govern various aspects of online gaming companies** such as -
 - Having a grievance redressal mechanism,
 - Implementing player protection measures,
 - Protection of data and intellectual property rights, and
 - Prohibiting misleading advertisements.
 - No mechanism exists for individuals to **differentiate** between legitimate gaming platforms and illegal gambling/betting sites.
- **Safety and financial ramifications of illegal offshore betting and gambling markets:**

- Money laundering and national security concerns are exacerbated by the growth of **illegal offshore gambling and betting markets**.
- The clandestine and untraceable operations of these platforms are causing **substantial losses to the exchequer**.
- Estimates indicate that India lost \$45 billion per annum in taxation due to operations of illegal offshore markets.
- **Online gaming - a state subject:** Some State governments attempt to ban online gaming. However, the inherent cross-border nature of the Internet makes enforcing such a ban almost impossible.
- **Societal concerns:** The meteoric rise of online gaming has brought with it an array of concerns such as **addiction, mental illness, suicides, financial frauds, privacy and data security concerns**.

The Issue of Self-Regulatory Bodies under the IT Rules:

- The IT (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021 marked a commendable step towards oversight.
- As per IT rules, online real money games **need to be approved by a regulatory body**. Online games, which do not involve real money, do not require any regulatory nod.
- The government had notified the online gaming rules (on April 6, 2023) and had given 3-months to the industry to come up with proposals for SROs.
- However, **the proposals received were heavily dominated by gaming companies** and their industry associations, and therefore would not have been able to act as a neutral regulatory body.

10. Qatar frees 8 ex-Indian Navy men jailed on espionage charges

Why in news?

- Qatar has released eight veterans of the Indian Navy who were sentenced to death on espionage charges.
- **Seven of the eight former Indian Navy personnel have now returned to India.**

India – Qatar Bilateral Relation

- **High-level visits**
 - The two countries have had friendly relations for decades.
 - Since **PM Manmohan Singh's visit to Qatar in November 2008, the first by an Indian Prime Minister, the relationship has burgeoned**.
 - The Emir of Qatar, Sheikh Tamim Bin Hamad Al Thani, visited India in 2015, and PM Modi went to Qatar in 2016.
 - The late Sushma Swaraj became the first Indian Foreign Minister to visit Qatar in 2018.
- **Bilateral trade**
 - In 2021, **India was among the top four export destinations for Qatar**; it is also among the top three sources of Qatar's imports.
 - **India's total imports from Qatar** in FY2022-23 were valued at \$16.81 billion, of which LNG imports alone were worth \$8.32 billion, or 49.5%.
 - Qatar is **India's largest source of liquefied natural gas (LNG)**.
 - **India's exports to Qatar were valued at just \$1.97 billion in FY2022-23.**
 - The major exports include cereals, copper articles, iron and steel articles, vegetables, fruits, spices, and processed food products.

- **LNG Supply Agreement**
 - In January 2024, India and Qatar agreed to prolong their LNG supply agreement, extending it until 2048.
 - **India's Petronet has secured a monumental deal to continue purchasing 7.5 million tonnes of LNG annually from Qatar starting in 2029.**
 - This agreement, hailed as the world's largest extension for liquefied natural gas, builds on an original 25-year contract initiated in 1999, with deliveries commencing in 2004.
- **Defence co-operation**
 - **Defence co-operation has been officially described as a pillar of Indian-Qatar ties.**
 - The India-Qatar Defence Cooperation Agreement, signed during PM Singh's November 2008 visit, was a significant turning point. The agreement was extended for another five years in 2018.
 - Experts at that time described the agreement as just short of stationing troops.
 - **Indian Naval and Coast Guard ships regularly visit Qatar.** QENF delegations participated in two maritime exercises in India in 2021.
 - Two editions of a joint naval exercise called **Zair Al Bahr** have been held.
- **Indian migrants in Qatar**
 - Qatar has around 8 lakh Indian migrants, who send remittances back home.
 - In FY 2021-22, it sent the eighth-highest amount of remittances among all countries.

Challenges in India – Qatar Bilateral Relation

- **BJP spokesperson's derogatory references to the Prophet on a TV show**
 - In June 2022, BJP spokesperson Nupur Sharma's made derogatory references to the Prophet on a TV show.
 - **Qatar was the first country to object, and demand a "public apology" from India soon after the controversy erupted.**
- **The boil over the Israeli bombardment of Gaza**
 - The news of the death penalty for the Indians has come at a time when the Middle East is on the boil over the Israeli bombardment of Gaza.
 - Qatar, which is deeply sympathetic to the Palestinians, has mediated the release of two American hostages from Hamas captivity in Gaza, and the country's diplomats are said to be working as a regional mediator in the crisis.

Background of the present case

- **Arrest of eight navy personnel**
 - On **August 30, 2022, eight former Indian Navy personnel**, along with two others, were arrested on undeclared charges.
 - They were put in solitary confinement.
 - These personnel were working at **Al Dahra Global Technologies and Consultancy Services, a defence services provider company.**
 - As per different sources, the Indians had been working in their private capacity with the company to oversee the induction of Italian small stealth submarines U212.
 - The company's old website, which no longer exists, said it provided training, logistics and maintenance services to the Qatari Emiri Naval Force (QENF).
- **Charges against the men**
 - The officers were jailed on charges that have not been made public.

- However, as per the media reports, the **eight Indians had been charged with spying for Israel.**
- **Navy veterans were awarded death penalty**
 - In March 2023, the last of multiple bail pleas filed for the veterans was rejected.
 - The trial began later that month and on October 26, 2023, the death sentence was handed to all eight men.
- **Appeal filed by India**
 - In November 2023, the MEA announced it had filed an appeal and that its legal team had details of the charges.
- **Death sentence commuted**
 - In December 2023, the **Court of Appeal of Qatar commuted the death sentence of eight former Indian Navy personnel.**

News Summary: Qatar frees 8 ex-Indian Navy men jailed on espionage charges

- This development follows intense diplomatic efforts nearly four months after a Qatari court's death sentences were commuted to various prison terms.

Why it matters?

- The **release of the Navy veterans is a testament to the robust diplomatic channels and the goodwill shared between India and Qatar.**
- It not only reinforces the safety and security of Indian nationals abroad but also strengthens bilateral ties.
- Millions of Indians reside and are employed across the Gulf region, serving as a significant source of remittances for India and playing a key role in the prosperity of Gulf economies.
- This incident demonstrates India's growing influence on the global stage and its ability to protect its citizens' interests internationally.

11. SC Decision on Electoral Bonds Case: Will it Revive the Flagging RTI Act?

Context

- The decision by the Supreme Court (SC) declaring Electoral Bonds (EB) scheme as unconstitutional has given a **big boost to the flagging Right to Information Act.**
- It is crucial to **analyse the implications of the SC judgment on the RTI Act, examining the legal arguments, historical context, and the challenges** faced by the Act in recent years.

Foundations and Implications of the Supreme Court Verdict

- **Constitutional Basis**
 - The SC invoked Article 19 (1) (a) of the Constitution, which **guarantees the fundamental right to freedom of speech and expression.**
 - The court said that the **right to information is intrinsic to the democratic process** and essential for citizens to make informed decisions.
 - **The judgment underscored that the EB scheme's anonymity clause violated the voters' right to access crucial information** regarding political funding, emphasizing the importance of transparency in electoral processes.
- **Breach of Voters' Rights**

- The SC's assertion that the anonymity clause in the EB scheme **constitutes a breach of voters' rights highlights a significant departure from the government's argument** that donor and recipient identities should remain undisclosed.
- **By emphasising the voters' right to know** about the financial support behind political parties, the SC **has reinforced the idea that an informed electorate is vital for a functioning democracy.**
- **Violations of Fundamental Rights**
 - The judgment categorically stated that the **EB scheme is violative of fundamental rights**, emphasising the need to protect citizens' rights against unwarranted intrusions.
 - The SC's scrutiny of the EB scheme **underlines the importance of upholding constitutional values and ensuring that legislation aligns with the fundamental rights** enshrined in the Constitution.
- **Reaffirmation of RTI Act's Dual Goals**
 - The SC, in its unanimous judgment, **highlighted the dual goals of the RTI Act - transparency and accountability.**
 - The court said that the **EB scheme's secrecy provisions contradicted these core objectives.**
 - By reinforcing the significance of transparency and accountability, the SC has sent a clear message that any legislation or scheme conflicting with these principles may face constitutional scrutiny.
 - **The SC rejected the argument that infringing on the RTI Act was justified** to curb black money.
 - The court said that such measures should not come at the expense of transparency.
 - This aspect of the judgment **underscores the importance of finding a balance between addressing concerns like black money and preserving the citizens' right to information.**

Evolution of RTI Act 2005

- **Genesis of the RTI Era (2005)**
 - The RTI era in India commenced with the filing of the first RTI query in a Police station in Poona on October 12, 2005.
 - This event marked a turning point, as it symbolized the beginning of a mass movement advocating for the right to information.
- **Challenges in the First Decade (2005-2015)**
 - **Public authorities initially struggled to manage the increasing demand** for information, revealing the unpreparedness of the system for the surge in queries.
 - **Concerns arose about repetitive questions being raised for personal vendettas**, prompting a need for refining the RTI process.
- **RTI Activism and Advocacy (2005-2015)**
 - RTI activism gained momentum with the **Mazdoor Kisan Sangathan Samiti's (MKSS)** catchy slogan, "**Hamara Paisa — Hamara Hisab**," reflecting the demand for transparency in public expenditure.
 - **Crusaders like Aruna Roy and Nikhil Dey led the MKSS in advocating for the right to information**, turning it into a mass movement that garnered support across various sections of society.
- **CIC's Landmark Decision (2013)**
 - The Central Information Commission (CIC) faced a major test in 2013 when **it delivered a landmark judgment bringing political parties under the ambit of the RTI Act.**
 - Despite initial resistance from political parties (the ruling party and the opposition), **the CIC's audacious decision marked a crucial moment in the evolution of the RTI Act.**

The Current State of RTI Act

- **Vacancies and Pendency**

- The year **2023 marked a challenging period for the RTI Act**, with significant vacancies in Information Commissions across the country.
- **The mounting pendency of appeals, delayed hearings of second appeals, and a lack of adequate personnel** contributed to the diminishing effectiveness of the Act.

- **Defunct State Information Commissions**

- Satark Nagrik Sangathan's study revealed that **four State Information Commissions were defunct**, indicating a breakdown in the functioning of these crucial bodies.
- **The absence of operational state commissions raises questions** about the commitment to transparency at the regional level.

- **Headless Information Commissions**

- **At least three State Information Commissions were reported to be headless**, further undermining the functionality of these institutions.
- **The absence of leadership at the helm of information commissions raises concerns** about their ability to fulfil their mandates effectively.

- **Long Waiting Time for Hearing**

- In 10 out of 29 Commissions, the waiting time for a hearing after filing an appeal exceeded a year, illustrating a systemic issue of delayed access to justice for RTI applicants.
- **Prolonged waiting times undermine the very essence of the RTI Act**, which is designed to provide timely information to citizens.

- **Non-Compliance with Reporting Requirements**

- **Nineteen out of the 29 State Information Commissions failed to file their mandatory annual reports**, indicating a lack of accountability and transparency within the system.
- **The non-compliance with reporting requirements raises questions** about the commitment of information commissions to their regulatory responsibilities.

Recommendations for Strengthening the RTI Act

- **Committee Formation for a Comprehensive Review**

- There should be a **proposal for the establishment of a committee** under the Minister of Personnel to examine the challenges faced by the RTI Act
- **The committee should comprise representatives from information commissions, government officials, and members from civil society** to ensure a comprehensive evaluation.
- **Comprehensive Review** will allow the committee to conduct a thorough and objective review of the current state of the RTI Act, identifying weaknesses and areas requiring improvement.

- **Addressing Vacancies, Pendency and Compliance**

- **There is a need to prioritise the filling of vacancies in Information Commissions** at both the central and state levels to enhance their capacity and functionality.
- Also, **implementation measures**, to expedite the resolution of pending RTI appeals, ensuring that citizens receive timely responses to their queries, **should be in place.**
- **Institute mechanisms to ensure compliance** with the reporting requirements of the RTI Act by all Information Commissions.

- **Strengthen the Legal Framework**

- **Evaluate and address legal challenges faced by the RTI Act**, providing necessary amendments or clarifications to enhance its effectiveness.

- **Ensure that legal provisions align with the evolving landscape of information access and privacy concerns.**
- **Promoting Public Awareness**
 - **Launch awareness campaigns to educate citizens about their rights under the RTI Act and the importance of transparent governance.**
 - **Increased awareness will empower citizens to exercise their right to information, contributing to a more informed and participatory democracy.**

Conclusion

- **The SC's judgment on the Electoral Bonds has presented a crucial opportunity to revitalise the RTI Act, addressing its challenges and reaffirming its significance in promoting transparency and accountability.**
- **The government's commitment to resurrecting the RTI regime, as suggested by a committee under the Minister of Personnel, can play a pivotal role in restoring the Act to its past glory.**

12. India on UNSC reform

Why in news?

- India's Permanent Representative at the UN Ambassador Ruchira Kamboj, speaking at the **Inter-Governmental Negotiations on Security Council Reform** stressed upon the need for comprehensive reform of the Security Council.
- **India has questioned how much longer can the will of five permanent members of the UNSC continue to override the collective voice of the world organisation's 188 member states.**
- India also stressed that **equity must be the cornerstone** of global efforts to reform the 15-nation UN body.
 - Equity demands that every nation, irrespective of its size or power, be afforded an equal opportunity to shape global decision-making.
- **India highlighted that expanding only in the non-permanent category of the Council will not solve the problem.**
 - It will in fact will widen the difference between permanent and non-permanent members even more, thereby perpetuating inequities instead of removing.

United Nations Security Council (UNSC)

- **About**
 - The United Nations Charter established six main organs of the United Nations, including the UN Security Council (UNSC).
 - **UNSC has the primary responsibility for the maintenance of international peace and security.**
 - Under the UN Charter, all Member States are obligated to comply with Council decisions.
 - The Security Council has a permanent residence at the United Nations Headquarters in New York City.
- **Powers:**
 - Establishment of peacekeeping operations.
 - Establishment of international sanctions.
 - Authorisation of military action through Security Council resolutions.
- **Members:**

- The U.N. Charter provides for 15 members of the UNSC:
- **Five permanent members are known as P5**, including the United Kingdom, China, France, Russia and the US.
 - They have veto power over decisions of the UNSC.
- **10 non-permanent members.** Each year the 193-member General Assembly elects five non-permanent members for a two-year term at the UNSC.

UNSC Reform

• About

- **UNSC reform refers to the process of revising and updating the structure, composition, and functioning of the United Nations Security Council (UNSC).**
- The UNSC is one of the six principal organs of the United Nations and is primarily responsible for maintaining international peace and security.
- However, its **current configuration and decision-making processes is not representative of the current geo-political realities.**
- Hence, there is a demand for reform in the UNSC.

• Reforms in areas

- **The United Nations Security Council (UNSC) reform includes five key issues:**

- Categories of membership
- The veto held by the five permanent members
- Regional representation
- The size of an enlarged Council and its working methods
- The Security Council-General Assembly relationship

• Challenges faced

- **Resistance from Current Permanent Members (P5)**
- **Lack of Consensus among Member States**
 - Different countries have diverse interests, priorities, and visions for how the council should be reformed.
- **Complexity of Reform Proposals**
 - There are various proposals for reforming the UNSC, including those related to the expansion of permanent and non-permanent membership, the question of veto power, and regional representation.
 - Finding a consensus on these complex issues requires diplomatic negotiation and compromise among member states.
- **Slow Pace of Negotiations**
 - The process of UNSC reform has been characterized by slow progress and incremental changes.
 - Negotiations within forums like the Inter-Governmental Negotiations (IGN) have often been protracted, with divergent views among member states impeding substantive reform efforts.

Inter-Governmental Negotiations (IGN)

• About

- IGN is a **series of discussions and negotiations among member states of the United Nations aimed at reforming the structure and functioning of the UNSC.**

- The IGN process was initiated to address the perceived need for the expansion of the Security Council's membership to better reflect contemporary geopolitical realities and to enhance its legitimacy and effectiveness.
- IGN was formally recognized by the United Nations General Assembly (UNGA) in 2008 as a platform for member states to engage in discussions and negotiations regarding the reform of the UNSC.
- However, the diplomatic impasse persists in part because member states have never agreed to negotiate on.
- **Composition**
 - **The IGN is composed of several different international organisations, namely:**
 - The African Union;
 - The G4 nations (India, along with Brazil, Japan and Germany are pressing for a permanent seat in the reformed UNSC);
 - The Uniting for Consensus Group (UfC), also known as the "Coffee Club";
 - The L.69 Group of Developing Countries;
 - The Arab League; and
 - The Caribbean Community (CARICOM).
- **Features**
 - Each group represents a different set of positions vis-a-vis reforming the UNSC.
 - **The group's conversations are considered "informal" in nature due to the lack of single text, and thus, UNGA rules of procedure do not apply.**
 - But in 2015, a framework document was agreed when it comes to the reform, which can be the basis for future talks.

13. Prakash Singh Guidelines on the Appointment of the DGP

Why in News?

- The Ministry of Home Affairs (MHA) has told “defaulting” states to follow the SC’s directives (in the Prakash Singh case) on the appointment of the Director General of Police (DGP).
- This development came days after a report highlighting the trend of **state govts (Andhra Pradesh, Telangana, UP, Punjab, etc) not appointing regular police chiefs (DGPs) despite the availability of eligible officers.**

Director General of Police (DGP):

- **About:** In India, the DGP is the **highest-ranking police officer** in a state or union territory, and is also known as the State Police Chief.
- **Criteria for appointment**

| OLD RULE (AS PER PRAKASH SINGH JUDGMENT OF 2006) | | |
|--|---|---|
| <ul style="list-style-type: none"> ▪ DGP shall be selected by the State government from among three senior-most officers of the department empanelled for promotion | <ul style="list-style-type: none"> ▪ The promotion should be based on their length of service, very good record and range of experience for heading the police force | <ul style="list-style-type: none"> ▪ Once the officer is selected for the job, he or she should have a minimum tenure of at least two years irrespective of their date of superannuation |

The appointment process (as per 2018 SC directive)

Selection of top cop

Supreme Court has issued seven directives to be followed by States when appointing the Director General of Police (DGP)

- Proposals should be sent to the UPSC, three months before incumbent's retirement
- UPSC to prepare a panel of names as per Prakash Singh judgment. It should try and choose within the zone of consideration who have got two years of service
- States shall appoint

- one of the panel's choices
- States shall not appoint DGP on an 'acting basis'
- The selected person can continue despite his date of superannuation, but the extension should



- be reasonable
- Appointing persons on their retirement day is not in conformity with the Prakash Singh verdict
- State's and Centre's rules running counter to the SC directions will remain in abeyance

• Contention over the appointment process:

- Several states have passed laws or executive orders to circumvent the empanelment process (required for the appointment of DGP) of the UPSC. **The West Bengal government has asked the SC to modify its 2018 judgement.**
- **Reasons for the contention:**
 - The police and public order are solely within the **jurisdiction of the state**
 - Until Parliament passes a new statute, the UPSC does not have the authority to consider and appoint the DGP.
 - **Under the principles of judicial review or in the use of the court's extraordinary authority (Article 142 - Power to issue orders for doing complete justice), the SC should not limit a state's legislative capabilities.**

The SC's Prakash Singh Judgement on Police Reforms:

- **Background:** Prakash Singh, who served as the DGP of the Uttar Pradesh Police and the Assam Police, among other positions, filed a PIL in the SC in 1996, requesting police reforms.
- **The landmark judgement of 2006:** The SC, in mandating all states and UTs to implement police reforms, **outlined a list of steps** that governments must follow to ensure that the police may execute their jobs without fear of political interference.
- **The measures suggested by the SC:** The 7 main directives from the SC in the verdict were -
 - **Fixing the tenure and selection of the DGP:** This is to avoid the situations where officers about to retire in a few months are given the post.
 - **No political interference:** In order to ensure this, a **minimum tenure** was sought for the Inspector General of Police so that they are not transferred mid-term by politicians.
 - **Constitute Police Establishment Boards (PEB):** Comprising police officers and senior bureaucrats to insulate powers of postings and transfers from political leaders.
 - **Set up the State Police Complaints Authority (SPCA):** This is to give a platform where common people aggrieved by police action could approach.
 - **Separation of investigation and law and order functions of police.**
 - **Set up State Security Commissions (SSC) and a National Security Commission:** They **will advise the government** (State/National as the case may be) on broad policy guidelines for better policing, organisational goals to initiate preventive measures, etc.

- **How did states respond to these directives?** According to a Commonwealth Human Rights Initiative (CHRI) report (2020),
 - **Not a single state fully complied** with the apex court directives in the Prakash Singh case.
 - After 2006, 18 states passed or updated their Police Acts, although none of them entirely matched the legislative models outlined in the 2006 decision.
 - Some states pointed out **“flaws” in the SC judgement in the Prakash Singh case.**
 - **The CM should have some discretion** over who is best suited to lead the police force and the government’s choice may not necessarily be among the three senior-most.

The Case of Appointment of Temporary DGPs:

- **States where temporary DGPs were appointed:**
 - While Andhra Pradesh, Telangana, UP and Punjab have had such temporary DGPs for almost or more than a year, 3 other states, **Uttarakhand, Odisha and West Bengal, and the UT of J&K, have recently appointed “acting DGPs”.**
 - UP has had four acting DGPs in the past 20 months.
- **The MHA Directive to the Defaulting States:**
 - The defaulting states **must follow SC directions** and Union Public Service Commission guidelines on appointment of regular DGPs with a tenure of two years.
 - The temporary or “acting DGPs” are to be appointed **only in exceptional circumstances.**

14. Article 142 - SC overturned Chandigarh mayoral poll results

Why in news?

- **The Supreme Court has quashed the result of the January 30 elections for the post of Mayor of the Chandigarh Municipal Corporation.**
 - The apex court declared the **AAP-Congress candidate as the winner instead of the previously declared BJP candidate.**
 - The top court held that the presiding officer intentionally defaced eight votes, that were for the alliance candidate, to invalidate them.
- In overturning the results, the Supreme Court invoked the sweeping powers conferred on the Article 142
- **About**
 - **Article 142 provides a unique power to the Supreme Court, to do complete justice between the parties, where at times law or statute may not provide a remedy.**
 - In such instances, the Court can go beyond its usual limits to settle a dispute in a way that matches the specifics of the case.
- **Powers of SC under this article**
 - The Art. 142 confers on the Supreme Court plenary power to pass such decree or make such order as is necessary for doing complete justice.
 - The SC can do so in any cause or matter pending before it.
 - Such orders of SC are enforceable throughout the territory of India as prescribed by any law made by Parliament or order of the President of India.
- **Noticeable Use of Art. 142**
 - **Union Carbide Corporation v. Union of India**
 - 142 remained unnoticed till the SC gave its decision in **The Bhopal Gas Disaster Case.**

- In this case, SC announced a settlement and stated that all civil proceedings wherever pending were concluded in terms of settlement.
- It quashed all criminal proceedings arising out of the disaster.
- In this case, the court ordered to award compensation to the victims and placed itself in a position above the Parliamentary laws.
- **Babri Masjid Case**
 - The article was used in the Ram Janmabhoomi-Babri Masjid land dispute case and was instrumental in the handover of the disputed land to a trust to be formed by the union government.
- **Manohar Lal Sharma v. Principal Secretary**
 - The Supreme Court can deal with exceptional circumstances interfering with the larger interest of the public in order to fabricate trust in the rule of law.
- **Curative Petition – An Innovative use of Art 142**
 - The Supreme Court evolved the idea of curative petitions in the landmark judgment of **Rupa Ashok Hurra vs. Ashok Hurra**.
 - The five-judge bench observed that **Article 142 of the Constitution empowers the Supreme Court to act in whatever manner they may deem fit to establish complete justice.**
 - Therefore, to protect the substantive rights of the litigant, the Constitution Bench came up with the theory of a curative petition.
 - **Curative petition will be entertained on strong grounds only e.g.**
 - Violation of principles of natural justice.
 - Where the judge has a bias
 - It has to be certified by a senior advocate. If the bench finds that the petition is vexatious and without any merit it may impose exemplary costs on the petition.
- **Controversies**
 - In **R.S. Naik vs A. R. Antulay – SC, using Art 142**, transferred cases against Antulay pending before the special judge to the High Court.
 - In **Vinay Chandra Mishra case – SC convicted Mishra for contempt of court.**
 - It was not proper for SC as the power to take disciplinary action is vested in the Bar Council under the Advocates Act.
 - **Cancellation of Coal Block Allocation - In 2014, the SC, using Art 142, cancelled the allocation of coal blocks granted from 1993 onwards.**
 - It was the domain of executive.
- **Criticism**
 - On the grounds of separation of power
 - Unlike the legislature and the executive, the judiciary cannot be held accountable for its actions.
 - The power has been criticised on grounds of the separation of powers doctrine.
 - **Definition of complete justice**
 - It is further argued that the court has wide discretion due to the absence of a standard definition for the term complete justice.
 - Defining complete justice is a subjective exercise that differs in its interpretation from case to case.
- **Limitations on Art 142**
 - **SC recognised that the power under Art 142 has certain limitations and fetters.**

- It held that while exercising power under this article:
 - The court should not ignore the substantive rights of a litigant under the existing law.
 - The power could not be used to supplant substantive law applicable to a case.
 - Express statutory provisions cannot be ignored.
 - It cannot exercise the jurisdiction in violation of the statute.
- It **clarified that no court has competence to issue a direction contrary to the law.**
- The courts are meant to enforce the rule of law and not to pass orders contrary to law.
- **In 2006, the apex court ruling by a five-judge Bench in 'State of Karnataka vs Umadevi' clarified that complete justice under Article 142 means justice according to law and not sympathy.**

15. Divorced Muslim Women's Right to Maintenance under Section 125 of the CrPC

Why in News?

- The Supreme Court has decided to examine if a **divorced Muslim woman is entitled to a claim of maintenance under Section 125 of the Criminal Procedure Code (CrPC) against her former husband.**

Background:

- A Muslim man had challenged a Telangana High Court direction to pay ₹10,000 interim maintenance to his former wife.
- He contended that maintenance in this case will instead be governed by the provisions of the **Muslim Women (Protection of Rights on Divorce) Act, 1986.**
- He told the Supreme Court that the Telangana HC had failed to appreciate that the provisions of the 1986 Act, which is a Special Act will prevail over the Provisions of section 125 CrPC which is the general Act.
- The Supreme Court while hearing the petition by the Muslim man observed that the **1986 Act does not say that a divorced Muslim woman cannot file a petition under Section 125 of the CrPC, 1973.**
- The Court has reserved decision on the question as to which of these two laws would prevail.

About Muslim Women (Protection of Rights on Divorce) Act, 1986:

- The **1986 Act is a religion-specific law that provides for a procedure for a Muslim woman to claim maintenance during divorce.**
- It was enacted to essentially nullify the Supreme Court's 1985 decision in the case of Mohd. Ahmad Khan v. Shah Bano Begum which upheld a Muslim woman's right to seek maintenance from her divorced husband under Section 125 of the CrPC.
 - The verdict was, however, perceived by many to be an affront to religious personal laws.
- **Section 3 of the 1986 Act** guarantees the payment of maintenance to a divorced Muslim woman by her former husband only during the period of **iddat**.
 - Iddat is a period, usually of **three months**, which a woman must observe after the death of her husband or a divorce before she can remarry.
- Such an amount shall be equal to the amount of **mahr** or dowry given to her at the time of her marriage or any time after that.
- **After the completion of the iddat period, a woman can approach a first-class magistrate for maintenance in case she has not remarried and is not in a position to take care of herself financially.**

What is Section 125 of the Criminal Procedure Code (CrPC)?

- Section 125 of CrPC lays down a **Secular law for the maintenance of Wife, Child or Parents**.
- It is a legal provision that allows certain categories of individuals to claim financial support from their spouses or children, as the case may be, in the event they are unable to maintain themselves.
- This section helps giving **monetary assistance to the vulnerable** avoiding situations like Vagrancy and Poverty.

Prior Judicial Precedents:

- The **Allahabad High Court**, in multiple judgments, has reaffirmed a divorced Muslim woman's right to claim maintenance under Section 125 of the CrPC even after the completion of the iddat period as long as she does not marry.
- **In Mujeeb Rahiman v. Thasleena (2022):**
 - A single judge of the Kerala High Court observed that a **divorced Muslim woman can seek maintenance under Section 125 of the CrPC until she obtains relief under Section 3 of the 1986 Act**.
 - Such an order will remain in force until the amount payable under Section 3 is paid.
- **Noushad Flourish v. Akhila Noushad (2023):**
 - A Muslim wife who effected her divorce by the pronouncement of **khula** (divorce at the instance of, and with the consent of the wife) cannot claim maintenance from her husband under Section 125 of the CrPC.

16. Having Panchayats as Self-Governing Institutions

Context

- It has been three decades **since the implementation of the 73rd and 74th Constitutional Amendments Acts**, which aimed to establish local bodies as institutions of local self-government.
- Today, **the status of devolution in India's Panchayati Raj institutions varies across states**. While some states have made significant progress, others lag behind.
- **Thus, it is crucial to analyse the fiscal devolution aspect, emphasising the importance of state government commitment** in making Panchayati Raj institutions effective at the grassroots level.

The Current State of Fiscal Devolution and Own Source of Revenue

- **Reliance on External Funding**
 - The 73rd and 74th Constitutional Amendments Acts **emphasised fiscal devolution**, urging Panchayati Raj institutions and urban local bodies to be financially self-reliant.
 - **These amendments specified the need for local bodies to generate their own revenues** to reduce dependency on grants from higher tiers of government.
 - However, the current situation reveals that Panchayati Raj institutions are still heavily reliant on external funding, **with only 1% of their revenue derived from taxes**.
- **Panchayats Failure to Generate Own Income Through Taxation**
 - The data highlights the stark reality that **despite the constitutional provisions, Panchayats are not effectively leveraging taxation** as a primary source of income.
 - The data indicates that a **mere 1% of revenue is earned through taxes, while a substantial 80% comes from the Central government** and 15% from the States.

- **This discrepancy raises questions about the commitment of state governments towards decentralisation** and the overall success of the devolution initiatives undertaken over the past 30 years.
- **Centralisation of Financial Resources Despite Constitutional Emphasis on Fiscal Devolution**
 - Despite the constitutional emphasis on fiscal devolution, **the centralisation of financial resources remains a persistent challenge.**
 - **Panchayats are expected to be self-governing entities** with the authority to raise their revenue, but the reality presents a stark contrast.
 - **The imbalance in revenue distribution reveals a lack of fiscal empowerment** at the grassroots level, undermining the core principles of local self-government.

Government's Initiatives to Implement Constitutionally Mandated Fiscal Devolution

- **Formulation of an Expert Committee**
 - To address this issue, **the Ministry of Panchayati Raj established an expert committee to examine the own source of revenue (OSR)** of rural local bodies.
 - **The committee's report outlines various revenue-generating mechanisms** available to Panchayati Raj institutions through State Acts.
 - **Some of these mechanisms are property tax, land revenue cess, stamp duty surcharge, tolls, professional tax, advertisement tax,** and user charges for essential services such as water, sanitation, and lighting.
 - **While these avenues exist, their effective implementation is crucial** for Panchayats to become financially independent.
- **Report's Emphasis on Effective Taxation Mechanism**
 - **The report further emphasises the importance of establishing a conducive environment for taxation,** encompassing decisions on tax and non-tax bases, the enactment of robust tax management and enforcement laws, etc.
 - This strategic approach is **aimed at empowering Panchayats to harness their full potential** for revenue generation.
 - While taxation is a significant aspect of fiscal devolution, **the report also recognises the potential for non-tax revenue. This includes -**
 - Fees, rent, income from investment sales and hire charges,
 - **As well as income from innovative projects** such as rural business hubs, commercial ventures, renewable energy initiatives, carbon credits, CSR funds, and donations.
 - **Diversifying revenue sources can enhance the financial resilience** of Panchayati Raj institutions, making them less dependent on grants.

Challenges Faced by Panchayati Raj Institutions in Generating Their Own Revenue

- **The Freebie Culture**
 - This cultural phenomenon **stems an aversion to paying taxes, as individuals expect a range of services and benefits** without contributing to the financial sustenance of Panchayats.
 - The resistance to taxation emerges from a perception **that public services should be delivered without a direct financial burden** on the local population.
- **Elected Representatives' Dilemma: Balancing Popularity and Fiscal Responsibility**
 - Elected representatives, who play a pivotal role in the functioning of Panchayati Raj institutions, face their own set of challenges.

- **There is a palpable fear among these representatives that imposing taxes might adversely impact their popularity and electoral prospects.**
- This fear often **translates into a reluctance to take bold steps** towards revenue generation.
- **Overcoming this challenge requires targeted efforts to educate elected representatives about the long-term benefits of financial self-sufficiency** and the positive impact on local development initiatives.
- **Dependency on Grants**
 - The dependency on grants is worsened by the **increased allocations from Central Finance Commissions (CFC).**
 - A comparative analysis reveals a substantial rise in grants allocated through the 14th and 15th CFCs, reaching ₹2,00,202 and ₹2,80,733 crore, respectively.
 - This **substantial inflow of grants has inadvertently led to a decline in the efforts to raise own source revenue.**
 - Panchayats, sustained by the increased financial support, **have gradually shifted their focus away from revenue generation**, fostering a culture of dependency on external funds.
- **Decline in Tax Collection**
 - While tax collection was ₹3,12,075 lakh in 2018-19, it decreased to ₹2,71,386 lakh in 2021-2022.
 - This decline is worrisome, as it **reflects a reduced commitment to financial autonomy at the local level.**
 - **Non-tax revenue also witnessed a decline from ₹2,33,863 lakh to ₹2,09,864 lakh during the same period.**
 - These trends **underscore the need for a renewed focus on revenue generation** efforts and a shift away from dependency on grants.

Way Forward

- **Enhanced Role of Gram Sabhas**
 - Gram Sabhas **play a crucial role in fostering self-sufficiency and sustainable development** at the grassroots level.
 - **They can engage in planning, decision-making, and implementation of revenue-generating initiatives**, ensuring transparency and inclusive participation.
 - **They have the authority to impose taxes, fees, and levies**, directing the funds towards local development projects, public services, and social welfare programmes.
 - **Through transparent financial management and inclusive participation, gram sabhas ensure accountability and foster community trust**, ultimately empowering villages to become economically independent and resilient.
 - Thus, **gram Sabhas need to promote entrepreneurship, and foster partnerships** with external stakeholders to enhance the effectiveness of revenue generation efforts
- **Overcoming the Dependency Syndrome**
 - To overcome the dependency syndrome and ensure self-sufficiency, **there is a need for concerted efforts at all levels of governance.**
 - **Elected representatives and the public must be educated** on the significance of raising revenue for the development of Panchayati Raj institutions.
 - Ultimately, **the dependency syndrome for grants has to be minimised** and in due course, panchayats will be able to survive on their own resources.

Conclusion

- **The constitutional amendments set forth specific details on fiscal devolution**, emphasising the generation of own revenues by Panchayati Raj institutions.
- **Dedicated efforts at the state and central levels are essential for Panchayati Raj institutions to achieve financial independence** and truly function as self-governing entities.

17. Government Amends Electricity (Rights of Consumers) Rules

Background:

- The **Government of India has approved amendments to the Electricity (Rights of Consumers) Rules, 2020**.
- Issuing the amendments, the Union Minister for Power and New & Renewable Energy **Shri R. K. Singh** stated that these amendments further reduce the timeline for getting new electricity connections.
- These rules cover aspects such as **billing, complaints, compensation and timelines for new connections**.
- They also offer support for renewable energy generation by prosumers.
- The **Power and New & Renewable Energy Minister stated that the present amendments will further empower the consumers**.

Major Amendments to the Electricity (Rights of Consumers) Rules, 2020:

- **Facilitating Easier and Faster installation of Rooftop Solar Systems:**
 - Exemption has been given for the requirement of technical feasibility study, for systems up to a capacity of 10 kW.
 - For systems of capacity higher than 10 kW, the timeline for completing the feasibility study has been reduced from **twenty days to fifteen days**.
 - Further, in case the study is not completed within the stipulated time, the approval will be deemed to have been given.
 - Further, the timeline for the distribution licensee to commission Rooftop Solar PV systems has been reduced from **thirty days to fifteen days**.
- **Separate Connections for Electric Vehicle Charging Stations:**
 - Consumers can now obtain separate electricity connections for charging their Electric Vehicles (EVs).
 - This aligns with the country's goal of reducing carbon emissions and reaching **Net Zero by the year 2070**.
- **New connections and change in existing connections to be obtained faster:**
 - The time period for obtaining a new electricity connection under the Rules has been reduced from **seven days to three days** in metropolitan areas.
 - It has been reduced from **fifteen days to seven days** in other municipal areas, and from **thirty days to fifteen days** in rural areas.
 - However, in rural areas with hilly terrain, the time period for new connections or for modifications in existing connections will remain thirty days.
- **Additional Rights for Consumers in Residential Colonies and Flats:**
 - Owners residing in co-operative group housing societies, residential colonies, etc., will now have the option to choose from the distribution licensee either individual connections for everyone or a single-point connection for the whole premises.

- The **exercise of the option will be based on a transparent ballot to be conducted by the Distribution Company.**
- Parity has also been brought in the tariff charged to consumers who get electricity supplied through single-point connection and to those who avail of individual connections.
- **Mandatory Additional Meter in cases of Complaints:**
 - In case of a complaint, the distribution licensee is now required to install an additional meter within five days from the date of receipt of the complaint.
 - This additional meter will be used to verify the consumption for a minimum period of three months, thus reassuring consumers and ensuring accuracy in billing.

18. Law panel readies report on simultaneous polls

Why in news?

- As per various media reports, the **22nd Law Commission is set to recommend the addition of a new chapter on simultaneous polls in the Constitution.**
 - The 22nd Law Commission is headed by former Karnataka High Court Chief Justice Ritu Raj Awasthi.
 - The commission's term has been extended until August 31, 2024.

What's in today's article?

- Law Commission in India
- Simultaneous elections in India: Meaning
- History of Elections in India
- News Summary

Law Commission in India:

- The **Law Commission of India is a non-statutory body constituted by the Union government.**
- It is a commission established to ensure that the laws formed are just and fair which work towards its proper implementation.
- It **can be referred to as an ad hoc body**, which is constituted for the fulfilment of a particular purpose.
 - Basically, it works as an advisory body to the Ministry of Law and Justice.
- However, it is not defined under the Indian Constitution. **It is constituted as part of Article 39A.**
 - **Article 39A guarantees that no citizen is deprived of the opportunity to get justice due to a lack of resources or other impediments.**

Simultaneous elections in India: Meaning

- The **concept of "One Nation, One Election"** envisions a system in which all state and Lok Sabha elections must be held simultaneously.
- This will entail restructuring the Indian election cycle so that elections to the states and the centre coincide.
- This would imply that **voters will vote for members of the LS and state assemblies on the same day and at the same time (or in a phased manner as the case may be).**

History of Elections in India

- **Era of simultaneous elections**

- The first general elections of free India held simultaneously to the Lok Sabha and the Legislative Assemblies of the States in 1951.
- The **next three cycles of elections** also witnessed concurrent Lok Sabha and Legislative Assembly elections barring a few stray cases like:
 - Kerala where a mid-term election was held in 1960 on the pre-mature dissolution of the Assembly, and
 - In Nagaland and Pondicherry where the Assembly was created only after the 1962 general elections.
- The last occasion when we had **near-simultaneous elections was in 1967**.
- **Beginning of the end of simultaneous elections**
 - The **fourth Lok Sabha constituted in 1967 was dissolved prematurely in 1971. This was the beginning of the end of simultaneous elections.**
 - Extension of the term of Lok Sabha during the National Emergency declared in 1975 and the dissolution of Assemblies of some States after the 1977 Lok Sabha election further disturbed the cycle of concurrent elections.
- **Current status**
 - After the two pre-mature dissolutions of the Lok Sabha in 1998 and 1999, only four State Assemblies have been going to polls along with the Lok Sabha elections in the last two decades.
 - We now have **at least two rounds of Assembly general elections every year**.

News Summary: Law panel readies report on simultaneous polls

- The 22nd Law Commission is set to recommend the addition of a new chapter on simultaneous polls in the Constitution.
 - The law panel has not submitted its report to the government.
 - However, it has made detailed presentations of its likely recommendations before the high-level committee.

Key highlights

- **Insertion of a new chapter**
 - Currently, **Part XV of the Constitution** deals with elections. It prescribes the role of the Election Commission and for elections to be based on adult suffrage among other aspects.
 - The Commission is likely to recommend **insertion of a new chapter, Part XVA, that would make provisions for simultaneous polls.**
- **Recommendations will be for 2029 elections**
 - With 2024 elections round the corner, the recommendations will now be for 2029.
 - The **Commission's report is likely to suggest synchronising assembly elections in two stages in the next five years before all states can go to polls simultaneously with the next Lok Sabha elections in 2029.**
 - Elections for states will have to be held collectively in two election cycles over the next five years.
 - The term of some may have to be extended while it may have to be curtailed for others through the Constitutional amendment.
 - Then 2029 can be the third election cycle where the Centre, all states, municipal and panchayat elections can be held together.
- **Tackling situations where the mandate results in a hung assembly or when a government falls midway**

- The Law Commission's prescription is to **first attempt setting up an all-party unity government** if a government falls during its five-year tenure.
- If that is not possible, then the alternative would be holding elections only for the term remaining before another cycle of simultaneous polls can be held.
 - **Contesting elections only to form a government for a short term could be a disincentive for political parties to bring down a government.**
- As per the commission, a second Constitutional amendment would deal with sustainability of simultaneous polls.
- **Common voter list**
 - The **third Constitutional amendment to be recommended by the law panel would specifically deal with a common voter list.**
 - Currently in many states, the voter list for the panchayat and municipal elections is different from the one used for Parliament and assembly elections.
 - The State Election Commissions (SECs) supervise municipal and panchayat elections.
 - On the other hand, the Election Commission conducts polls to the offices of the President and Vice President, and to Parliament, state assemblies and legislative councils.



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General Studies – III

1. Why Hybrid Vehicles Could be a Cleaner Solution for India than EVs

What is a Hybrid Vehicle?

- Hybrid cars are powered by two engines: **one petrol, one electric**.
- Both work with each other to spin the wheels. This leads to lesser petrol being burned and therefore better fuel efficiency.
- When **compared to conventional vehicles, hybrids offer better power and fuel efficiency as they combine the benefits of high fuel efficiency and low emissions**.
- When hybrid vehicles are cruising or while braking, the result is excess power which is used to charge the batteries. This, in turn, aids higher fuel efficiency or range.

Difference Between Hybrid & Electric Vehicles:

| Specifications | Hybrid Cars | Electric Cars |
|----------------------|--|---------------------------------------|
| 1. Power/Fuel Source | Electricity and Fossil Fuel (Petrol and Diesel) | Electricity Through Battery Pack (DC) |
| 2. Engine | Internal Combustion Engine (ICE) and Electric Motor(s) | Electric Motor(s) |
| 3. Fuel Efficiency | Combination of ICE and Battery Range | Depends on Battery Range |
| 4. Emission Levels | Higher Compared to Electric Cars | Lower Compared to ICE and Hybrid Cars |
| 5. Cost | Similar to Conventional ICE Cars | High |
| 6. Charging | Not Needed | Needed |

Why Hybrid Vehicle is a Practical Solution for Decarbonisation Drive?

- According to a report by HSBC Global Research, **India needs to embrace hybrid vehicles over the next 5-10 years on the way to full electrification**.
- Such vehicles are the **more practical medium-term solution for the country's decarbonisation efforts** and, more importantly, less polluting, according to the note.
- The note says that currently, overall carbon emissions are lower in hybrids compared to both electrics and those that run on petrol and diesel for similarly proportioned vehicles.
- In fact, it could take as long as a decade for EV and hybrid vehicle emissions to come to the same level, it says.
- Currently, **India's electric mobility plan is largely focussed on battery electric vehicles or BEVs replacing internal combustion engine (ICE) vehicles**.
- **Carbon Emission Comparison:**
 - The note said that total (well-to-wheel, or WTW) carbon emissions from an EV is currently 158 g/km, compared to 133 g/km for hybrids — which means that **a hybrid is at least 16% less polluting than the corresponding EV**.
 - These numbers are 176 g/km and 201 g/km for corresponding petrol and diesel vehicles respectively.
 - **EV and hybrid emissions could converge after 7-10 years, according to estimates made by the HSBC analysis**.

- According to the note, total emissions from hybrid cars and EVs will converge if non-fossil power generation in India moves up to 44%.
- By 2030, even if India's share of non-fossil fuels is 40%, hybrids will still release 8% less emissions than EVs, which, however, will be half of the 16% of today, the note said.

What are the Challenges w.r.t. Overall Global Push for EVs?

- Cumulative EV industry sales, comprising the two- and three-wheeler, passenger vehicle and commercial vehicle sub-segments, for 2023 are ~**13.8 lakh units**, which constitutes 50% year-on-year growth (January-November 2022: ~9 lakh units).
- However, there are a few challenges on the way to rapid adoption of battery electrics at scale.
- **Upfront Subsidy:**
 - The experience in markets from Norway to the US and China shows that the **electric push works only if it is backed by state subsidies**.
 - **An elaborate system of incentives is central to Norway's EV policy, which has fostered the world's most advanced EV market.**
 - So, the government waives the high taxes it imposes on sales of non-electrics; it lets electric cars run in bus lanes; toll roads are free for electric vehicles; and parking lots offer a free charge.
 - The problem with this kind of overt subsidisation of EVs, especially in developing countries like India, is that much of the subsidy ends up in the hands of the middle or upper middle classes, who are typically the buyers of battery electric four-wheelers.
- **Charging Stations:**
 - An analysis by the World Bank has found that investing in charging infrastructure is between four and seven times more effective in ensuring EV adoption compared with providing upfront purchase subsidies.
 - Both Norway and China, while offering purchase subsidies, have seen faster adoption of EVs also as a result of sustained efforts at expanding the public charging infrastructure.
 - **China, the leader in the number of publicly available chargers, accounts for 85% of global fast chargers and 55% slow chargers.**
 - **The situation in India is very different from these countries.**
 - While the number of EVs had crossed 1 million by mid-2022 and will likely grow to 45-50 million by 2030, **only about 2,000 public charging stations are currently operational across the country.**
- **Electricity Source:**
 - In several countries that have pushed EVs, much of the electricity is generated from renewables — Norway, for example, has 99% hydroelectric power.
 - **In India, the grid is still fed largely by coal-fired thermal plants.**
 - Therefore, unless the generation mix changes significantly, India would be using fossil fuel generation to power EVs.
 - Theoretically, this would mean reduced tailpipe emissions in the cities, but continuing pollution from the running of the thermal plant.
- **Value Chain:**
 - As India struggles to make inroads into the global lithium value chain, there is discussion on the need to diversify the country's dependency on Li-ion batteries in the EV mix.
 - The demand for Li-ion batteries from India is projected to grow at a CAGR of more than 30% by volume up to 2030, which translates to **more than 50,000 tonnes of lithium requirement for the country to manufacture EV batteries alone.**

- However, more than 90% of the global Li production is concentrated in Chile, Argentina, and Bolivia, alongside Australia and China, and other key inputs such as cobalt and nickel are mined in the Congo and Indonesia.
- **India would, therefore, be almost entirely dependent on imports from a small pool of countries to cater to its demand.**
- While other options to Li-ion are being explored, viability remains a key factor.

2. Interim Budget 2024

Vote on Account

- **Article 116 of the Constitution allows the Lower House to make any grant in advance for the estimated expenditure for part of any financial year by voting and passing such a legislation. This is called vote on account.**
- A simple vote on account includes presenting the Centre's fund requirements for salaries, ongoing projects and other expenditure for the transitional period.
- It cannot make any changes to tax rates. It is also valid only for two months and can be extended up to four months.

Interim Budget

- **Background: need for an interim Budget**
 - As per **Article 112 of the Indian Constitution**, annual financial statement is laid before both Houses of Parliament.
 - **Annual financial statement is a statement of the estimated receipts and expenditure of the Government of India for a specific financial year.**
 - The Centre seeks both Houses' approval to withdraw the necessary funds from the Consolidated Fund of India.
 - Hence, this statement has to be passed by both Houses.
 - However, in an election year, the **incumbent Government cannot present a full Budget as there may be a change in the executive after the polls.**
 - Hence, the need for an interim budget.
- **Constitutional provisions of interim Budget**
 - There is **no constitutional provision for an interim budget.**
 - Hence, the Centre chooses to seek the Lower House's approval for the funds required for the transition period (April - July) till the new government presents a full Budget— via the **votes on account provision.**
- **About**
 - In an interim budget, the **Finance Minister presents the current state of the Indian economy, its fiscal status including India's revised estimated growth in the next year.**
 - S/he will also detail the government's planned and non-planned expenditure and receipts.
 - While the Centre has to desist from announcing any major scheme which could influence voters or present an Economic Survey, the government is allowed to revise tax rates via an interim budget.
 - The **interim budget too is presented to both Houses on February 1 by the Finance Minister**, put to vote and then sent for Presidential approval.
 - Like the Union budget, the interim budget too is debated in the Lok Sabha before passage and is **valid for the entire year** though it is merely a transition arrangement.

News Summary: Summary of the Interim Union Budget 2024-25

Key highlights of the Interim Budget 2024-25

- **No change relating to taxation**
 - No change relating to taxation has been proposed in the Interim Budget.
 - The same rates for direct taxes and indirect taxes, including import duties, have been retained.
- **Withdrawal of Outstanding direct tax demands**
 - The Minister announced to improve tax payer services which is in line with the government's vision to improve ease of living and ease of doing business.
 - **The Interim Budget proposes to withdraw such outstanding direct tax demands:**
 - up to Rs. 25000/- pertaining to the period up to financial year 2009-10 and
 - up to Rs. 10,000/- for financial years 2010-11 to 2014-15.
 - This is expected to benefit about a crore tax payers.
- **Direct tax collections trebled**
 - Over the last 10 years the direct tax collections have more than trebled and the return filers swelled to 2.4 times.
 - The Govt has reduced and rationalised the tax rates due to which under the new tax regime there is no tax liability for tax payers with income up to Rs. 7 lakh.
 - The Minister also mentioned about **decrease in corporate tax rates** for existing domestic companies from 30% to 22%, and for certain new manufacturing companies to 15%.
 - The Government's focus has been to improve tax-payer services.
 - This has led to transformation of age-old jurisdiction-based assessment system, and filing of tax returns has been made simpler and easier.
 - **Average processing time of returns** has been reduced from 93 days in the year 2013-14 to a mere ten days this year.
- **GST reduced compliance burden**
 - GST has reduced the compliance burden on trade and industry by unifying the highly fragmented indirect tax regime in India.
 - Mentioning about a recent survey conducted by a leading consulting firm, she said that 94% of industry leaders view the transition to GST as largely positive.
 - **Tax base of GST has more than doubled** and average monthly gross GST collection has almost doubled to Rs. 1.66 lakh crore this year.
 - States' SGST revenue, including compensation released to states, in the post-GST period of 2017-18 to 2022-23, has achieved a buoyancy of 1.22.
 - The biggest beneficiaries are the consumers as reduction in logistics cost and taxes have brought down prices of most goods and services.
- **Number of steps taken in customs to facilitate international trade**
 - The Minister said, over the last four years since 2019, the import release time declined:
 - by 47 per cent to 71 hours at Inland Container Depots,
 - by 28 per cent to 44 hours at air cargo complexes and
 - by 27 per cent to 85 hours at sea ports.
- **Laying of White Paper**

- The Minister announced that the Government will come out with a white paper, on ‘**where we were then till 2014 and where we are now, only for the purpose of drawing lessons from the mismanagement of those years**’.
- A **white paper is an official government document that provides detailed information, analysis, or proposals on a particular policy issue or matter of public concern.**
- White papers serve to explain complex topics, present government policies, and solicit feedback or discussion from legislators and citizens.
- They are **important tools for transparency, accountability, and policymaking** in the Indian parliamentary system.

Main takeaways from the interim Budget of 2024-25

- **Capital expenditure outlay for the next year**

- Capital expenditure outlay for the said period has been increased by 11.1 per cent to Rs **11,11,111 crore**, which would be 3.4 per cent of the GDP.
- This is in the wake of building on the massive tripling of the capital expenditure outlay in the past 4 years resulting in huge multiplier impact on economic growth and employment creation.

- **Real GDP growth rate**

- India’s Real GDP is projected to grow at 7.3 per cent in FY 2023-24.
- Indian economy has demonstrated resilience and maintained healthy macro-economic fundamentals, despite global economic challenges.
- As per the IMF, **India is likely to become the third-largest economy in 2027**(in USD at market exchange rate).
- It also estimated that India’s contribution to global growth will rise by 200 basis points in 5 years.
- Moreover, various international agencies such as the World Bank, the IMF, OECD and ADB project India to grow between 6.4 per cent, 6.3 per cent, 6.1 per cent and 6.7 per cent, respectively in 2024-25.

- **GST collection**

- Strong growth in economic activity has imparted buoyancy to revenue collections and pointed out that GST collection stood at ₹1.65 lakh crore in December 2023.
- This is the **seventh-time that gross GST revenues have crossed ₹1.6 lakh crore benchmark.**

- **Receipts and Expenditure**

- In 2024-25, the total receipts other than borrowings and the total expenditure are estimated at Rs 30.80 and 47.66 lakh crore respectively.
- The tax receipts are estimated at Rs 26.02 lakh crore.
 - The Revised Estimate of the total receipts other than borrowings is Rs 27.56 lakh crore, of which the tax receipts are Rs 23.24 lakh crore.
 - **The Revised Estimate of the total expenditure is Rs 44.90 lakh crore.**
- The revenue receipts at Rs 30.03 lakh crore are expected to be higher than the Budget Estimate, reflecting strong growth momentum and formalization in the economy.

- **Help extended to State Govts**

- The scheme of fifty-year interest free loan for capital expenditure to states will be continued this year with total outlay of Rs1.3 lakh crore.
- A provision of 75000 crore rupees as fifty-year interest free loan is proposed this year to support the milestone-linked reforms of Viksit Bharat by the State Governments.

- **Fiscal consolidation**

- To reduce fiscal deficit below 4.5 per cent by 2025-26, the fiscal deficit in 2024-25 is estimated to be 5.1 per cent of GDP, adhering to that path.
 - **Budget 2021-22 had announced to reduce the fiscal deficit below 4.5 per cent by 2025-26.**
- Similarly, the gross and net market borrowings through dated securities during 2024-25 are estimated at Rs 14.13 and 11.75 lakh crore respectively and both will be less than that in 2023-24.

- **FDI inflow**

- The FDI inflow during 2014-23 was USD 596 billion marking a golden era and this is twice the inflow during 2005-14.
- For encouraging sustained foreign investment, **govt is negotiating bilateral investment treaties** with foreign countries, in the spirit of 'first develop India'.
- **Achievement on the developmental aspects**
 - The Government has assisted 25 crore people to get freedom from multi-dimensional poverty.
 - **PM Mudra Yojana** has sanctioned 43 crore loans aggregating to Rs 22.5 lakh crore for entrepreneurial aspirations.
 - Thirty crore Mudra Yojana loans have been given to women entrepreneurs.
 - **PM Awas Yojana (Grameen)** is close to achieving the target of three crore houses and two crore more houses will be taken up in the next five years to meet the requirement arising from increase in the number of families.
 - Similarly, through **rooftop solarization**, one crore households will be enabled to obtain up to 300 units free electricity every month.
 - **Pradhan Mantri Kisan Sampada Yojana** has benefitted 38 lakh farmers and generated 10 lakh employment.
 - **Pradhan Mantri Formalisation of Micro Food Processing Enterprises Yojana** has assisted 2.4 lakh SHGs and sixty thousand individuals with credit linkages.
- **Promoting startups**
 - For tech savvy youth, a corpus of rupees one lakh crore will be established with fifty-year interest free loan.
 - The corpus will provide long-term financing or refinancing with long tenors and low or nil interest rates.
 - This will also encourage the private sector to scale up research and innovation significantly in sunrise domains.
- **Railways**
 - **Three major economic railway corridor programmes will be implemented:**
 - energy, mineral and cement corridors,
 - port connectivity corridors, and
 - high traffic density corridors.
 - Moreover, forty thousand normal rail bogies will be converted to the Vande Bharat standards to enhance safety, convenience and comfort of passengers.
- **Aviation**
 - The number of airports have doubled to 149 and today five hundred and seventeen new routes are carrying 1.3 crore passengers.
 - Indian carriers have pro-actively placed orders for over 1000 new aircrafts.
- **Committee to study challenges arising from fast population growth**
 - The Government will form a high-powered committee for an extensive consideration of the challenges arising from fast population growth and demographic changes.
 - The **committee will be mandated to make recommendations for addressing these challenges comprehensively in relation to the goal of 'Viksit Bharat'**.

3. Incentivising R&D in the Private Sector: Financial Institutions Likely to Run Corpus to Fund Hi-Tech Companies

Why in News?

- In a significant initiative **to incentivise R&D in the private sector**, the Finance Minister announced (in the Interim Union Budget 2024-25) the establishment of a financial corpus of Rs 1 lakh crore.
- The government is likely to involve financial institutions including the **NaBFID, the NIIF, or the Small Industries Development Bank of India (SIDBI)** for operationalising its Budget announcement.

What's in Today's Article?

- Interim Union Budget 2024-25 Announcement - Rs 1 Lakh Crore Corpus to Incentivise R&D in Private Sector
- What is the National Bank for Financing Infrastructure and Development (NaBFID)?
- What is the National Investment and Infrastructure Fund (NIIF)?
- News Summary Regarding Govt's Plan to Involve Financial Institutions for Operationalising Corpus Fund of Rs 1 Lakh Crore

Interim Union Budget 2024-25 Announcement - Rs 1 Lakh Crore Corpus to Incentivise R&D in Private Sector:

- It will provide **low-cost or zero-interest loans** for research and innovation and the private companies could avail of interest-free loans for **up to 50 years** (long-term financing or refinancing facility) through this new mechanism.
- This will encourage the private sector to scale up research and innovation significantly in **sunrise domains**.
- The new fund is in **sync with the government efforts to encourage private sector involvement** in research activities. **For example**, it had set up (last year) a **National Research Foundation (NRF)**.

What is the National Bank for Financing Infrastructure and Development (NaBFID)?

- NaBFID is a specialised **Development Finance Institution (DFI)** in India aimed at supporting the country's infrastructure sector.
 - This is because the country's infrastructure sector can significantly gain from an enabling credit flow by means of attractive instruments and channelised investment.
- NaBFID was set up in **2021**, by an **Act of the Parliament** (The National Bank for Financing Infrastructure and Development Act, 2021).
- **Its objective** is to
 - Address the gaps in long-term non-recourse finance for infrastructure development,
 - Strengthening the development of bonds and derivatives markets in India, and
 - Sustainably boosting the country's economy.

What is the National Investment and Infrastructure Fund (NIIF)?

- **NIIF is a government-backed quasi-sovereign wealth fund** (government stake [49%] and rest held by foreign and domestic investors) established to provide long-term capital to the country's infrastructure sector.
- It was set up in **2015** and registered with **SEBI** as a Category-II Alternative Investment Fund (AIF).

News Summary Regarding Govt's Plan to Involve Financial Institutions for Operationalising Corpus Fund of Rs 1 Lakh Crore:

- The discussions for the research and innovation corpus have taken into account the view that the success rate for some of the projects may not be too high. It needs a long gestation to prove itself.
- **The Centre is considering long-duration loans** of up to **50 years** with zero interest to the financial institution, as it does for capex for states.
 - The institution then, in turn, may consider providing credit at nil or concessional rate to another financial institution for refinancing or directly finance a commercial venture.

- **A combination of one or more than one financial institution** could be considered to provide long-term, concessional credit of Rs 1 lakh crore.
- **This is commercial funding, for-commercial, for-profit ventures** but the venture should be for an innovative, new technology to be proven.
- With this, the government **aims to provide an enabling ecosystem for ventures** in cutting-edge, developing technologies to take off.
- Inter-ministerial deliberations are taking place on the sectors to be considered under this funding.
- The amount of Rs 1 lakh crore will be spread out over the years for various projects, which may be decided by an expert committee.

4. Exposing India's Financial Markets to the Vultures

Context

- In recent times, **the global financial landscape has witnessed significant developments**, particularly in **the integration of emerging economies' government bonds into global indices**.
- Amid these developments it becomes **imperative to have an assessment of the notable instances involving J.P. Morgan, Bloomberg, and FTSE Russell's moves to incorporate Indian local currency government bonds (LCGBs) into global indices**.
- It is **important to explore the motivations, potential benefits, and risks associated with such initiatives**.

The Process of Opening Local Bond Markets

- The process of opening local bond markets to foreign investors **represents a strategic initiative undertaken by emerging economies to enhance their global financial integration**.
- **In the case of India, this journey started in 2019**, with significant strides made by 2020 through the **introduction of the fully accessible route (FAR)**.
- **Despite encountering obstacles**, such as delays attributed to the government's stance on capital gains taxes and local settlement, **the fundamental policy remained unaltered, demonstrating a commitment to fostering global financial inclusivity**.

Significance of J.P. Morgan's Step to Include Indian Local Currency

- **P. Morgan's unveiling of its plan in September 2023** to include Indian LCGBs in its Government Bond Index-Emerging Markets (GBI-EM) Global index suite **served as a catalyst**.
- **This move not only signalled a significant recognition of India's financial standing** but also **elevated expectations across the Indian financial landscape**.
- It prompted **anticipation from other influential index providers such as Bloomberg-Barclays and FTSE Russell**.
- The **subsequent announcement by Bloomberg Index Services in January 2024 to include India's fully accessible route (FAR) bonds** in the Bloomberg Emerging Market Local Currency Index **added further momentum**.
- The **attention now turns to FTSE Russell, emphasising the growing influence and anticipation of reforms in India's government bond market**.

Benefits of Internationalising Bond Markets

- **Reduced Dependence on Domestic Institutions**

- By integrating local currency government bonds into global indices, **emerging economies like India aim to diminish their dependence on domestic financial institutions.**
- This reduced reliance on domestic sources for capital can provide a diversified funding base, contributing to financial stability.
- **Greater Stability in Funds Tracking Indices**
 - Inclusion in global indices **can lead to a more stable influx of funds and unlike short-term speculative flows**, funds tracking indices often exhibit a longer investment horizon.
 - This **stability can be instrumental in mitigating volatility in local financial markets**, providing a more secure environment for both domestic and foreign investors.
- **Decline in Cost of Public Borrowing**
 - The influx of funds into local currency government bonds **can lead to a decline in domestic interest rates.**
 - As global investors participate in these markets, **the increased demand for local bonds may exert downward pressure on interest rates.**
 - This, in turn, reduces the cost of public borrowing for the government.
- **Relief for Local Financial Institutions**
 - Increased participation by foreign investors in local bond markets can alleviate the balance sheets of local financial institutions holding these bonds.
 - As foreign investors absorb a portion of the bonds, local institutions may find increased liquidity, potentially leading to more lending and private investment.
- **Mitigating Original Sin**
 - One of the key benefits is mitigating the "**original sin**" **problem faced by emerging economies.**
 - '**Original Sin**' is the inability of emerging economies to borrow internationally in their own currencies.
 - By issuing bonds in their own currencies, rather than borrowing in reserve currencies, **these countries shift the exchange rate risk onto international lenders, potentially avoiding widespread private insolvencies during sharp currency declines.**

Risks Associated with Internationalisation of Bond Markets

- **Loss of Autonomy and Greater Interest Rate Risks**
 - One of the significant risks associated with internationalising bond markets is the **potential loss of autonomy in controlling long-term interest rates.**
 - **Emerging economies become more susceptible to global interest rate fluctuations**, which can adversely affect their domestic bond markets and overall economic stability.
- **Exchange Rate Volatility and Spillover Effects**
 - Increased participation by foreign investors **exposes local currency bond markets to exchange rate volatility.**
 - In times of global risk aversion or liquidity challenges, **adverse spillover effects can occur.**
 - Instances such as **the Lehman collapse in 2008 and the recent normalisation of U.S. monetary policy highlight the vulnerability of emerging economies to global market conditions.**
- **Volatility in Local Currency Bond Inflows**
 - In Malaysia, **during 2014-15, the rapid exit of investors from local currency assets, including bonds, resulted in large reserve losses and sharp declines** in the ringgit, pushing it to below the levels seen during the Asian crisis.

- **In Türkiye, where macroeconomic imbalances were much more serious, foreigners totally left the bond market after Spring 2018, and reserve losses and currency declines were aggravated as unhedged local forex debtors joined in to avoid exchange rate losses.**
- Sudden stops and exits, as witnessed in Malaysia and Türkiye, **highlight the unpredictable nature of these capital flows and the potential for rapid fluctuations in the market.**

The RBI's Broader Effort and IDG Report

- **Integration of Indian LCGBs into Global Bond Indices**
 - **The RBI's journey towards internationalisation began in October 2022 with a report by the Inter-Departmental Group (IDG).**
 - This report details efforts to integrate Indian local currency government bonds (LCGBs) into global indices.
 - **Diversification of Funding Sources**
 - **The move to include Indian LCGBs in global indices is not solely about attracting foreign capital but also about diversifying funding sources.**
 - The IDG report emphasises the need to reduce dependence on domestic institutions and tap into large international resources.
- **Enhancing Stability and Allocation of Investment**
 - The report **underscores the potential benefits of including LCGBs in global indices, such as enhancing the stability of funds tracking these indices.**
 - Stability in funds can contribute to a more predictable investment environment, attracting long-term investors and improving the allocation of investment within the Indian financial market.
- **Rupee Internationalisation Beyond Bond Markets**
 - The IDG report places the integration of LCGBs into global indices as just one facet of a broader effort to internationalise the Indian rupee.
 - **Another crucial element involves permitting banking services in the rupee (INR) outside the country.**

Way Forward

- **Need a Balancing Act**
 - While the opening of local bond markets brings about numerous opportunities, it **requires a delicate balance.**
 - Countries need to **strike a balance between attracting foreign capital and managing potential risks.**
- **Lessons from Malaysia and Türkiye**
 - **The lessons from Malaysia and Türkiye highlight the importance of proactively managing offshore markets to prevent excessive speculation and maintain currency stability.**
 - **These experiences underscore the need for regulatory vigilance, timely interventions, and a balanced approach to fostering internationalization while safeguarding macroeconomic stability.**

Conclusion

- The process of opening local bond markets is a **pivotal step for emerging economies seeking greater integration into the global financial landscape.**
- **The recent developments involving J.P. Morgan, Bloomberg, and FTSE Russell highlight the growing recognition of India's financial market potential.**

- As India embarks on this journey, it **must navigate the complexities, carefully balance risks and benefits, and adapt to the evolving global financial landscape to ensure long-term success and stability.**

5. India's Manufacturing Sector: Saw Employment, Profits Improve Despite Pandemic Blows

Why in News?

- The Ministry of Statistics and Programme Implementation (MoSPI) released the **Annual Survey of Industries (ASI)** for 2020-21 and 2021-22.
- According to the ASI, the Covid-19 pandemic affected the number of factories and fixed investments in the organised manufacturing sector in the country but profits and invested capital recorded an increase.
- The ASI data is the principal source of industrial statistics and data for **organised manufacturing** (employing 10 or more workers using power and those employing 20 or more workers without using power).

An Introduction to India's Manufacturing Sector:

- Manufacturing is emerging as **an integral pillar in the country's economic growth**, thanks to the performance of key sectors like automotive, engineering, chemicals, pharmaceuticals, and consumer durables.
- With **~17%** of the nation's GDP and **over 27.3 million workers**, the manufacturing sector plays a significant role in the Indian economy.
- India now has the **physical and digital infrastructure** to raise the share of the manufacturing sector in the economy and make a realistic bid to be an important player in global supply chains.
- Through the implementation of different programmes and policies, the Indian government hopes to have **25% of the economy's output come from manufacturing by 2025** (National Manufacturing Policy).

Potential of the India's Manufacturing Sector:

- **India's target** of achieving the milestone of **USD 1 trillion by the year 2028**, is promising with key industries such as electronics, industrial machinery, and textiles playing a pivotal role.
- Due to factors like power growth, long-term employment prospects, and skill routes for millions of people, **India has a significant potential to engage in international markets.**
- **Several factors contribute to this potential -**
 - Global value chains are well positioned to benefit from India's advantages in terms of raw materials, industrial expertise, and entrepreneurship.
 - They can take advantage of four market opportunities: **expanding exports, localising imports, internal demand, and contract manufacturing.**
 - Manufacturing sector in India is **gradually shifting to a more automated** and process driven manufacturing which is expected to increase the efficiency and boost production of the manufacturing industry.

Challenges Faced by the India's Manufacturing Sector:

- **Lack of infrastructure:** The manufacturing sector requires robust infrastructure, including transportation, power, and telecommunications, to function smoothly.
- **Lack of skilled labour:** India's education system has not been able to keep up with the changing needs of the economy, and there is a shortage of skilled workers in the manufacturing sector.
- **Complex regulatory environment:** India's regulations are often complex and difficult to navigate, which is a significant deterrent for businesses looking to set up manufacturing units in India.
- **Lacking innovation:** The lack of innovation has made it difficult for Indian manufacturers to produce goods that are competitive with those produced in other countries.

Navigating the Future of the India's Manufacturing Sector:

- Despite the challenges, **India's manufacturing industry has started its journey to achieve self-reliance.**
 - This is majorly because the manufacturing sector has gone through many changes post-pandemic.
 - **For example**, huge dependence on raw materials coming from China and other countries has been reduced.
- India is gradually progressing on the road to **Industry 4.0** through the Government of India's initiatives like the Make in India, **National Manufacturing Policy** and the **PLI scheme** for manufacturing.
- India has ascended to become the world's fifth-largest economy and is expected to become the **third-largest economy by 2030.**
- India's ambition to become the next big **global manufacturing hub** will have a significant bearing on its growth over the next few years.

Highlights of the Annual Survey of Industries (ASI):

| ANNUAL SURVEY OF INDUSTRIES 2020-21 & 2021-22 | | | | |
|---|-------------|-------------|-------------|------------------|
| | 2019-20 | 2020-21 | 2021-22 | CAGR For 2021-22 |
| Number Of Factories | 2,46,504 | 2,50,454 | 2,49,987 | 0.7 |
| Number Of Workers | 1,30,58,156 | 1,25,94,563 | 1,36,09,931 | 2.1 |
| Number Of Employees | 1,65,68,526 | 1,60,25,118 | 1,71,51,172 | 1.7 |
| FINANCIALS | | | | |
| Wages To Workers | 2,28,90,520 | 2,22,61,548 | 2,64,55,930 | 7.5 |
| Total Emoluments | 4,91,72,897 | 4,83,89,031 | 5,60,82,801 | 6.8 |
| Net Fixed Capital Formation | 1,43,61,795 | 32,25,819 | 30,42,540 | -54.0 |
| Gross Fixed Capital Formation | 4,16,71,537 | 3,13,61,805 | 3,30,07,225 | -11.0 |
| Profits | 4,69,47,269 | 6,14,05,752 | 9,50,71,368 | 42.3 |
| <i>Value figures in Rs lakh</i> | | | | |
| <i>Source: MoSPI</i> | | | | |

- **Employment in the manufacturing sector:** It took a hit during the lockdown-affected year of 2020-21, but then recovered in 2021-22 to levels higher than pre-pandemic.
 - The number of workers employed in the factories reduced to 1.26 crore in 2020-21 from 1.31 crore in 2019-20, but recorded **an increase in 2021-22 to 1.36 crore**, with a **CAGR growth of 2.1%** over these two years.
- **Fixed capital investments:** It took a sharp hit during the pandemic affected years.
 - **Gross fixed capital formation**, an indicator of investment, declined by 11% in 2021-22 to Rs 3.30 lakh crore from Rs 4.17 lakh crore in the pre-pandemic year of 2019-20.
 - The GFCF picked up marginally in 2021-22, rising about 5% from Rs 3.14 lakh crore in 2020-21.
- **Profits in the manufacturing sector:** It grew sharply for the pandemic-affected years, rising by 42.3% (CAGR) to Rs 9.51 lakh crore in 2021-22 as against Rs 4.70 lakh crore in 2019-20.

- **The Gross Value Added:** It has gone up significantly by 26.6% in 2021-22 over 2020-21 riding on a high growth in the industrial output which grew by more than 35% in value terms during this period in current prices.
- **Significance of the ASI results:** It exhibits the resilience shown by the Indian manufacturing sector and tells the unique turn-around story of the Indian manufacturing sector.

6. Indigenous CAR-T cell therapy now available for commercial use

Why in news?

- Months after India's drug regulator gave the green light for CAR-T cell therapy, Dr (Col) V K Gupta became one of the first patients to receive the treatment.
 - **NexCAR19 is India's first indigenously-developed CAR-T cell therapy.**
 - In November 2023, the **Central Drugs Standard Control Organisation (CDSCO)** granted market authorisation for NexCAR19 to ImmunoACT (a company incubated by IIT Bombay).
- Doctors at Tata Memorial Hospital, where Gupta had the procedure, reported that he is now free of cancer cells. Gupta is the first commercial patient to reach this status.

What's in today's article?

- CAR-T cell therapy
- NexCAR19

What is CAR-T cell therapy, and how do CAR-T cells find and destroy cancer cells?

TREATMENT FOR SPECIFIC B-CELL CANCERS

NexCAR19 is a prescription drug for B-cell lymphomas, lymphoblastic leukaemias when other treatments have been unsuccessful

PATIENT'S WHITE blood cells are extracted by a machine through a process called leukapheresis and genetically modified, equipping them with the tools to identify and destroy the cancer cells.

NEXCAR19 IS manufactured to an optimal dose for the patient, and typically administered as a single intravenous infusion. Prior to this, the patient is put through chemotherapy to prime the body for the therapy.

HOW NEXCAR19 WORKS

T-cells are naturally made by the body as an advanced defence against viruses and cancer cells. As T-cells mature, they develop specific connectors (receptors) to target key signals on cancer cells.

Scientists have identified certain proteins that are abnormally expressed on the surfaces of specific types of cancer cells. Specially designed receptors can find and bind to these cells.

However, cancers can limit the inbuilt extent and efficiency with which T-cells are able to seek and fight them. This results in an increase in cancer burden.

A safe shell of a virus is used to genetically engineer T-cells so they express Chimeric Antigen Receptors — connectors that target a protein called CD19 on B-cell cancer.

- CAR-T is a **revolutionary therapy that modifies immune cells, specifically T-cells, by turning them into potent cancer fighters known as CAR-T cells.**
- T-cells are **special cells (white blood cells that find and fight illness and infection) whose primary function is cytotoxic, meaning it can kill other cells.**
- CAR-T therapy, we genetically modify them into cancer-fighting cells.

- These supercharged cells are then put back into the body, and they go after cancer cells — especially in blood cancers like leukaemia and lymphomas.

How effective and different is this from other cancer treatments like chemotherapy?

- While chemotherapy and immunotherapy may add a few months or years to a cancer patient's life, **cell-and-gene therapy is designed to cure and provide lifelong benefit.**
- It makes treatment easier with a one-time therapy [unlike several sessions of chemotherapy].
- It is a **lifeline for non-responsive cancer patients.**

What is NexCAR19?

- NexCar19 is a type of **CAR-T and gene therapy** developed indigenously in India by ImmunoACT, which is a company incubated at IIT Bombay.
- **This therapy is designed to target cancer cells that carry the CD19 protein.**
 - This protein acts like a flag on cancer cells, which allows CAR-T cells to recognise and attach themselves to the cancer cells and start the process of elimination.
- India is now **one of the first developing countries** to have its indigenous CAR-T and gene therapy platform.

Who can get the NexCAR19 therapy?

- The therapy is for people with B-cell lymphomas who did not respond to standard treatments like chemotherapy, leading to relapse or recurrence of the cancer.
 - **B-cell lymphoma is a type of cancer that starts in white blood cells called lymphocytes.**
 - Lymphocytes make antibodies, which are proteins that help fight infections.
 - They are often **found in lymph nodes or other lymphoid tissues such as the spleen.**
- Essentially, patients only need to give a blood sample at their clinic, and come back in 7-10 days for reinfusion.
 - The blood goes to the lab, where the T-cells are genetically modified. In a week to 10 days, these cells return to the clinic for patient reinfusion.
- Recovery typically occurs within two weeks after one cycle of the treatment.

Are children eligible for the therapy too?

- For now, **ImmunoACT has received CDSCO approval for use in patients aged 15 years and older.**
- The paediatric trial phase is currently underway at the Tata Memorial Hospital, in collaboration with IIT-Bombay.

What are the side-effects of this therapy?

- NexCar19 leads to significantly lower drug-related toxicities. It causes minimal damage to neurons and the central nervous system, a condition known as **neurotoxicity**
 - **Neurotoxicity can sometimes occur when CAR-T cells recognise the CD19 protein and enter the brain, potentially leading to life-threatening situations.**
- The therapy also results in minimal Cytokine Release Syndrome (CRS).
 - **CRS is characterised by inflammation and hyperinflammation** in the body due to the death of a significant number of tumour cells, as CAR-T cells are designed to target and eliminate cancer cells.

How much will this treatment cost?

- Currently, the treatment at a price range of Rs 30-40 lakh and the target to the company is to bring it down to Rs 10-20 lakh.
- As technology matures and manufacturing processes improve, it is anticipated that the cost will decrease.

7. Fisheries Sector in India

Why in the News?

- The **Union Cabinet has approved the Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY), a sub scheme under the Pradhan Mantri Matsya Sampada Yojana.**

Fisheries Sector in India:

- Fisheries and aquaculture are an important source of food, nutrition, employment and income in India.
- The sector **provides livelihood to more than 25 million fishers and fish farmers at the primary level** and twice the number along the value chain.
- India is the **3rd largest fish producing country**, contributing 8 percent to the global fish production and ranks **2nd in aquaculture production.**
- The fish production in 2021-22 is 16.24 Million Tonnes (MTs) comprising of marine fish production of 4.12 MTs and 12.12 MTs from Aquaculture.

Challenges Faced by the Fisheries Sector:

- **Overfishing/Unsustainable Fishing:**
 - Overfishing refers to the **practice of catching fish faster than they are able to reproduce.**
 - The large fish are particularly vulnerable to this, as they live many years and are slow to reproduce.
 - **As overfishing takes place over time, these species become depleted and fisherman begin "fishing down the food chain,"** shifting focus from catching predators to species lower in the food web, like sardines and squid.
 - Removing these prey species from the marine environment impact predators and the aquatic ecosystem.
 - Fishing subsidies are estimated to be as high as **USD 35 billion worldwide**, of which USD 20 billion directly contributes to overfishing.
 - According to Food and Agriculture Organization (FAO) data, the **percentage of stocks fished at biologically unsustainable levels increased from 10 percent in 1974 to 34.2 percent in 2017.**
- **Bycatch:**
 - Bycatch **refers to the fish, seafood, turtles, seabirds and other animals that are not targeted by fisheries, but are incidentally caught by broad-sweeping fishing mechanisms like gillnets and bottom trawls.**
 - Both these methods account for the careless and wasteful deaths of countless sea creatures every day.
- **Illegal Fishing:**
 - As fish species become more depleted and demand for product rises, there have been increases in illegal fishing.
 - **This takes many forms, including:** keeping undersized fish, fishing in territories without permission, catching fish off-season, failing to record catch information, and using illegal procedures.

- Other key challenges faced, to a certain extent, include **increasing availability of quality seed, cold chain, meeting requirements of infrastructure and post-harvest infrastructure.**

Steps Taken by the Government for the Fisheries Sector:

- The **Indian Blue Revolution** has led to a major improvement the fishing and aquaculture industries.
- The industries are regarded as sunrise sectors and are anticipated to have a big impact on the Indian economy.
- The **Department of Fisheries has taken several steps for robust fisheries management:**
 - Imposing of uniform fishing ban in the Indian Exclusive Economic Zone (EEZ) beyond territorial waters in East and West Coasts for a period of 61 days annually,
 - Ban on destructive fishing methods,
 - Discouraging juvenile fishing,
 - Promotion of river and sea ranching,
 - Diversification of fisheries activities,
 - Use of by-catch and juvenile fish excluders, turtle exclusion devices,
 - Providing need-based support to States/UTs for formulation and implementation of fisheries management plans,
 - Promotion of deep sea fishing and measures to protect the aquatic ecology.
- Foreseeing the immense potential for development of fisheries and for providing focused attention to the sector, the Government in its **Union Budget for 2019-20**, announced a new scheme, the **Pradhan Mantri Matsya Sampada Yojana.**

About Pradhan Mantri Matsya Sampada Yojana (PMMSY):

- The **PMMSY intends to address critical gaps in fish production and productivity, quality, technology, post-harvest infrastructure and management, modernisation and strengthening of value chain, establishing a robust fisheries management network and fisheries' welfare.**
- **Motto:** All round development of Fisheries sector through a bunch of diverse interventions along the fisheries value chain right from production to consumption.
- **Implementing Agency:** Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying
- **Estimated Investment: Rs. 20,050 crores** (For the period of 2020-21 to 2024-25)
 - This investment is the highest ever investment in the fisheries sector yet.

Aims/Objectives of the PMMSY:

- Harnessing of fisheries potential in a sustainable, responsible, inclusive and equitable manner.
- Enhancing of fish production and productivity through expansion, intensification and productive utilisation of land and water.
- Modernising and strengthening of value chain.
- **Enhancing exports to Rs. 1 lakh crores by 2024-25.**
- Doubling fishers and fish farmers income and generation of employment.
- Social, physical and economic security for fishers and fish farmers.
- Robust fisheries management and regulatory framework.

Funding Pattern & Implementation of the PMMSY:

- **The PMMSY is an umbrella scheme with two separate components – Central Sector Scheme and Centrally Sponsored Scheme.**

- **Central Sector Scheme:** The project cost will be borne by the Central government
- **Centrally Sponsored Scheme:** All the sub-components/activities will be implemented by the States/UTs and the cost will be shared between Centre and State.

News Summary:

- The Union Cabinet has approved the **Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)**, a sub scheme under the Pradhan Mantri Matsya Sampada Yojana.
 - The scheme was originally announced in the Union Budget 2023-24.
- The scheme was announced with targeted investment of **6,000 crore** with the objective to **enhance further the earnings and incomes of fishermen, fish vendors and micro & small enterprises engaged in fisheries sector.**
- The sub-scheme PM-MKSSY is with 50% public finance, including the World Bank and the Agence Française de Développement (AFD) external financing.
 - The rest 50% being the anticipated investment from the private sector leverage.
- It is aimed at gradual formalisation of fisheries sector and enhanced access to institutional credit.
- **“The initiative will support 6.4 lakh micro-enterprises and 5,500 fisheries cooperatives, providing access to institutional credit,”** the press release said.
- It is projected to create 1.7 lakh new jobs, with a special emphasis on employing 75,000 women and also aims to generate 5.4 lakh continued employment opportunities in the micro and small enterprises value chain.

8. RBI MPC Meeting 2024

Why in news?

- The **Monetary Policy Committee (MPC) of the Reserve Bank of India (RBI) has kept the main policy instrument, the repo rate, unchanged at 6.5%.**
- The decision was taken by a 5-1 majority by the six-member MPC in its bi-monthly policy review.

Monetary Policy Committee (MPC)

- **The Committee**
 - Under Section 45ZB of the amended RBI Act, 1934, the central government is empowered to constitute a six-member Monetary Policy Committee (MPC).
 - MPC will determine the policy interest rate required to achieve the inflation target. **The first such MPC was constituted in September 2016.**
- **Members of MPC**
 - As per the amended RBI act, the MPC shall consist of
 - the RBI Governor as its ex officio chairperson,
 - the Deputy Governor in charge of monetary policy,
 - an officer of the Bank to be nominated by the Central Board, and
 - three persons to be appointed by the central government.
- **Functions of MPC**
 - **Setting Policy Interest Rates:** The primary function of the MPC is to determine the policy interest rates, specifically the repo rate.
 - **Inflation Targeting:** The current inflation target set by the government is a Consumer Price Index (CPI) inflation target of 4% with a tolerance band of +/- 2%.

- **Economic Analysis and Forecasting:** The MPC conducts thorough analysis and forecasting of various economic indicators, including inflation, GDP growth, employment, fiscal conditions, and global economic developments.
- **Decision-Making:** The MPC meets at least four times a year to review the monetary policy stance.

Central Bank Digital Currency (CBDC)

- **About**

- **CBDC is the legal tender issued by a central bank in a digital form.**
 - The digital rupee (e-Rupee) is the digital currency launched by Reserve Bank of India.
- It is the **same as a fiat currency** and is exchangeable one-to-one with the fiat currency, only its form is different.

- **Launch of Digital Rupee**

- RBI has demarcated the digital rupee into **two broad categories: general purpose (retail) and wholesale.**
 - This demarcation is based on the usage and the functions performed by the digital rupee and considering the different levels of accessibility.
- From November 1, 2022, RBI launched its first pilot project to use digital rupee in the **wholesale market for secondary trade in government securities (G-secs).**
- From December 1, 2022, **retail digital rupee (e-R)** pilot was launched.
 - In effect, the **retail e-rupee is an electronic version of cash, and will be primarily meant for retail transactions.**
 - It is available for use by all — the private sector, non-financial consumers and businesses.
 - It will be **distributed through intermediaries, i.e., banks.**
 - It will not earn any interest and can be converted to other forms of money, like deposits with banks.

News Summary: RBI MPC Meeting 2024

- The Reserve Bank of India's Monetary Policy Committee has decided to keep the policy repo rate unchanged at 6.5%.
 - The repo rate is the interest rate at which commercial banks take or borrow money from the Reserve Bank of India.

Key highlights of the MPC meeting 2024

- **Benchmark interest rate**

- **Benchmark interest rate or repo rate kept unchanged at 6.5%.**
 - This is the sixth monetary policy on the trot when the MPC has kept the repo rate unchanged at 6.5%.
- A major reason for the continued pause in the repo rate is that retail inflation continues to remain above the 4% target of the RBI.

- **Retained the policy stance as withdrawal of accommodation**

- The RBI has retained the policy stance as 'withdrawal of accommodation' despite the deficit in the liquidity in recent weeks.
 - Withdrawal of accommodation means reducing the money supply in the system to control inflation.

- However, analysts believe there is a strong case for the RBI to change its stance from 'withdrawal of accommodation' to 'neutral'.
- **Growth**
 - GDP growth for FY25 projected at 7%, lower than 7.3% this fiscal.
 - **Indian economy is making confident progress on strong, sustained growth path.**
 - It further noted that the rural demand continues to gather pace, urban consumption remains strong.
 - It said that the Govt is adhering to fiscal consolidation path and domestic economic activity remains strong.
- **Inflation**
 - Retail inflation to average 5.4% this fiscal, to come down to 4.5% in FY25.
 - Rural demand continues to gather pace, urban consumption remains strong.
 - Uncertainty in food prices continue to impinge on headline inflation.
 - Increasing geopolitical tensions are impacting supply chain, putting pressure on commodity prices.
- **On monetary transmission**
 - MPC noted that the monetary transmission by financial institutions still remains incomplete.
 - The transmission of monetary policy describes how changes made by the Reserve Bank to its monetary policy settings flow through to economic activity and inflation.
- **Forex reserve& exchange rate**
 - Forex reserve stood at \$622.5 billion; comfortable for meeting foreign obligations.
 - Exchange rate of Indian rupee remained fairly stable in the current fiscal.
- **Introduction of offline functionality in Central Bank Digital Currency (CBDC)-Retail**
 - RBI announced to introduce an offline functionality in CBDC-Retail for transactions in areas with poor or limited internet connectivity.
 - The **CBDC Retail (CBDC-R) pilot currently enables Person to Person (P2P) and Person to Merchant (P2M) transactions.**
 - It is now proposed to enable additional functionalities of **programmability and offline capability** in CBDC retail payments.
 - Programmability will facilitate transactions for specific/targeted purposes.
 - Offline functionality will enable these transactions in areas with poor or limited internet connectivity.
- **Mandatory Key Fact Statement (KFS) for all retail, MSME loans**
 - All lenders will now have to provide KFS about the terms of the loan agreement, including all-inclusive interest cost, to borrowers for retail as well as MSME loans.
 - **A KFS is a standardized document that provides a concise summary of a product's key features and risks. It clearly explains lending terms.**
- **Enhancing the Robustness of AePS**
 - **Aadhaar Enabled Payment System (AePS), operated by NPCI, enables customers to perform digital payment transactions in assisted mode.**
 - In 2023, more than 37 crore users undertook AePS transactions, which points to the important role played by AePS in financial inclusion.
 - To enhance the security of AePS transactions, it is proposed to streamline the onboarding process, including mandatory due diligence, for AePS touchpoint operators, to be followed by banks.
 - Additional fraud risk management requirements will also be considered.

9. Forest (Conservation) Act and SC Judgement

Why in news?

- The Supreme Court told States and Union Territories to act as per the definition of 'forest' laid down in its 1996 judgment for identifying and preserving forest land.
- It asked States/UTs to refrain from using the 2023 amendment to the Forest (Conservation) Act.
 - **The amendment act allegedly removed 1.97 lakh square km of land from forest area.**

Definition of forest in India

- **No clear definition**
 - At present, in India, there is no clear nationally-accepted definition of 'forest'.
 - In September 2019, **the Forest Advisory Committee (FAC) observed that there cannot be any uniform criteria to define forest which can be applicable to all forest types in all states and union territories.**
- **Responsibility of States**
 - States are responsible for determining their definition of forests.
 - In November 2019, the environment ministry emphasised that the states, having well-established forest departments.
 - They are in a better position, rather than the MoEFCC, to understand their own forests and needs, and should frame criteria for their forests.
 - The prerogative of the states to define forests stems from a 1996 Supreme Court order called **the T.N. Godavarman Thirumulpad Vs the Uoi**
- **Godavarman Thirumulpad judgment**
 - In 1995, **T.N. Godavarman Thirumulpad filed a writ petition with the Supreme Court to protect the Nilgiris forest land from deforestation by illegal timber operations.**
 - One of the aspects of the judgement is related to the meaning of the word forest.
 - In the judgement, the **Supreme Court interpreted that the word forest must be understood according to its dictionary meaning.**
 - This description covers all statutorily recognised forests, whether designated as reserved, protected or otherwise.
 - The ruling instructed state governments to form a panel of experts to recognize, declare, and outline areas as forests.
 - It also offered additional instructions on managing forest areas, including **transferring forest land for non-forest purposes, as per the Forest Conservation Act, 1980.**

Forest Conservation Act

- **The Forest Conservation Act 1980**
 - It was enacted to -
 - protect India's forests and
 - empower the Central government to regulate the extraction of forest resources (from timber and bamboo to coal and minerals) by industries as well as forest-dwelling communities.
- **Forest (Conservation) Amendment Act 2023**
 - **Inserted a 'preamble'** that underlines -
 - India's commitment to preserving forests, their biodiversity and tackling challenges from climate change and

- Amending the name of the Act to **Van (Sanrakshan Evam Samvardhan) Adhiniyam (translated as Forest Conservation and Augmentation)** from the existing Forest (Conservation) Act.
- **The Act would only apply to:** Lands notified in any government record as ‘forest’ on or after 1980.
- **Exemptions:** The Act would not apply -
 - If notified forest land was legally diverted between 1980 and 1996, for non-forest use.
 - **To forest land situated 100 km away from international borders** and to be used for “strategic projects of national importance” or
 - **To land ranging from 5-10 hectares for security and defence projects.**
- The Act specifies some activities that can be carried out in forests, such as establishing check posts, fencing, and bridges.
- The Bill also allows running zoos, safaris and eco-tourism facilities.
- The **state government requires prior approval of the central government to assign any forest land to a private entity.**
 - The Bill extends this to all entities, and allows the assignment to be made on terms and conditions specified by the central government.

Background

- **Petitions filed in SC against**
 - **Petitions were filed challenging the amendments introduced in 2023 to the Forest (Conservation) Act, 1980.**
 - The petitions had argued that Section 1A introduced through the amended Act had substantially diluted the definition of forest to two categories:
 - declared forests and
 - lands recorded as forests in ‘government records’ after 1980.
- **Stand of Centre**
 - The government rejected claims of reducing forest coverage.
 - It **highlighted an amendment to Section 1A, broadening the definition of government records to include lands recognized as forest by state or union territory authorities, local bodies, councils, or recognized communities.**


News Summary: Forest (Conservation) Act and SC Judgement

- The Supreme Court issued a temporary order instructing States and Union Territories to follow the 1996 definition of forest from the T.N. Godavarman Thirumalpad case.

Key highlights of the judgement

Verdict on woods

Some of the observations made by the SC over the pleas challenging the 2023 amendments to the Forest (Conservation) Act, 1980



- The “all-encompassing” dictionary meaning will continue to hold field until the States and Union Territories prepare a consolidated record of forest lands
- Environment Ministry should issue a circular in this regard to the States and Union Territories
- Establishment of “zoos or safaris” must have the final approval of the top court

- **Forest will continue to have a broad and all-encompassing meaning**

- SC directed that the expression 'forest' will continue to have a "broad and all-encompassing" as per the 1996 judgement.
 - **This means it includes 1.97 lakh square km of undeclared forest lands.**
- The Bench emphasized that the broad dictionary meaning of "forest" upheld by the Supreme Court over 25 years ago will still apply.
- **This will continue until the States and union territories compile a comprehensive record of all lands marked as 'forest' in government records, including forest-like areas, unclassified, and community forest lands.**
- **Directions to states**
 - SC also directed states to file, by the end of March, reports on forest land identified as per its ruling in the T N Godavarman case.
- **Establishment of zoos or safaris**
 - The Bench also mandated that no government or authority should proceed with the establishment of "zoos or safaris" without the final approval of the apex court.

10. Household Consumption Expenditure Survey 2022-23 Report - Analysis

Why in news?

- Recently, the **Ministry of Statistics and Programme Implementation, released data on household consumption expenditure for the year 2022-23.**
- The data shows per capita monthly household expenditure more than doubled in 2022-23 as compared to 2011-12.

What's in today's article?

- Key takeaways from the 2022-23 survey

Key takeaways from the 2022-23 survey

- **Share of spending on food in India changed over the last 20-odd years**
 - Between 1999-2000 and 2022-23, the share of expenditure on food has gradually declined for both urban and rural households.
 - However, it is for the first time that expenditure on food has fallen to less than 50 per cent of the total consumption expenditure in rural India, and to less than 40 per cent in urban India.
- **Within foods, what are we eating?**
 - The share of cereals and pulses within overall food consumption expenditure has reduced, both in rural and urban areas.
 - The share of spending on milk has increased, so much so as to overtake that on cereals and pulses combined — i.e. foodgrains — in 2022-23.
 - **The average rural as well as urban Indian has, for the first time in 2022-23, spent more on fruits and vegetables than on foodgrains.**
 - The spending on vegetables alone exceeded that on cereals, and likewise for fruits vis-a-vis pulses.
 - **A growing share of the consumer rupee is also going to eggs, fish and meat.**
 - When combined with the rising and falling shares of milk and pulses respectively, it suggests a clear preference among Indian consumers for animal proteins over plant proteins.

- Indians are spending more, as a percentage of their total expenditure, on processed foods, beverages and purchased cooked meals.
- **Spending on food and the items consumed supports Engel Curve hypothesis**
 - Named after the 19th century **German statistician Ernst Engel**, it broadly states that as incomes grow, households spend a smaller proportion of that on food.
 - Even within food, they would buy more of “superior” and less of “inferior” items.
 - In the present case, cereals, sugar and pulses are inferior, while milk, egg, fish, meat, fruits and vegetables, beverages and processed foods are superior.
- **Narrowing rural-urban gap**
 - The data shows consumption in rural areas is growing faster than in urban areas, thereby narrowing the gap.
 - If the trend continues, it is possible that urban and rural incomes and consumption will be the same in the coming years.
- **The average monthly per capita consumption expenditure (MPCE) of agricultural households**
 - For the first time, **MPCE of agricultural households has fallen below the overall average of rural households.**
 - The average MPCE of families self-employed in agriculture was Rs 3,702 in 2022-23, while the overall average of rural households was Rs 3,773.
 - **The gap between the MPCE of agricultural families and the overall average of rural households has been narrowing over the years.**
 - The MPCE of casual labourers and regular wage earners engaged in agriculture was also lower than the rural average
- **Need to review the inflation basket**
 - **Inflation is calculated based on the changes in the price levels of items in a large basket.** These items must ideally reflect what Indians are consuming.
 - The **Consumer Price Index (CPI)-based inflation, also called retail inflation, is currently based on a basket that was decided in 2012.**
 - However, over the last 11 years, as the latest Household Consumption Expenditure (HCE) Survey 2022-23 shows, a lot has changed.
 - **For example, the CPI (Rural) basket assigns a weightage of 12.35 per cent to ‘cereals and products’.**
 - But as discussed above, the latest HCE Survey shows rural households spend just 4.91 per cent on cereals (and cereal substitutes).
- **On poverty**
 - As per NITI Aayog CEO B V R Subrahmanyam, **the latest consumer expenditure survey indicates that poverty has come down to five per cent in the country.**
 - People are becoming prosperous both in rural and urban areas.
 - The data showed that the average per capita monthly expenditure for all categories stood at Rs 3,773 in rural areas and Rs 6,459 in urban areas.
 - The average per capita monthly expenditure of 0-5% fractile (bottom 5%) class is pegged at Rs 1,373 in rural areas and Rs 2,001 in urban areas.
- **Demand for a legal guarantee to MSP and the survey data**
 - The **demand for a legal guarantee to MSP is mainly from farmers of 23 crops, including foodgrains and sugarcane.**

- But farm sector's growth is being led by livestock, fisheries and horticulture crops outside MSP purview.
- However, the survey data shows that their growth is largely market demand-driven.
- **Hence, it raises an important question:**
 - if consumption of milk, fish, poultry products, and fruits and vegetables is rising much more than cereals and sugar, shouldn't the focus be on promoting production of the former as opposed to the latter?

11. 10,000 human genomes sequenced in India

Why in news?

- Recently, the ambitious **Genome India initiative** achieved a significant milestone as researchers completed sequencing 10,000 healthy genomes from different regions of the country, representing 99 distinct populations.

What's in today's article?

- Genome sequencing
- Genome India Project
- News Summary

What is genome sequencing?

- **Human genome**
 - The **human genome is the entire set of deoxyribonucleic acid (DNA) residing in the nucleus of every cell of each human body.**
 - It carries the complete genetic information responsible for the development and functioning of the organism.
 - The **DNA consists of a double-stranded molecule built up by four bases – adenine (A), cytosine (C), guanine (G) and thymine (T).**
 - Every base on one strand pairs with a complementary base on the other strand (A with T and C with G).
 - In all, the genome is made up of approximately 3.05 billion such base pairs.
- **Genome sequencing**
 - While the sequence or order of base pairs is identical in all humans, there are differences in the genome of every human being that makes them unique.
 - **The process of deciphering the order of base pairs, to decode the genetic fingerprint of a human is called genome sequencing.**
 - In other words, **Genome sequencing is the process of determining the complete DNA sequence of an organism's genome.**
 - There are several methods of genome sequencing, but the most common is called next-generation sequencing (NGS).
 - **NGS allows for rapid, accurate, and cost-effective sequencing of large amounts of DNA.**
- **Human Genome Project (HGP)**
 - In **1990, a group of scientists began to work on determining the whole sequence of the human genome under the Human Genome Project.**

- The project released the latest version of the complete human genome in 2023, with a 0.3% error margin.
- The **process of whole-genome sequencing, made possible by the Human Genome Project**, now facilitates the reading of a person's individual genome to identify differences from the average human genome.
- These differences or mutations can tell us about each human's susceptibility or future vulnerability to a disease, their reaction or sensitivity to a particular stimulus, and so on.

What are the applications of genome sequencing?

- **To evaluate rare disorder**
 - **Genome sequencing has been used to evaluate rare disorders, preconditions for disorders, even cancer from the viewpoint of genetics, rather than as diseases of certain organs.**
 - Nearly 10,000 diseases — including cystic fibrosis and thalassemia — are known to be the result of a single gene malfunctioning.
- **Tool for prenatal screening**
 - It has also been used **as a tool for prenatal screening**, to investigate whether the foetus has genetic disorders or anomalies.
 - **Technology Crispr**, which relies on sequencing, may potentially allow scientists to repair disease-causing mutations in human genomes.
- **In public health**
 - Sequencing has been used to read the codes of viruses.
 - In January 2020, at the start of the Covid-19 pandemic, Chinese scientist sequenced the genome of a novel pathogen causing infections in the city of Wuhan.
 - Later, **genome sequencing of the virus led to the development of vaccine and the creation of diagnostic PCR machines.**
 - India also put in place a sequencing framework. The **Indian SARS-COV-2 Genomics Consortia (INSACOG)** was tasked with scanning coronavirus samples from patients.
- **Uses at the population level**
 - Advanced analytics and AI could be applied to essential datasets created by collecting genomic profiles across the population.
 - This would allow to develop greater understanding of causative factors and potential treatments of diseases.

What is Genome India project?

- The **Genome India Project is a gene mapping project sanctioned by the Department of Biotechnology.**
- It was launched with the goal of creating a comprehensive database of genetic variations among the Indian population.
- **The project aims to sequence the genomes of over 10,000 Indians from different regions of the country and establish a reference genome for the Indian population.**

What is the significance of the Genome India project?

- **To learn about genetic variants unique to the Indian population**
 - This project allows researchers to learn about genetic variants unique to India's population groups and use that to customise drugs and therapies.

- E.g., a mutation MYBPC3 that leads to cardiac arrest at a young age is found in 4.5% of the Indian population but is rare globally.
- Or, another mutation called LAMB3 that causes a lethal skin condition is found in nearly 4% of the population near Madurai but it is not seen in global databases.
- **Database for 1.3 billion population**
 - India's 1.3 billion-strong population consists of over 4,600 population groups, many of which are endogamous.
 - Thus, the Indian population harbours distinct variations, with disease-causing mutations often amplified within some of these groups.
 - Findings from population-based or disease-based human genetics research from other populations of the world cannot be extrapolated to Indians.

News Summary: 10,000 human genomes sequenced in India

- The **Department of Biotechnology announced the completion of the '10,000 genome' project — an attempt to create a reference database of whole-genome sequences out of India.**
- This accomplishment has culminated in the creation of a comprehensive genetic map of India, which holds immense potential for clinicians and researchers alike.
- **India is the largest genetic lab in the world. This data can help drive the biology sector in the country as well.**
 - **India's bio-economy has grown 13 folds in the last 10 years from \$10 billion in 2014 to over \$130 billion in 2024.** It will spearhead India's future growth.
- The entire dataset will be stored at the Indian Biological Data Centre (IBDC) and will be made available as a digital public good or research.
 - **Inaugurated in 2022, the IBDC is the country's only databank.**
 - Prior to that Indian researchers had to host their biological datasets on American or European servers.



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1ST FEB

1. PSLV Orbital Experimental Module-3 (POEM-3):

POEM-3 has successfully achieved all its mission objectives.

- It is unique inexpensive space platform using spent PS4 stage of PSLV-C58 vehicle that launched XPoSat.
- POEM-3 flew with 9 Payloads from academia, and Space startups, etc., inducted through IN-SPACE.
- Payloads included **RUDRA, ARKA-200, Green Impulse TrAnsmmitter (GITA), Dust Experiment (DEX), etc.**
- With orbital decay and reentry of POEM-3 in 3-months, PSLV-C58 XPoSat mission will be leaving zero debris in space.
- In missions of POEM-1 to POEM-3, ISRO has flown a total of 21 payloads.

2. StartupShala: Department for Promotion of Industry and Internal Trade (DPIIT) launched 'StartupShala' - Startup India's flagship accelerator program.

- Launched in 2016, Startup India is a flagship initiative of DPIIT to support entrepreneurs and build a robust startup ecosystem in India.
- **About StartupShala**
 - Sector-specific initiative for existing entrepreneurs to provide them access to knowledge, network, funds, and guidance required to scale up.
 - Three month long accelerator program.
 - 2 Cohorts - Clean Technology and Deep Technology.
 - 20 startups will be selected from each cohort.

3. Corruption Perceptions Index (CPI), 2023: India ranked 93 out of 180 countries on Corruption Perceptions Index 2023.

- India was ranked 85 in 2022.
- **Released by:** Transparency International
- Ranks countries and territories by their perceived levels of public sector corruption, on a scale of 0 (highly corrupt) to 100 (very clean).
- In 2023, Denmark ranked first, followed by Finland, New Zealand, and Norway.

4. Plastic Credit Bond (PCB): World Bank and Citi launched \$100mn Plastic Credit Bonds in Ghana and Indonesia.

- It is an innovative financial instrument that leverages private capital to address plastic pollution.
- Provide investors with a financial return linked to Plastic Waste Collection Credits, Plastic Waste Recycling Credits (referred collectively as plastic credits).
- **Benefits:** Reduce and recycle plastic waste, improve air quality, create jobs in marginalized communities, etc.

2ND FEB

1. Asteroid Bennu: Recently, NASA unlocked a canister of dust from asteroid Bennu.

- Earlier NASA's OSIRIS-REx mission brought the sample from asteroid Bennu back to Earth.
- About Asteroid Bennu
 - **Type:** A small, near earth carbon-rich asteroid.
 - **Age:** Around 4.5 billion years old.
 - **Composition:** Established within 10 million years of the formation of our solar system.
 - **Close encounters:** Comes very close to Earth, every 6 years.
- Asteroids are small, rocky objects that orbit the Sun, they are much smaller than planets.
- **Main Asteroid Belt is found between Mars and Jupiter.**

2. Computerization Scheme for RCSs and ARDBs.:

Minister of Cooperation launched computerization scheme for offices of Registrar of Cooperative Societies (RCSs) and Agriculture and Rural Development Banks (ARDBs) of the states.

- Computerization Project of ARDBs
 - **Aims at computerizing 1851 units of ARDBs located in 13 States/UTs** and link them with NABARD through a Common National Software.
 - Will benefit small and marginal farmers, connected with ARDBs for credit and related services through Primary Agriculture Credit Societies (PACSS).
- Computerization of offices of RCSs

- For better **efficiency, accountability and transparency in RCS offices**, and ensuring linkage with national database

decreasing attention spans and strained real-world connections due to overdependence on technology, etc.

3. Interim Budget 2024-25: An interim budget is not like regular yearly budget presented by government, instead it presented in an election year.

- Like Union budget, interim budget too is debated in Lok Sabha before passage and is valid for entire year though it is merely a transition arrangement (usually 2-4 months).
- An **interim Budget conventionally is also called a 'vote-on-account'** because it serves as an authorisation to incur specific expenditures which is necessary till a new government comes to power.
- Under Article 116, a vote-on-account is an upfront allocation of grant from 'Consolidated Fund of India' to government to address immediate expenditure needs.

4. One District One Product (ODOP): The Department for Promotion of Industry and Internal Trade (DPIIT) is conducting events under its ODOP Sampark initiative to create awareness about ODOP.

- DPIIT is a department under the Ministry of Commerce and Industry.
- ODOP is aimed at fostering balanced regional development across all districts of the country.
- It aims to select, brand, and promote at least One Product from each District (One District - One Product) of the country across all regions.
- The States/UT would identify the food product for a district

3 FEB

1. Digital Detox: Karnataka Government announced Digital Detox Initiative in collaboration with **All India Game Developers Forum (AIGDF) and NIMHANS.**

- Digital Detox is a period of time during which one intentionally reduces amount of time spent online on electronic devices, like mobiles, laptops, etc.
- **Initiative seeks to ensure responsible gaming, through –**
 - Awareness, Digital Detox centres for personalized guidance, Community connection through workshops, etc.
- **Need of Digital Detox:** Mental health challenges,

2. Technology Development Fund (TDF): Green Propulsion System developed under TDF, successfully demonstrated in-orbit functionality on a payload launched by PSLV C-58.

- Project was sanctioned to **Bengaluru based start-up Bellatrix Aerospace Pvt Ltd.**
- Technology Development Fund
 - Flagship programme of **Ministry of Defence executed by DRDO under 'Make in India' initiative.**
 - Provides Grant-in-Aid to industries as well as academic and scientific institutions for development of Defence and dual use technologies in India.
 - Aims to create a bridge amongst the Armed Forces, research organizations, etc., with private sector entities.

3. Panel of Vice-Chairpersons in Rajya Sabha: Rajya Sabha Chairman reconstituted the panel of Vice Chairpersons.

- Chairman constitutes Panel of vice-chairpersons under Rule 8 of the Rules of Procedure and Conduct of Business in the Council of States (Rajya Sabha).
- These rules are framed under **Article 118 of the Constitution.**
- Any of the members of panel may preside over Rajya Sabha in absence of Chairman and Deputy Chairman.
- They hold office until a new panel is nominated.
- When offices of both Chairman and Deputy Chairman are vacant, duties of office of Chairman are performed by such member of Rajya Sabha as President may appoint.

4. Deemed to be University: Indian Institute of Mass Communication (IIMC) has been declared as a deemed to be University by the Education Ministry.

- A Higher education Institution, other than University, working at a very high standard in a specific area of study can be declared as 'Deemed-to-be-university'.
- Declared under section 3 of University Grants Commission (UGC) Act, 1956 on the advice of the University Grants Commission (UGC).
- Such Institutions enjoy academic status and privileges of a university

5TH FEB

1. Mekong River: Town of Luang Prabang in Laos, a UNESCO World Heritage Site, is facing the threat of losing its UNESCO status due to a dam project on Mekong river.

- Town reflects the fusion of Lao traditional urban architecture with that of the colonial era.
- Mekong river:
 - Trans-boundary river in Southeast Asia **originating in Glaciers of Tibet and drains in South China Sea.**
 - River flows through **China, Myanmar, Laos, Thailand, Cambodia and Vietnam.**

2. Types of US Visas: US has announced a steep increase in fees for various categories of non-immigrant visas like the **H-1B, L-1 and EB-5, the most popular among Indians.**

- H-1B visa allows US companies to employ foreign workers in specialty occupations that require theoretical or technical expertise.
- L-1 visa is a **visa category in the US that is designed for intracompany transferees.**
- It allows multinational companies to transfer certain employees from their foreign offices to work in the US temporarily.
- EB-5, or US golden visa, provides a special road for overseas investors and their families to seek permanent residency and Green Cards in the United States

3. World Wetland Day 2024 (WWD): WWD 2024 was celebrated at **Sirpur Lake Indore, Madhya Pradesh (MP) with theme- 'Wetlands and Human Wellbeing'**

- WWD is **observed on 2nd February** every year worldwide to commemorate the signing of the Ramsar Convention on Wetlands of International Importance in 1971.
- India has been a party to the Convention since 1982.
- **About Sirpur Lake**
 - It is a **human-made wetland.**
 - Located in the **city of Indore, MP.**
 - Lake is shallow, alkaline, nutrient-rich and prone to floods.

4. GHAR PORTAL: GHAR (GO Home and Re-Unite) Portal was launched earlier by **National Commission for Protection of Child Rights (NCPCR).**

- The portal digitally monitor and track restoration and repatriation of children as per the protocols under the Juvenile Justice (Care and Protection of Children) Act, 2015.
- About NCPCR
 - Apex body for safeguarding children's rights.
 - Constituted under the Commission for Protection of Child Rights (CPCR) Act, 2005
 - Consists of 1 chairperson and 6 members.
 - Present reports to central government annually.
 - NCPCR has responsibilities **under POCSO Act (2012), RTE Act(2009) as well.**

6TH FEB

1. NASA's Fission Surface Power Project: NASA completed first phase of its plans to put a nuclear fission reactor on the Moon.

- It focused on developing concept designs for a small, electricity-generating nuclear fission reactor that could be used during a future demonstration on the Moon and to inform future designs for Mars.
- **Significance**
 - Solar power systems have limitations on the Moon because a **lunar night lasts nearly 14 Earth days.**
 - But a nuclear reactor, even when placed in permanently shadowed areas (where there might be water ice), could generate continuous power without external dependence.

2. Exemptions under RTI Act, 2005: Recently, Delhi HC held that CBI is not completely exempted from disclosing information under RTI as per Section 24 of RTI Act.

- Section 24 of RTI Act
 - It **provides immunity from the Act,** to intelligence and security organizations specified in Second Schedule of the Act.
 - However, information pertaining to the allegations of corruption and human rights violations need to be disclosed by such agencies.
- Other Exemptions
 - **Section 8(1) lists exemption from disclosure of information. e.g. Information which,**
 - Would prejudicially affect sovereignty and integrity of India.
 - May constitute contempt of court or breach of privilege of Parliament etc.

3. Atmospheric river: California (the USA) has been hit by two back-to-back Atmospheric River storms.

- Atmospheric Rivers indicate narrow, elongated corridors of concentrated moisture transport associated with extratropical cyclones.
- Typically located within low-level jet, an area of strong winds in lower levels of atmosphere, ahead of cold front in an extratropical cyclone.
- These are largest transport mechanisms of freshwater on Earth.
- Strong landfall by interacting with topography, can deposit significant amounts of precipitation in short periods of time leading to flooding and mudslides.

4. One Stop Centres (OSCs): There are more than 700 OSCs set up across India.

- OSCs fall under Sambal Sub Scheme of Mission Shakti initiated by Ministry of Women and Child Development.
- Scheme of OSC is being implemented since 2015.
- Objectives
 - To provide integrated support and assistance to women affected by violence and in distress.
 - To facilitate emergency and non - emergency access to a range of services.
- Services offered
 - Medical assistance
 - Assistance to women in lodging FIR
 - Legal aid and counselling etc.

7TH FEB

1. Article 142 of Constitution: Supreme Court invoked Article 142 to **remit the 20-year sentence of a person convicted under Protection of Children from Sexual Offences Act (POCSO), 2012.**

- Judgement was delivered in response to curative petition.
- A curative petition is the last recourse open to a petitioner after the review petition is dismissed.
- **About Article 142**
 - Article exclusively enables the Supreme Court to issue or pass any order that it feels is necessary to provide 'complete justice' in a case before it.
 - Any decree so passed or order so made shall be enforceable throughout the territory of India

2. ABHYAS - High-speed Expendable Aerial Target (HEAT): Flight trials of ABHYAS-HEAT were successfully carried out by the Defence Research & Development Organisation (DRDO).

- Designed for **autonomous flying with the help of an autopilot.**
- Indigenously developed by the DRDO's Aeronautical Development Establishment (ADE).
- It has Radar Cross Section, Visual and Infrared augmentation system required for weapon practice.
- It has also a laptop-based Ground Control System.
- ABHYAS requires minimum logistics and is cost-effective compared to imported equivalents.

3. Motion of Thanks: Prime Minister replied to the 'Motion of Thanks' on the President's address.

- Article 87 of the Constitution requires President's Address after each general election.
- Also, after the first session of every fiscal year addresses both Houses of Parliament.
- **Motion of Thanks**
 - It is **moved in the Lok Sabha and the Rajya Sabha after the President's address by Member of Parliament of the ruling party.**
 - The **Motion of Thanks must be passed in the House.**
 - Its defeat amounts to the defeat of the government.
 - It can be adopted with amendments.

4. Non-Basmati Aromatic Rice Grading and Marking Rules, 2024: Rules by Centre are expected to be applicable for grading and marketing of five premium non-Basmati rice varieties of West Bengal.

- These are Gobindabhog, Tulaipanji, Kalonunia (all 3 have GI Tag), Kataribhog, and Radhunipagal.
- Under this, the authorised packers have to either set up their own laboratory or use an approved laboratory for testing the quality of rice.
- For domestic trade, **packers have to follow FSSAI standards and for export, they need to comply with the residual limits fixed by the Codex Alimentarius Commission** or importing countries.

8TH FEB

1. South Asia Subregional Economic Cooperation

(SASEC): Prime Minister laid the foundationstone of multiple road upgradation as part of the SASEC corridor connectivity.

- **Genesis:** Established in 2001.
- **Secretariat :** Asian Development Bank
- **Members:** Bangladesh, Bhutan, India, Nepal, Maldives, Sri Lanka, Myanmar
- **Objective:** It is a project-based partnership to promote regional prosperity by improving,
 - Cross-border connectivity
 - Boosting trade among member countries and
 - Strengthening regional economic cooperation
- **Four Main SASEC Sectors:** Transport, Trade facilitation, Energy, and Economic corridor development.

2. Prime Minister's Science, Technology &

Innovation Advisory Council (PM-STIAC): Principal Scientific Adviser (PSA) to the Government of India has convened the 24th PM-STIAC meeting.

- Constituted in 2018, **PM-STIAC advises the Prime Minister on all matters related to Science, Technology and Innovation.**
- Council works under the office of PSA and PSA acts as its chairperson.
- Objectives:
 - Synergizing Science & Technology collaborative research with various stakeholders.
 - Fostering effective public-private linkages for driving research
 - Formulating and coordinating major inter-ministerial Science & Technology missions.
- PM-STIAC shaped several missions such as Deep Ocean Exploration Mission, One Health Mission, National Quantum Mission, etc.

3. Nagoya Protocol: Cameroon, a central African country, has adopted the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization.

- Adopted in 2010 in Nagoya, Japan, it is a supplementary agreement to the Convention on Biological Diversity.
- **India is a party to the Nagoya Protocol.**
- It aims at sharing the benefits arising from the utilization of genetic resources in a fair and

equitable way.

- It establishes a clear framework on how researchers and companies can obtain access to genetic resources and associated traditional knowledge.

4. Bharat Brand: Ministry of Consumer Affairs, Food & Public Distribution launched 'Bharat Rice' at a subsidized rate.

- In the first phase, it will be offered to consumers through three central cooperative agencies - **Kendriya Bhandar, National Agricultural Cooperative Marketing Federation of India Ltd (Nafed), and National Cooperative Consumers' Federation of India (NCCF).**
- Earlier, the government has started retailing subsidized Wheat flour and Chana dal under the 'Bharat' Brand.
- It aims to **stabilize prices, curb food inflation, and augment domestic availability of these food items.**

9TH FEB

1. Dachigam National Park (DNP): Due to heavy snowfall, **Himalayan Black Bears are provided a special diet to aid them during hibernation period at rehabilitation centre of DNP.**

- Located in **Jammu and Kashmir** and spread in **Zabarwan mountain ranges** of great Himalayas.
- Occupies almost half of catchment zone of world famous Dal Lake.
- **Dagwan** is the major river in the park
- Holds the last viable population of Hangul or Kashmir stag (IUCN status: critically endangered) in world.
- **Poaching by Gujjars, Bakarwals is the main cause for Hangul decline.**
- Also, inhabits largest population of Asiatic black bear in Asia.

2. Safe City Project: UN Women will provide technical assistance to Kerala for the Safe City project and gender data hub.

- Established in 2010, **UN Women** is the UN organization dedicated to gender equality and empowerment of women.
- **Safe City Projects**
 - It is an **initiative of Ministry of Home Affairs (MHA) under Nirbhaya Funds Scheme.**
 - It aims to create a **safe, secure and empowering environment** for women in public places.

- **MHA has approved Safe City projects in 8 selected cities** - Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad and Lucknow.

3. Payment aggregators: Juspay, Zoho, and Decentro have received final authorisation from Reserve Bank of India (RBI) for Payment Aggregator (PA) licences.

- PAs are entities that facilitate e-commerce sites and merchants to accept various payment instruments from the customers without the need for merchants to create a separate payment integration system of their own.
- In the process, they receive payments from customers, pool and transfer them on to the merchants.
- PAs are different from Payment Gateways as latter only provide technology infrastructure to facilitate payment transaction without any involvement in fund handling

4. Kokborok: Tripura Board of Secondary Education (TBSE) has allowed both Roman and Bengali scripts for the Kokborok examination in Tripura.

- It is mother tongue of Borok people who are geographically known as Tripuris.
- Borok inhabits Tripura and other North-Eastern States along with Uttarakhand.
- Belonging to **Tibeto-Burman family, it is the lingua franca** (common language between speakers of different native languages) of most of Tripura's tribal communities.
- It is **recognized as one of the official state languages of Tripura.**

10TH FEB

1. Conservation Reserve: Telangana's State Board for Wildlife (SBWL) approved the **corridor area between Tadoba-Andhari Tiger Reserve and Kawal Tiger Reserve as a conservation reserve.**

- SBWL is established under the Wildlife (Protection) Amendment (WPA) Act, 2002, headed by Chief Minister or Administrator in case of UT.
- About Conservation Reserve:
 - A **protected area under the 'Wildlife (Protection) Act (WPA), 1972'** (added through the WPA Act of 2002).
 - **Acts as buffer zone to or connectors and migration corridors** between national parks,

wildlife sanctuaries and protected areas.

- Declared by the State Government, after consulting with the central government and the local communities.
- It is administered with the help of the Conservation Reserve Management Committee.

2. Natural gas flare: Recently, natural gas flare samples collected in USA revealed high variation in nitrogen oxides emission estimates.

- It is the burning of the natural gas associated with oil extraction.
- The flare's combustion converts hydrocarbons to carbon dioxide and water.
- The process lessens the climate impact and reduces the safety concerns of the natural gas. However, it also produces nitrogen oxides or NOx.
- NOx includes the highly reactive gasses such as nitric oxide and nitrogen dioxide which directly and indirectly impacts air quality.
- **In 2015, the World Bank and the United Nations, launched the Zero Routine Flaring by 2030 (ZRF) initiative.**

3. Key Fact Statement (KFS): Reserve Bank of India has mandated that all regulated entities provide a KFS to retail and MSME borrowers.

- It is a document that clearly explains lending terms and has key information regarding a loan agreement in a simple and easy-to-understand format.
- It enhances transparency in lending and enables customers to make informed decisions.

4. Kaladan Multi-Modal Transit Transport (KMTT) Project: Myanmar rebel's capture of Paletwa town adversely impacts KMTT project.

- Project Aims to provide connectivity between India and Myanmar from Ports on India's eastern seaport to Myanmar's Sittwe Port, and further to North East India.
- **4 stages –**
 - Kolkata to Sittwe port via Bay of Bengal.
 - Sittwe to Paletwa inland (River Kaladan).
 - Paletwa to India-Myanmar border post in Mizoram.
 - Border to Lawngtlai in Mizoram (NH 54).
- **Significance:** Improved access to South East Asia, improved connectivity to north eastern states, etc

12TH FEB

1. Alaskapox :-

- It is an **orthopox virus** that was **first discovered in Alaska, USA, in 2015**.
- It is a **double-stranded DNA virus** belonging to the **same genus** (Orthopoxvirus) as **smallpox, monkeypox, and cowpox**.
- Orthopoxviruses are **zoonotic viruses** that can **infect various mammals, including humans**.
- Current evidence indicates that the Alaskapox virus **primarily occurs in small mammals**. The virus has been most **commonly identified in red-backed voles and shrews**.
- **Signs and Symptoms:**
 - Symptoms of Alaskapox include one or more **skin lesions** (bumps or pustules) and **other symptoms like swollen lymph nodes and joint and/or muscle pain**.
 - Nearly all patients had mild illnesses that resolved on their own after a few weeks.
 - Immunocompromised people might be at increased risk for more severe illness.
- **Can people with Alaskapox infect other people?**
 - While **human-to-human transmission of Alaskapox has not yet been observed**, some orthopoxviruses can spread by direct contact with lesions (particularly broken skin contact with lesion secretions).

2. Sangeet Natak Academy:

- It is India's national academy of **music, dance and drama**.
- It was created by a resolution of the **Ministry of Education**, with P.V. Rajamannar as its first Chairman.
- It was set up in 1953 for the **preservation and promotion** of the vast **intangible heritage of India's** diverse culture expressed in forms of music, dance and drama.
- Presently, it is an Autonomous Body of the **Ministry of Culture**.
- The **Chairman** of the Akademi is **appointed by the President of India** for a term of five years.
- It is fully funded by the Government for the implementation of its schemes and programmes.
- The **Sangeet Natak Akademi Awards** are the highest national recognition conferred on practising artists.
- The Akademi also confers Fellowships on eminent

artists and scholars of music, dance and drama; and has in 2006 instituted annual awards to young artists – the **Ustad Bismillah Khan Yuva Puraskar**.

3. SWATI Portal:

- It is aimed at creating a single online portal representing Indian Women and Girls in **STEMM (Science, Technology, Engineering, Mathematics & Medicine)**.
- The database of the SWATI Portal will serve in policy-making to address the challenges of Gender-gap.
- The Portal is a complete interactive database; and the first of its kind in India which is developed, hosted and maintained by the National Institute of Plant Genome Research (NIPGR), New Delhi.

4. Features of UPI:

- Unlike traditional methods, UPI **simplifies transfers using the recipient's UPI ID**, be it a mobile number, QR code, or Virtual Payment Address, **eliminating account numbers**.
- It **eliminates the need to enter bank details** or other sensitive information each time a customer initiates a transaction.
- A **consistent UPI transaction PIN across apps** enhances cross-operability, enabling 24/7 transactions.
- UPI operates as a **digital public infrastructure**, allowing seamless interactions for all players, including merchants and customers, without transaction costs.
- UPI **uses technologies like the Immediate Payment Service (IMPS) and the Aadhaar-Enabled Payment System (AEPS) to ensure that payments between accounts go smoothly**.
- It **facilitates push (pay) and pull (receive) transactions** and **even works for over-the-counter or barcode payments**, as well as for **multiple recurring payments such as utility bills, school fees, and other subscriptions**.
- It also **works with "Peer-to-Peer" requests**, which can be scheduled and paid for based on need and convenience.

13TH FEB

1. Whale Phishing:

- A whale phishing or whaling attack is a **spear phishing attack that is aimed exclusively at a high-level executive or official.**
- The attacker typically impersonates a peer within the target's organization, or an equal or higher-level colleague or associate from another organization.
- **Because whaling attacks target individuals who can authorize larger payments, they offer the potential of a higher immediate payoff for the attacker.**

2. Gravitational Lensing:

- Gravitational lensing occurs when a massive celestial body — such as a **galaxy cluster** — **causes a sufficient curvature of spacetime for the path of light around it to be visibly bent, as if by a lens.**
- The body causing the light to curve is accordingly called a gravitational lens.
- According to Einstein's general theory of relativity, time and space are fused together in a quantity known as spacetime.
- Within this theory, massive objects cause spacetime to curve, and gravity is simply the curvature of spacetime.
- As light travels through spacetime, the theory predicts that the path taken by the light will also be curved by an object's mass.
- **Gravitational lensing is a dramatic and observable example of Einstein's theory in action.**

3. Event Horizon Telescope:

- The EHT is an **international collaboration that has formed to continue the steady long-term progress on improving the capability of Very Long Baseline Interferometry (VLBI)** at short wavelengths in pursuit of this goal.
- This technique of linking radio dishes across the globe to create an Earth-sized interferometer, has been used to **measure the size of the emission regions of the two supermassive black holes with the largest apparent event horizons: SgrA* at the center of the Milky Way and M87 in**

the center of the Virgo A galaxy.

- In both cases, the sizes match that of the predicted silhouette caused by the extreme lensing of light by the black hole. **Addition of key millimeter and submillimeter wavelength facilities at high altitude sites has now opened the possibility of imaging such features and sensing the dynamic evolution of black hole accretion.**
- The EHT project includes theoretical and simulation studies that are framing questions rooted at the black hole boundary that may soon be answered through observations.
- By linking together existing telescopes using novel systems, the EHT leverages considerable global investment to create a fundamentally new instrument with angular resolving power that is the highest possible from the surface of the Earth. Over the coming years, the international EHT team will mount observing campaigns of increasing resolving power and sensitivity, aiming to bring black holes into focus.

4. Nazool Land:

- Nazool land is **government-owned property.** However, usually it is not directly managed as state property.
- It is often leased to entities for fixed periods, ranging from 15 to 99 years.
- In case of lease expiry, one can approach the authority to renew the lease by submitting a written application to the revenue department of the local development authority.
- The government can either renew or cancel leases.
- **Origin**— Nazool land originated because kings and royals lacked documentation to prove ownership of lands seized during British rule.

How is it governed?

- While some states have issued government orders to frame rules for Nazool land.
- The Nazool Lands (Transfer) Rules, 1956, is the law mostly used for adjudicating Nazool land.

How does the government use Nazool land?

- The government typically uses Nazool land for public purposes such as **constructing schools, hospitals,**

Gram Panchayat buildings, etc.

- Many cities in India have large portions of Nazool land used for **housing societies, usually on lease**

14TH FEB

1. Convention on the Conservation of Migratory Species:

- It also known as the **Bonn Convention, is an environmental treaty under the aegis of the United Nations Environment Programme.**
- It provides a global platform for the conservation and sustainable use of migratory animals and their habitats.
- It was **signed in Bonn, Germany, on 23 June 1979.**
- It is the **only global and UN-based intergovernmental organisation established exclusively for the conservation and management of terrestrial, aquatic and avian migratory species throughout their range.**
- **It has two Appendices.**
 - **Appendix I** lists endangered migratory species and includes prohibitions regarding the take of these species.
 - **Appendix II** lists species that have an 'unfavourable conservation status' (as per the conditions set out in the Convention) and encourages range states to draft range-wide agreements for the conservation and management of these species.

2. E- Jagriti Portal:

- It is an **initiative of the Department of Consumer Affairs, Ministry of Consumer Affairs, Food, and Public Distribution.**
- It is a portal for consumer commissions.
- This portal has **been designed to further improve the customer experience.**
- It provides a simple, fast, and cost-effective consumer dispute redressal software solution at all levels.
- It is **envisaged to integrate consumer grievance platforms, namely, the Online Case Monitoring System (OCMS), E-Daakhil, the National Consumer Dispute Redressal Commission (NCDRC) Case Monitoring System, CONFONET website, mediation application, on a single platform.**

- The **e-Jagriti platform has case filing, online fee payment, case monitoring modules for seamless disposal of cases by all the Commissions, has Smart search facility on archived consumer complaints/cases/judgements using AI technology for metadata and keyword creation, and Voice-to-text conversion of judgements, case history and other details using AI / ML technology.**
- **The portal will integrate a Virtual court facility for a convenient and accessible resolution of consumer complaints, reducing the time of disposal, multiple hearings, and physical court appearances, bringing effective and fast decisions & disposals in all Consumer Commissions.**

3. Hastal Minar:

- **Location:** It is located in a small village in western Delhi.
- Its **construction was finished in 1634 during the reign of Mughal emperor Shah Jahan.**
- It is also known as **Mini Qutab Minar.**
- Among the locals, it is also known as **Hastsal Ki Laat and Kaushal Minar. Architecture it was constructed using lakhori bricks and clad with red sandstone.**
- The minar is 17 metres (five storeys) tall, standing on a square platform and with an octagonal body.
- A staircase inside the five-storey tower led to the domed Chhatri pavilion at the top.
- It has **three storeys, each with a reducing diameter, and is accessible through a narrow staircase.**
- **Shah Jahan utilised Hastsal as one of his hunting lodges during the 17th century.**

Present condition:

- In 2018, the minaret was deemed as Grade A in heritage value and was given permission to be conserved under Phase IV of the Delhi government's project to protect lesser-known monuments in the capital.

15TH FEB

1. Market Capitalization:

- Market Capitalization, or **Market Cap**, is a term used to **represent the market value of a company** based on its current share price and the total number of its outstanding shares.

- It can be **calculated by multiplying** the number of **outstanding shares** of a company **by the current price of its shares**.
- It **represents the market's perception of a company's worth** and indicates its size and significance in the financial markets.
- On the basis of market cap, companies may be classified as large-cap, mid-cap, or small-cap companies.
 - **Large-cap companies** are usually stable, reputable, and well-established businesses that have a significant market share. They have **market caps of INR 20,000 crore or more**.
 - **Mid-cap companies** have a market cap ranging from **INR 5,000 crore to INR 20,000 crore**.
 - **Small-cap companies** operate at a smaller scale than large-cap and mid-cap companies. Consequently, their market cap is also lower (**less than INR 5,000 crore**).

2. Tokenization of assets:

Definition– It is the process whereby ownership rights of an asset are represented as digital tokens and stored on a blockchain.

Tokens can act like digital certificates of ownership that can represent almost any object of value such as physical, digital, fungible, and non-fungible assets.

Mechanism of tokenised asset It involves several **step such as-**

- 1) Defining the token type (fungible or non-fungible)
- 2) Selecting the blockchain to issue the tokens on
- 3) Selecting a third-party auditor to verify off-chain assets, issuing the assets.

Significance of tokenised asset

- 1) **Liquidity**–An asset can be represented as millions or even billions of tokens, creating fractional ownership. This can be listed on a variety of widely available and accessible exchanges.
- 2) **Accessibility**–It allows a smaller investor to invest in riskier assets with relatively low capital.
- 3) **Transparency**– It allows for the open tracking and auditing of all records due to the fundamentally public nature of many blockchains.

3. Plasma Enhanced Chemical Vapour Deposition (PECVD):

Definition– Plasma Enhanced Chemical Vapour Deposition (PECVD) is a hybrid CVD process used to deposit thin films, where plasma energy drives the reactions between excited species and the substrate.

Applicability–This deposition technology is applicable when it is necessary to maintain low wafer temperatures while achieving desired film properties.

Mechanism to directly synthesizing CNTs on glass substrate-

Plasma is generated using a specially designed spiral-shaped fused hollow cathode source.

This innovative process bypasses the need for elevated temperatures and eliminates the necessity for a transition metal catalyst. **This synthesis is executed under atmospheric pressure, which makes it more cost-effective.**

Significance of Plasma Enhanced Chemical Vapour Deposition Technique (PECVD)

- 1) Researchers at the **Institute of Advanced Study in Science and Technology (IASST) in India** have developed a **groundbreaking method for direct CNT synthesis** on glass substrates using the Plasma Enhanced Chemical Vapour Deposition Technique (PECVD).
- 2) This **technique offers a more cost-effective and sustainable approach to CNT synthesis** because it operates at a lower temperature of 750 degree Celsius.
- 3) It eliminates the need for metal catalysts.
- 4) It will enable the production of clean CNTs suitable for applications in energy research, biomedical fields, and optoelectronics.
- 5) It will address existing challenges in CNT synthesis and advance their application in diverse technological fields.

4. Ultracold atoms Study

Definition– An ultracold atom is **an atom with a temperature near absolute zero**.

Properties– At low temperatures near absolute zero, atoms behave according to the principles of quantum mechanics rather than classical physics.

Ways to study ultracold atoms–

- 1) The commonly used techniques for the study of ultracold atoms is by deploying magneto-opticaltraps with high-power laser cooling techniques.
- 2) Cold atoms of elements like sodium, potassium, rubidium are commonly studied.
- 3) Detection techniques like the fluorescence, absorption or phase-contrast imaging techniques are used.
- 4) The imaging through fluorescence or absorption techniques are widely used.

Limitation of these techniques– The images obtained using these techniques suffer due to unwanted interference fringes. These are unwanted dark-bright patterns imprinted on the actual images. Thus, it lowers the quality of results obtained.

Significance of new image correction technique

- 1) It eliminates 50% of unwanted interference fringes in images. This is crucial for understanding the quantum mechanics properties of cold atoms
- 2) It is capable of getting better images during the study of cold atoms or atoms at absolute zero temperature.
- 3) It improves temperature uncertainty in cold Rubidium atoms by 50%.
- 4) It holds promise for the widespread application of absorption imaging in the study of ultracold atoms.

16TH FEB

1. Gulf Stream:

- It is a swift and warm ocean current that flows along the eastern coast of North America and crosses the Atlantic Ocean towards Europe.
- This extension towards Europe is known as the North Atlantic drift.
- The Gulf Stream transports more water than all the world's rivers combined.

Key characteristics:

- **Location:** It originates in the Gulf of Mexico. It then travels northward along the eastern coast of the United States. It follows a north-eastward path across the western North Atlantic Ocean.

- **Sources:** The two equatorial sources of the Gulf Stream are the North Equatorial Current (NEC), which flows generally westward along the Tropic of Cancer, and the South Equatorial Current (SEC), which flows westward from southwestern Africa to South America and then northward to the Caribbean Sea. Together, these two warm currents, along with waters from the Gulf of Mexico, form the Gulf Stream.
- **Warmth:** The current carries warm water from the tropics (around 25 to 28°C or 77 to 82°F) to higher latitudes.
- **Width and Speed:** The Gulf Stream is several hundred kilometres wide and can flow at an average speed of about four miles per hour (6.4 kilometres per hour). However, its speed can vary depending on the location and other factors.
- **Depth:** The current is also very deep, extending to depths of up to 1,000 metres.

2. Coal Gasification:

- It is the process of producing syngas, a mixture consisting primarily of carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂), methane (CH₄), and water vapour (H₂O) - from coal and water, air and/or oxygen.
- **Gasification occurs in a gasifier**, generally a high temperature/pressure vessel where oxygen and steam are directly contacted with the coal or other feed material causing a series of chemical reactions to occur that convert the feed to syngas and ash/slag.
- **Syngas can be used for electricity production, used in energy-efficient fuel cell technology, or as chemical “building blocks” for industrial purposes.** The hydrogen can also be extracted for use in fuelling a hydrogen economy.

Benefits of coal Gasification

- Coal gasification can help address local pollution problems.
- It is considered a cleaner option compared to the burning of coal.
- It will help in reducing reliance on imports of natural gas, methanol, ammonia and other essential products.
- This holds the potential to alleviate the environmental burden by reducing carbon emissions and fostering sustainable practices,

contributing to India's global commitments towards a greener future.

19TH FEB

3. Diphtheria:

- It is a serious contagious bacterial infection of the nose and throat.
- **Cause:** It is caused by strains of bacteria called *Corynebacterium diphtheriae* that make a toxin.
- **Transmission:** It can spread from person to person, usually through respiratory droplets, like from coughing or sneezing.
- People can also get sick from touching infected open sores or ulcers.
- The bacteria can also infect the skin, causing open sores or ulcers. However, diphtheria skin infections rarely result in severe disease.
- Although diphtheria can be treated with medications, in advanced stages, the bacterial infection can damage the heart, kidneys and nervous system.
- **Symptoms:** A thick, grey membrane covering the throat and tonsils, sore throat and hoarseness, swollen glands (enlarged lymph nodes) in the neck, difficulty breathing etc.

The current treatments include:

- neutralisation of unbound toxin with Diphtheria Antitoxin (DAT)
- antibiotics to prevent further bacterial growth;
- monitoring and supportive care to prevent and treat complications, e.g. airway obstruction, and myocarditis.

What are the new recommendations of WHO?

- In patients with suspected or confirmed diphtheria, **WHO recommends using macrolide antibiotics (azithromycin, erythromycin) in preference to penicillin antibiotics.**
- In patients with suspected or confirmed diphtheria, WHO recommends not to perform routine sensitivity testing prior to administration of diphtheria antitoxin (DAT).
- In patients with suspected or confirmed symptomatic diphtheria, WHO suggests an escalating dosing regimen for diphtheria antitoxin (DAT) which is based on disease severity and time since symptom onset, in comparison with a fixed dose for all patients.

1. Anti – Satellite Weapon:

What is an Anti-Satellite Weapon?

Russia is actively working towards a formidable new development in space technology, focusing on creating a nuclear anti-satellite (ASAT) weapon.

About Anti-Satellite Weapon:

- It is **designed to debilitate or destroy satellites** that are already in orbit and operational.
- **Types of Anti-Satellite Weapons:** ASATs are broadly classified into two types namely
 - **Kinetic energy methods:** This involves **launching a missile** that intercepts and physically collides with the target satellite to destroy it. The kinetic energy ASATs physically collide with satellites and can reach altitudes. These ASATs can be ballistic missiles, drones, and other satellites.
 - **Non-kinetic methods:** They use **non-physical attacks** such as cyber-attacks, jamming, and even lasers to blind satellites without physically destroying them.
- All of these attacks can be launched from the **air, low orbit, or even ground installations.**
- These can even undertake **pellet cloud attacks** on the enemy's low-orbit satellites.
- Other ASAT capabilities include cyber-attacks on space systems, Electro-Magnetic Pulse (EMP) explosion devices, directed energy (laser-based) weapons and targeted missiles for the destruction of satellites to sabotage the enemy's military operations.
- There are many countries which have this capability, but only **four countries — including India — have demonstrated their ASAT capabilities.**
 - Issues:
 - These weapons generate a tremendous amount of **space debris**, which poses a hazard to all space operations, including civilian and commercial satellites.

2. India Stack:

- It is a set of **Application Programming Interface (APIs)** that allows governments, businesses, startups and developers to utilise a unique digital Infrastructure.
- India Stack consists of three layers of open APIs: **identity, payments, and data.**
- Although the name of this project bears the word India, the vision of India Stack is not limited to one country.
- It can be applied to any nation, be it a developed one or an emerging one.
- The four distinct technology layers provided are
 - **Presence less layer:** Where a universal biometric digital identity allows people to participate in any service from anywhere in the country.
 - **Paperless layer:** Where digital records move with an individual's digital identity, eliminating the need for massive amounts of paper collection and storage.
 - **Cashless layer:** Where a single interface to all the country's bank accounts and wallets to democratise payments.
 - **Consent layer:** This allows data to move freely and securely to democratise the market for data.
- **Some of the APIs that are a central part of India Stack:** are Aadhaar Proof, Aadhaar e-KYC, e-Sign, Digital Locker, and Unified Payment Interface.

3. Magnetolectric multiferroics

- These are a special class of materials popular among the research fraternity for their rarity and unique properties.
- These materials can exhibit both **magnetism and ferroelectricity simultaneously.**
- **Application:** For advanced technology applications like spintronics, electronic memory devices, and other electronic components like actuators and switches.

What is MnBi₂S₄?

- It is also known as **mineral grañianite** and belongs to the ternary manganese chalcogenide family.
- It has distinct magnetic structures in the material, including a spin density wave, as well as cycloidal and helical spin structures.
- Importantly, they found that the last two spin

structures induced ferroelectricity in the material.

- It is also known **to be centrosymmetric** and undergoes magnetic ordering at low temperatures (27, 23, and 21.5 Kelvins).

Significance of the study:

- The significance of this finding lies in the strong coupling between **magnetism and electric polarisation.**
- The unique mechanism, driven by magnetic frustration, represents a breakthrough in magnetoelectric coupling.
- Specifically, if the material possesses the ability to exhibit the same phenomena at room temperature, it could pave the way for energy-efficient manipulation of spin using small electric fields.
- This could revolutionise **data storage** by reducing energy consumption during writing processes.
- These findings can be helpful for the development of a four-state logic memory system, providing additional degrees of freedom for device performance compared to the current binary logic systems.

20 FEB

1. Disinflation:

- Disinflation is a **decrease in inflation rates.**
- In simple terms, a **decline in the rate of increase in the general price level of goods and services** in the gross domestic product (**GDP**) of a country **over time** is called disinflation.
- Unlike inflation and deflation, which refer to the direction of prices, disinflation **refers to the rate of change in the rate of inflation.**
- Disinflation is not considered problematic because **prices do not actually drop**, and disinflation does not usually signal the onset of a slowing economy.
- A **healthy amount of disinflation is necessary** since it represents economic contraction and prevents the economy from overheating.
- Disinflation is **considered the opposite of reflation**, which occurs when a government stimulates an economy by increasing the money supply.
- **Causes of Disinflation:**
 - If a central bank wants to enforce a **tighter monetary policy** and the **government starts**

selling off some of its assets, the supply of money in the economy could be limited, causing a disinflationary effect.

- Similarly, disinflation can also be caused **by a contraction in the business cycle of recession.** For instance, companies may choose not to raise prices to gain a more significant market share, leading to disinflation.

2. Char Area:

- The riverine areas (island) of the **river Brahmaputra**, locally known as “**Char/ Chapori**”.
- The chars follow a peculiar pattern of migration.
- They are subjected to **erosion on their upstream** and deposition on the downstream, due to which they migrate downstream.
- This affects the geometry and location of the chars during floods almost every year.
- Issues with the Char area:
 - The **physical, sociological and institutional constraints on the development of Char Areas are many and complex.**
 - Such as the virtual **absence of all-weather communication** with the main banks, reliable means of intra- and inter-char mobility, inadequate growth of transport and basic infrastructure like surface roads, health and drinking water, delivery systems for farm inputs, marketing, agro- services electricity and education.
 - The problems in the Char Areas are unique in nature, due to the constant threat from flood and erosion during the rainy season.
 - The land mass is segregated and cut off from each other, making it very difficult to take any major scheme for road communication, irrigation, Power supply or set of educational institutions

3. Central Asian Flyway:

- It covers a large continental area of Eurasia between **the Arctic and Indian Oceans** and the associated island chains.
- A flyway is a geographical region within which a single or group of migratory species completes its annual cycle — breeding, moulting, staging and non-breeding.
- There are nine flyways in the world.
- Geographically the flyway region **covers 30 countries of North, Central and South Asia and**

Trans-Caucasus.

- There is an **overlap between the CAF and the area of the Agreement on the Conservation of African- Eurasian Migratory Waterbirds (AEWA), which was concluded in 1995, at the Hague, the Netherlands.**
- Sixteen out of the thirty countries encompassed by the CAF are located in the AEWA Agreement Area.
- CAF migration routes include the steppes and cold deserts of Central Eurasia, and much of the Himalayan chain, where unique, high-altitude migrations such as those of the Bar-headed Goose, Anser indicus, take place.
- **India's Initiative:** The 14 species which will be listed in CMS appendices include
 - Eurasian Lynx, Peruvian Pelican, Pallas's Cat, Guanaco, Laulao Catfish, Balkan Lynx, Lahille's Bottlenose Dolphin, Harbour Porpoise, Magellanic Plover, Bearded Vulture, Blackchin Guitarfish, Bull Ray, Lusitanian Cownose Ray and Gilded Catfish.
 - The adopted initiative includes the establishment of a coordinating unit in India with financial support from the Indian Government.

4. Rip Currents:

- These are a **strong flow of water running from a beach** back to the Open Ocean, sea, or lake.
- These are one of the most well-known coastal hazards on beaches around the world.
- Formation:
 - They are formed by a beach topography.
 - They can occur in **areas with hard-bottom** (rocky) or soft-bottom (sand or silt) beach topography.
 - A beach's topography includes the area outside the water, such as dunes or marshes.
 - Beach topography also includes the area **within the water, like sandbars, piers, and reefs. Rip currents often form around these parts of a beach's topography.**
 - They can form in a gap between sandbars, piers, or parts of a reef.
- Such underwater obstacles block waves from washing directly back to sea.
- The water from these waves, called feeder waves, runs along the shore until it finds an opening around the obstacle.
- Contrary to popular belief, a **rip cannot pull a**

- **person down and hold him/her** under the water.
- It simply carries floating objects, including people, out to just beyond the zone of the breaking waves.

21ST FEB

1. **Vaitarna River:** It is one of the **west flowing rivers** in the region North of Mumbai and South of the Tapi River.

- It originates in the **Trimbakeshwar Hills** of Nasik district of Maharashtra.
- It **receives most of the rainfall from the South West monsoon during June to October**. Almost 98% of the annual rainfall of the basin is received during this period.
- **Tributaries:** The main tributaries are **Pinjal, Ganjai, Surya, Daharji and Tansa**.
- The catchment area of Vaitarna basin completely lies in Thane and Nasik districts of Maharashtra.
- It drains an area of 2019 sq. km before it falls into the Gulf of **Khambhat**.

2. Bull Shark:

- They're **known to be aggressive towards humans and are thought to be one of the most dangerous shark species in the world**.
- **Habitat:** These are frequently spotted in tropical coastal areas worldwide, including shallower waters along coastlines.
- Bull sharks have a unique ability to **tolerate freshwater and saltwater habitats**, meaning they can sometimes be found venturing into rivers and travelling great distances upstream.
- It **reproduces through viviparity**, the process in which the embryo develops within the mother's body, leading to live birth.
- **Conservation status**
 - **IUCN: Vulnerable**

3. Pandaram lands

- Pandaram lands is a **form of land ownership**. According to the agreement signed in 1884, the **Pandaram land was handed over to them and if they continued to possess them for 40 years**, then the ownership of these Pandaram land would pass on to the islanders.
- Over 60% of the land in Lakshadweep, falls under the Pandaram lands. This land covers parts of

Androth, Kalpeni, Kavaratti, Minicoy, and Agatti islands, as well as six uninhabited islands.

What is the recent controversy?

- Local people claim that the earlier governments used to pay them compensation for acquiring Pandaram lands in their possession.
- However, the **current administration is continuing the process of numbering of trees on Pandaram lands, insisting that such property belongs to the government**. They fear that the government is displacing them from their native lands in the name of advancing developmental projects.

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1. Buddha's Relics:

- In a historic and momentous event, the revered relics of Lord Buddha, along with those of his esteemed disciples, **Arahata Sariputra and Arahata Maudgalayana, are set to embark on a sacred journey to Thailand**.
- This unprecedented exposition marks **the first time that the holy relics of Lord Buddha and his disciples will be showcased together**.
- It is another historic milestone in India-Thailand relations and will further boost cultural and spiritual relations between the two countries.
- Additionally, **the holy relics of Arahata Sariputra and Arahata Maudgalayana, currently residing at Sanchi, have been brought to Delhi** in preparation for their journey to Thailand, further enriching this sacred expedition.

2. Finance Commission:

- The Sixteenth Finance Commission was constituted on 31.12.2023 with Shri Arvind Panagariya, former Vice-Chairman, NITI Aayog as its Chairman.
- As per the clause (1) of **Article 280 of the Constitution, the Finance Commission is to be constituted every fifth year or earlier**.

Terms of Reference for the Sixteenth Finance Commission:

The Finance Commission shall make recommendations as to the following matters, namely:

- **The distribution between the Union and the States of the net proceeds of taxes which are to**

be, or may be, divided between them under Chapter I, Part XII of the Constitution and the allocation between the States of the respective shares of such proceeds;

- The principles which should govern the grants-in-aid of the revenues of the States out of the Consolidated Fund of India and the sums to be paid to the States by way of grants-in-aid of their revenues under article 275 of the Constitution for the purposes other than those specified in the provisos to clause (1) of that article; and
- The measures needed to augment the Consolidated Fund of a State to supplement the resources of the Panchayats and Municipalities in the State on the basis of the recommendations made by the Finance Commission of the State.

3. Anoxic Marine Basins:

- An anoxic basin is a **body of water without oxygen**.
- Permanent anoxic basins **form when there is a strong layering of the water column** created in **acup-like formation** on the ocean floor.
- The **layering is caused by density differences** due to salt concentration or temperature.
- Once stratification occurs, **circulation with the rest of the ocean is minimised**, and **microorganisms consume the oxygen** in the water.
- In most anoxic basins, the **water is extremely stagnant** and can have **mixing times of many thousand years**.
- They range from a few hundred metres to **several kilometres across** and from 10 metres to **500 metres deeper than the surrounding seafloor**.
- They **can't support animal life** and are **populated primarily by microbes** and some very **specialised fungi** with different metabolisms than creatures in oxygen-rich environments.
 - Some of them **rely on molecules such as nitrate for respiration**, and **some get their carbon from gases** like carbon dioxide (CO₂) and methane (CH₄) instead of eating other organisms or particles of organic matter.
- **Many anoxic basins also contain toxic chemicals**, which are **produced by geothermal activity or by microbes** living in the basins.
- Some **also contain salt domes**, big mounds of

hardened salt.

- In some anoxic basins, **methane and other gases collect in reservoirs** beneath the seafloor.
 - The **gases can percolate upward, pushing up domes of sediment** on the seafloor that are **called mud volcanoes**
 - The **gases can burst through** the soft sediments, **creating "mini-eruptions" of wispy columns of sediment-filled water**.

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1. Rhodamine – B

- It is a **water-soluble chemical compound**.
- While it appears green in powder form, it turns **vivid fluorescent pink** when it comes in contact with water.
- It is a chemical commonly used for dyeing in the textile, paper, leather, and paints industry as a coloring agent that helps in attaining the red and pink spectrum.
- **"As per the Food Safety Standards Act, 2006, preparation, packaging, importing, selling and serving food items with Rhodamine-B in wedding ceremonies and other public events is a punishable offence.**
- It is an **industrial dye** which is not allowed in food anywhere in the world as it is toxic.

Why is it harmful?

- **Researchers have identified that if food containing this chemical is consumed regularly, it can cause damage to the cerebellum tissue in the brain** and to the brainstem that connects the brain to the spinal cord.
- These damages can lead to functional abnormalities and can hinder humans' motor functioning.
- The chemical is toxic for humans and can cause oxidative stress on cells and tissues if ingested.
- It becomes particularly hazardous when it is mixed with food products, leading to cancer and tumour overtime.

2. Quasar:

- A quasar is an extremely active and luminous type of active galactic nucleus (AGN).
- An AGN is nothing more than a supermassive black hole that is active and feeding at the center of a galaxy.
- All quasars are AGNs, but not all AGNs are quasars.

- Quasars are thought to form in regions of the universe where the large-scale density of matter is much higher than average.
- They are among the most luminous, powerful, and vibrant objects known in the universe.

How are they formed?

- An active galaxy is one in which the central supermassive black hole is consuming large amounts of matter.
- The infall of matter into the black hole is so great that all the material can't enter the black hole at the same time, so it forms a queue as a spiraling accretion disk.
- The **matter—in the form of huge clouds—falls into the disk, with the inner parts of the cloud closer to the black hole orbiting faster than the outer parts** (just like planets closer to the sun orbit faster than those farther away).
- This creates a shear force that twists the clouds, causing them to bump into their neighbors as they move around the black hole at velocities ranging from 10% of the speed of light up to over 80%.
- This friction from fast-moving gas clouds generates heat, and the disk becomes so hot—millions of degrees—that it shines brightly.
- Some of the material in the disk is also funneled away from the black hole in a highly luminous, magnetically collimated jet
- The hot accretion disk and the jet combine to make the nucleus of the active galaxy shine so brightly that it can be seen far across the universe.
- The brightest quasars can outshine all of the stars in the galaxies in which they reside, which makes them visible even at distances of billions of light-years.
- **Most quasars have been found billions of light-years away.**

3. Mohenjodaro:

- It is a fortified settlement dating back to the Harappan era.
- **Location:** Kutch District, Gujarat
- **Features:**
 - The **settlement looks mature (2,600-1,900 BCE)** to late (1,900-1,300 BCE) Harappan.
 - The fortification measures 102 m east to the west and 58 m north to the south.

- The thickness of the wall is an average of 3.3 m.
- It has a **10x10 m platform on the south-west side and a well on the north-east.**
- Burial cairns, which are mounds of stones to demarcate a boundary, are also found here.
- Harappan pottery with perforated jar sherds, reserved slipware, and terracotta cakes were unearthed. All these items have a striking resemblance to those found in Dholavira.

Key Facts about Harappan Civilization

- The **Indus Valley/Harappan civilisation was the first urban civilisation in South Asia**, coexisting with Mesopotamia and Egypt.
- The **Harappan civilisation occupied the largest area (approximately 8,00,000 sq km) among the three civilisations.**
- Harappa (Punjab, Pakistan), Mohenjo-Daro (Sindh, Pakistan), Dholavira, Lothal, and Surkotada (Gujarat, India), Kalibangan and Banawali (Rajasthan, India), and Rakhigarhi (Haryana, India) are the major cities in the Harappan period.

The features of town planning of Harappan civilisation included:

- **Rectangular grid pattern:** The **Harappan cities were designed on a grid pattern, with streets running in a north-south and east-west direction**, forming a well-organized layout. Streets and lanes were cutting across one another almost at right angles, thus dividing the city into several rectangular blocks.
- **Planned streets and alleyways:** The streets and alleyways of Harappan cities were planned and constructed with precision. They were wide enough to allow the movement of carts and pedestrians, and some streets had covered drains running alongside them.
- **Fortification:** The cities were surrounded by **fortified walls made of mud bricks, providing protection against robbers, cattle raiders, and floods.**
- **Division of cities:** The city was divided into two parts: an **upraised citadel and the lower part of the city.**
- **Upper part:** An upraised citadel in the western part was used for constructing buildings of large dimensions, such as **granaries, administrative buildings, pillared halls, and courtyards.**

- **Lower part:** Below the citadel in each city lay a lower town containing brick houses, which were inhabited by the common people.

Material used: They used burnt bricks on a large scale in almost all kinds of constructions, and there was the absence of stone buildings during Harappan culture.

- **Residential areas:** The cities were divided into distinct residential areas. Houses were made of baked bricks, often with multiple stories, indicating a well-developed urban society. The houses were generally built around courtyards, and some had private wells and properly ventilated bathrooms. No window faced the streets, and the houses had tiled bathrooms.
- **Sophisticated drainage systems:** The drainage system of the Harappans was elaborate and well laid out. Every house had drains, which opened into the street drains. Drains were made of mortar, lime, and gypsum.
- **Granaries and storage facilities:** The cities had well-planned granaries and storage facilities to store surplus agricultural produce.

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1. Shahpur Kandi Dam Project:

- It is located on the **Ravi River** in Pathankot district, **Punjab**, downstream from the existing **Ranjit Sagar Dam**.
- The water released by Ranjit Sagar Dam is utilized for generating power from this project.
- The main purpose behind the construction of this dam is **power generation and irrigation in Punjab and J&K States**.
- It is constructed by the **irrigation department of the Government of Punjab**.
- The project consists of a **55.5 m high concrete gravity dam**, a 7.70 km long hydel channel, two headregulators, and two powerhouses.
- The total output capacity of the project is **206 MW**.

2. MakhaBucha:

- MakhaBucha Day (Magha Puja) is a religious celebration marking **Lord Buddha's teachings to his disciples**.
- It is celebrated according to the **traditional lunar calendar**, on the day of full moon of the third

lunar month.

- The term makha comes from the word "**Magha**" in Pali and it refers to the **third lunar month**, while bucha can translate as "to worship," both of which are derived from the Pali language used in Buddhist scripture.
- The term MakhaBucha refers to a day intended for worshipping on the third lunar month.
- The aim of this day is to **purify one's mind and do only good**. Some celebrate by offering food to monks and also attend candle light processions in the evening.
- It is the **first important religious festival in the Buddhist calendar**, takes place in nations including Thailand, Laos and Cambodia, where the majority of Buddhists practice Theravada Buddhism, also known as "**Buddhism of the south**".

3. Collective Security Treaty Organization (CSTO):

- It is an **intergovernmental military alliance** in Eurasia, which was established in 2002.
- **Members of the organization at present are:** Russia, Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Tajikistan.
- **Background**
 - The Collective Security Treaty (CST) was signed on May 15, 1992 in Tashkent by the Heads of six countries: **Armenia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan**. Subsequently, Azerbaijan, Georgia and Belarus joined it.
 - The treaty came into force on April 20, 1994.
 - On May 14, 2002, in Moscow, the Collective Security Council made a decision to grant the status of an international regional organization to the Collective Security Treaty.
 - In 2004 the UN General Assembly adopted a resolution granting the Collective Security Treaty Organization (CSTO) an **observer status in the UN General Assembly**
- The **statutory bodies of the Organization** are: the Collective Security Council (CSC), the Council of Foreign Ministers (COM), the Council of Ministers of Defense (CIO), the Committee of Secretaries of Security Council (CSSC).
- **The key objectives of the CSTO include**
- **The provision of national and collective security, intensive politico-military cooperation, foreign policy coordination on**

international and regional security issues, the establishment of multilateral cooperation mechanisms, including a military component, the development of cooperation in the counteraction to modern challenges and security threats.

- **Headquarter:** Moscow, Russia

4. Guru Ravidas:

- Guru Ravidas (1377-1528E.) was a renowned saint known for his **contributions to the Bhakti movement**.
- His **devotional songs and verses** made a lasting impact upon the Bhakti Movement.
- Guru Ravidas is also known as **Raidas, Rohidas, and Ruhidas**.
- He was **born in a small village** called Seer Govardhanpur in **Uttar Pradesh**.
 - His birthplace is now **known as Shri Guru Ravidas Janam Asthan**, and it is a major place of pilgrimage for the followers of Guru Ravidas.
- Even though he was **born into a poor family**, Ravidas became **well-known for his teachings about human rights and equality**.
- He was the **disciple of the revered Brahmin bhakti poet Ramananda**.
- He **abandoned the saguna** (with attributes, image) forms of supreme beings and **focused on the nirguna** (without attributes, abstract) **form of supreme beings**.
- Guru Ravidas was a **social reformer**, and his teachings were based on **gender equality, the abolition of the caste system, social justice, and equality**.
- He also became a symbol of **opposition to untouchability** in society by the higher caste people for the lower caste people.
- He emphasized the **philosophy of spiritual freedom**.
- He was a **well-known poet**. 41 of his devotional songs and poems are **included in the Sikh Scriptures, Guru Granth Sahib**.
- **Meera Bai**, a revered figure in Hindu spiritualism, is said to have **considered Guru Ravidas as her spiritual Guru**.
- The Guru's teachings now form the basis of the Ravidassia sect. **Ravidassias believe that Guru Ravidas should be treated as a saint** just like the other gurus, **as he lived before the first Sikh Guru** and his teachings were studied by the Sikh Gurus. **Guru Ravidas Jayanti** is a Hindu festival

that **celebrates the birth anniversary** of Guru Ravidas.

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1. ISRO's CE-20 cryogenic engine:

Description– It is an **indigenous cryogenic engine developed by ISRO** that powers the cryogenic stage of the human-rated LVM3 launch vehicle for Gaganyaan mission.

Features-

- 1) It is the **first cryogenic engine to use the gas-generator cycle**. This discards the exhaust from the pre-burner instead of sending it to the combustion chamber. It reduces fuel efficiency. However, it **makes the CE-20 engine easier to build and test**.
- 2) It is a vital component, serving as the **powerhouse of the Cryogenic Upper Stage (CUS)** responsible for propelling the upper stage (C25) of the LVM3 vehicle.
- 3) It achieves a higher maximum thrust (~200 kilonewton v. 73.5 kilonewton) with a shorter burn duration.
- 4) It has demonstrated its capability by successfully operating at a thrust level of 19 tonnes in six successive LVM3 missions, including the **Chandrayaan-2, Chandrayaan-3, and two commercial OneWeb missions**.

What does human rating of CE20 engine mean?

Rockets that carry humans to space require 'human-rating'. This entails testing particular components repeatedly to ensure failures happen at less than a particular rate.

What are the highlights of ground qualification tests for the human rating of the CE20?

- 1) **Comprehensive evaluation**– It includes life demonstration tests, endurance tests, and performance assessment under nominal operating conditions as well as off-nominal conditions relative to thrust, mixture ratio, and propellant tank pressure.
- 2) **Hot firing test**– Four CE-20 engines had been hot-fire tested for a cumulative 8,810 seconds against the minimum human rating qualification standard requirement of 6,350 seconds.

2. Grey Zone Warfare:

1. Grey Zone Warfare is a **strategy where a country tries to gain an advantage without openly going to war**.
2. It involves tactics like **cyberattacks, misinformation, and economic pressure** to weaken an opponent.
3. China has been skillfully using this strategy, especially against India and neighboring countries.

What are China's Grey Zone Tactics against India?

1. South China Sea Activities- China **employs naval and civilian vessels to assert its control over the South China Sea**. It causes tensions with neighboring countries, including India.

2. Constructing infrastructure in border areas- China builds infrastructure and establishes villages close to India's borders. It reinforces its territorial assertions and gains strategic benefits

3. Investments in digital technologies- China directs investments into apps, media, and various digital platforms within India. This presence in the digital sphere holds the potential to mold public perceptions and narratives.

3. Edwards Syndrome: It is also known as trisomy 18.

- It is an **autosomal chromosomal disorder** due to an **extra copy of chromosome 18**.
- It is a very **severe genetic condition** that affects a child's body development and growth.
- **Symptoms:** Children diagnosed with trisomy 18 have a low birth weight, multiple birth defects and defining physical characteristics.
- There are **three types** of Edwards syndrome
- **Complete trisomy 18:**
 - It is the **most common form (94%)**.
 - In this type, every cell contains three **complete copies of chromosome 18**.
 - The extra chromosome is **most often of maternal origin**.
- **Mosaic trisomy 18:**
 - It is the **second most common type (less than 5%)**.
 - In this type, both a complete trisomy 18 and a normal cell line exist.
- **Partial trisomy 18:**
 - In this type, **only a partial segment of chromosome 18 is present in triplicate**.
 - The partial triplicate often results from a

balanced translocation or inversion carried by one of the parents.

Treatment: There are no specific treatments for trisomy 18. Treatment will focus on the symptoms of the condition, such as heart conditions, breathing difficulties and infections

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1. What is Steadfast Defender 2024?

The North Atlantic Treaty Organization (NATO) started its largest military exercise in Europe, the Steadfast Defender 2024, recently.

- It is **NATO's most extensive military exercise since the Cold War era**.
- It involves 90,000 forces from **31 member countries and NATO partner Sweden** and is conducted across various NATO nations.
- The exercise will feature an impressive array of military hardware, including over 50 naval vessels ranging from aircraft carriers to destroyers, and a formidable air contingent of more than 80 units comprising fighter jets, helicopters, and drones.
- The ground forces are equally robust, with at least 1,100 combat vehicles, including 133 tanks and 533 infantry fighting vehicles, demonstrating NATO's ground capabilities.
- The purpose of Steadfast Defender 2024 is **to put NATO's new regional defense plans to the test**.
 - **These plans, the first of their kind in decades, outline the alliance's response mechanisms to potential threats**, notably addressing concerns regarding Russian aggression.

What is NATO?

- **Formed in 1949** with the signing of the **Washington Treaty**, NATO is a **security alliance of 31 countries from North America and Europe**.
- NATO's fundamental goal is to safeguard the Allies' freedom and security by political and military means.
- It is a **system of collective defence** where independent **member states agree for mutual defence** in case of any attack by an external party.
 - **Article 5** of the Washington Treaty states that an **attack against one ally is an attack against all**.
 - This article forms the **core of the Alliance**, a **promise of collective defence**.
- **Headquarters:** Brussels, Belgium.
- **Functions:**
 - **Political:** NATO **promotes democratic values and enables members to consult and cooperate on defence and security-related issues** to solve

problems, build trust, and, in the long run, prevent conflict.

- **Military:** NATO is committed to the **peaceful resolution of disputes**. If diplomatic efforts fail, it has **the military power to undertake crisis-management operations**. These are carried out **under Article 5** of the Washington Treaty **or under a United Nations mandate, alone or in cooperation with other countries** and international organisations.

2. What is International Astronomical Union (IAU)?

The International Astronomical Union recently confirmed the existence of three currently unnamed moons — one around Uranus and two orbiting Neptune.

About the International Astronomical Union (IAU):

- The IAU is a senior **body governing international professional astronomical activities worldwide**.
- It was **established in 1919** as the **first of a series of international unions for the advancement of specific branches of science**
- Its mission is to promote and **safeguard the science of astronomy** in all its aspects, including **research, communication, education, and development, through international cooperation**.
- The IAU is **made up of various divisions, commissions, and working groups** representing the various areas of astronomical research, teaching, and other endeavours.
- **Membership:**
 - Its **individual members are professional astronomers** from all over the world, **at the Ph.D. level** and beyond, who are active in professional research, education, and outreach in astronomy.
 - The IAU **also has junior members**.
 - IAU **membership spans 92 countries**. Out of those countries, **85 are National Members**.
- IAU **activities range from the definition of fundamental astronomical and dynamical constants and unambiguous astronomical nomenclature, rapid dissemination of new discoveries, organization of international observing campaigns, and promotion of educational activities** in astronomy to **early informal discussions** of possible future international large-scale facilities.
- It is the **only organization recognized professionally for the naming of astronomical bodies**, which it does solely on the basis of merit, history, or discoverer's privilege.

- The IAU **holds a general assembly every three years** in varying parts of the world at which professional astronomers meet to discuss research, new cooperative ventures, and similar matters of professional interest.
- The IAU also works to **promote research, education, and public outreach activities** in astronomy for the public.
- **Headquarters: Paris, France.**

3. What is Genie AI Model?

Recently, Google DeepMind has just introduced Genie, a new model that can generate interactive video games from just a text or image prompt.

About Genie AI Model:

- It is a foundation world model that is **trained on videos sourced from the Internet**.
- The model can **“generate an endless variety of playable (action-controllable) worlds from synthetic images, photographs, and even sketches.”**
- It is the first generative interactive environment that has been trained in an unsupervised manner from unlabelled internet videos.
- **Specifications:** When it comes to size, Genie stands at **11B parameters** and consists of a **spatiotemporal video tokenizer**, an autoregressive dynamics model, and a simple and scalable latent action model.
- These technical specifications let Genie act in generated environments on a frame-by-frame basis **even in the absence of training, labels, or any other domain-specific requirements**.
- Genie can be prompted to generate a **diverse set of interactive and controllable environments** although it is trained on video-only data.
- It makes playable environments **from a single image prompt**.
- It can be prompted with images it has never seen. This includes real-world photographs, and sketches, allowing people to interact with their imagined virtual worlds.
- It is trained more on videos of **2D platformer games and robotics**.
- Genie is trained on a general method, allowing it to function on any type of domain, and it is **scalable to even larger Internet datasets**.
- The standout aspect of Genie is its ability to learn and reproduce controls for in-game characters exclusively from internet videos.
- This is noteworthy because internet videos do not have labels about the action that is performed in the video, or even which part of the

image should be controlled.

- It allows you to create an entirely new interactive environment from a single image.

4. Pey Jal Survekshan Awards- Recently, the Ministry of Housing & Urban Affairs announced the first Pey Jal Survekshan Awards.

About Pey Jal Survekshan Awards:

- A **distinguished array of 130 awards** is set to be bestowed, reflecting the remarkable **accomplishments of cities and states**.
- The award consists of various categories;
 - Pey Jal Gold, Silver, and Bronze City Awards, where Gold signifies top performers in their respective population categories (1 to 10 Lakh, 10 to 40 Lakh, and More than 40 Lakh),
 - **Silver denotes the 2nd position, and Bronze the 3rd.**
 - The awards extend to commendations for **Best Water Body, Sustainability Champion, Reuse Champion, Water Quality, City Saturation, and AMRUT 2.0 Rotating Trophy of the Year.**
- **Parameters:** It encompassed diverse parameters, including access, coverage, water quality at treatment plants and households, sustainability regarding the health of water bodies, availability of SCADA/ flowmeters, and reuse of treated used water.
- Cities will be graded on a star rating scale, **ranging from 5 stars to No star**, encapsulating their performance across these critical criteria.
- Pey Jal Survekshan ensured clean water through **independent NABL lab testing** at the source and citizen end.
- Using a GIS-enabled web portal, geo-tagging, and infrastructure mapping, the survey collected accurate and transparent data.
- **Significance:** Its results are expected to drive ULB decision-making, enhance service delivery, and foster citizen engagement, instilling a sense of ownership and knowledge dissemination about water conservation and optimal use.

What is the AMRUT Mitra initiative?

- It aims to actively involve **women Self-Help Groups (SHGs)** in the **urban water sector**, designating women as key contributors and emphasizing their role in household water management.
- The Mitras will be engaged in executing AMRUT 2.0 projects, focusing on activities such as billing, collection, leak detection, plumbing works, water quality sampling, and maintenance of

infrastructure.

- The overarching goal of AMRUT Mitra is to instil a sense of ownership among women, promoting inclusivity and diversity in traditionally male-dominated sectors while ensuring access to safe drinking water for households and **addressing gender inequality**.
- The anticipated outcomes include upliftment of the socio-economic status of women SHGs, aligning closely with the objectives of AMRUT 2.0, increased awareness, positive community impact, and a model for future initiatives

29 FEB

1. Additional Tier-1 (AT-1) Bonds:

- AT-1 bonds are **perpetual bonds** with **no maturity date**.
- **Investors** in these bonds **do not get their principal back**.
- However, the **interest continues forever**. AT-1 bonds have a **higher interest rate** than other bonds.
- **Due to the perpetual nature** of AT-1 bonds, these are often **treated and viewed as equity, not debt**.

How are AT-1 Bonds Issued?

- AT-1 bonds are **issued by banks** in accordance with the **directions of the Reserve Bank of India (RBI)**.
- Financial institutions usually **issue such bonds to fulfil their capital adequacy requirements (CAR)**.
- **CAR** is an **assessment of a bank's capital and its risk-weighted assets**.
- Capital adequacy norms were **formulated under the Basel III accord of 2009** after the credit crisis of 2008.
- The **money raised** through these bonds is **kept aside as a shock absorber by the bank**.
- These bonds are **contingent convertible bonds (CoCos)**, a type of **debt instrument** that the **bank can convert into equity** if its **capital levels fall** below the specified levels. This helps the bank **reduce debt while managing capital**.
- AT-1 bonds **have a call option**, which allows **the banks to buy back the bonds** from the investors.
- These bonds provide **high returns** but also **carry greater risk**.
 - If the **banking institution fails**, these **bonds are at risk**.
 - **Suppose the RBI finds a bank in an unstable**

condition, under pressure, and in a situation where it demands rescue. In that case, it **can ask the bank to immediately withdraw their AT-**

1 Bonds without seeking permission from the investors, therefore making AT-1 Bonds risky.

- Further, the **issuer can also skip the interest payout** if it is under financial stress.
- **Investors cannot return their bonds to the bank** as there is **no put option** against these bonds. However, these **bonds are listed on the stock exchanges**, so the **investor can liquidate them** whenever needed.
- **Subordinate debt: In case of default**, these **bonds rank lower than the other debt**, which is why these are subordinate debts.

2. North Atlantic right whales:

- These whales are migratory animals, spending the winter in warmer waters and migrating to the poles for cooler waters in late summer.
- These whales inhabit the **temperate and subpolar waters** of the North Atlantic and North Pacific oceans.
- **Habitat:** Depending on the time of year and which hemisphere they're found, right whales will spend much of their time near **bays and peninsulas and in shallow, coastal waters**.
- **Distribution:** These are generally restricted to the coastal waters of the East Coast of the United States and Canada.
- There are three recognized species of right whales that occur in different parts of the world. These are **Southern right whales** (*Eubalaena australis*), **North Atlantic right whales** (*Eubalaena glacialis*) and **North Pacific right whales**.
- These whales often skim feed at or just below the water surface, slowly swimming through clouds of plankton with their mouths half open and then straining the plankton through their long baleen plates.
- **Conservation status**
 - **IUCN:** Critically endangered
 - **CITES:** Appendix I

3. Africa Club:

- **What it is?** It is the Alliance of African

Multilateral Financial Institutions (which are African- owned and controlled) launched at the **African Union summit**.

- The initiative aims to **amplify Africa's influence in the global financial system** by aligning its functions with the SDGs and the African Union's Agenda 2063.
- It **seeks to introduce innovative financial instruments, provide a venue for debt management discussions and foster collaborative efforts** to address the specific needs of African countries.
- Its members include the **African Export-Import Bank, Trade and Development Bank, Africa Finance Corporation, African Reinsurance Corporation, African Trade and Investment Development Insurance, Shelter Afrique Development Bank and ZEP – RE (PTA Reinsurance Co)**.

Key facts about the African Union:

- The AU is an **intergovernmental organization consisting of the 55 member states** that make up the countries of the African Continent.
- Basically, it is a continental union with a wide range of goals aimed at strengthening its member states both individually and collectively.
- It was **officially launched in 2002 as a successor to the Organisation of African Unity (OAU, 1963-1999)**.
- **Headquarters:** Addis Ababa, Ethiopia

PRESS INFORMATION BUREAU (PIB)

1ST FEB

1. Ban on Students Islamic Movement of India (SIMI):

The government has extended the ban on a group called 'Students Islamic Movement of India (SIMI)' for five more years under a law called the **Unlawful Activities (Prevention) Act**. SIMI was banned in 2001 initially, Since then, the outlawing of SIMI has been consistently renewed at regular intervals. It's a group with Islamic fundamentalist beliefs. **The SIMI group was established in 1977, in Uttar Pradesh's Aligarh.** It was initially started as the student wing of Jamaat-e-Islami Hind (JIH). SIMI has been involved in activities that promote terrorism, disrupt peace, and threaten the sovereignty, security, and integrity of the country.

2. **Stamp Duty:** It is essentially a government tax, which is levied to register documents, like an agreement or transaction paper between two or more parties, with the registrar. The specified amount is usually fixed based on the type of document. Sometimes, it is a percentage of the value mentioned in the agreement.

Stamp duty can be imposed on various documents like bills of exchange, cheques, promissory notes, bills of lading, letters of credit, insurance policies, share transfers, debentures, proxies, and receipts. Documents with paid stamp duties are considered valid evidence in a court of law. The Central government imposes stamp duties but the money collected goes to the respective states. **This is done according to Article 268 of the Constitution, allowing states to appropriate these funds within their territories.**

The centre has proposed repealing the Indian Stamp Act 1899 and bringing in a new stamp duty regime.

Reasons for Proposing the Indian Stamp Bill 2023: certain parts of the Indian Stamp Act 1899 are no longer useful or effective, Digital E-stamping Absent, Inconsistent State Laws, While the 1899 Act applied to 30 states and Union Territories, six states had separate stamp acts and rules.

3. **One Stop Centre scheme:** It is a Centrally Sponsored Scheme formulated under the Union Ministry of Women and Child Development (MWCD). The objective is:

- To provide integrated support and assistance to women affected by violence, both in private and public spaces under one roof.
- To facilitate immediate, emergency and non-emergency access to a range of services including medical, legal, psychological and counselling support under one roof to fight against any forms of violence against women.

It supports all women including girls below 18 years of age affected by violence, irrespective of caste, class, religion, region, sexual orientation or marital status. For girls below 18 years of age, institutions and authorities established under the **Juvenile Justice (Care and Protection of Children) Act, 2000** and the **Protection of Children from Sexual Offences Act, 2012** linked with the OSC.

The Scheme will be funded through the Nirbhaya Fund. The Central Government will provide 100% financial assistance under the Scheme. The day-to-day implementation and administrative matters would be the responsibility of the District Collector/District Magistrate.

2ND FEB

1. **Bluetongue disease (BT):** It is a non-contagious, viral disease affecting domestic and wild ruminants (primarily sheep and including cattle, goats, buffalo, antelope, deer, elk and camels). It is transmitted by insects, particularly biting midges of the *Culicoides* species. The virus which causes BT is identified as a member of the Reoviridae family. Twenty-four (24) different serotypes have been identified and the ability of each strain to cause disease varies considerably. The severity of the disease varies among different species with symptoms being most severe in sheep resulting in deaths, weight loss and disruption in wool growth. **It has a significant global distribution in regions where the insect vector is**

present, including Africa, Asia, Australia, Europe, North America and several islands in the tropics and subtropics. The virus is maintained in areas where the climate will allow biting midges to survive over winter. The insect vector is the key to the transmission of the BT virus between animals. **Vectors are infected with BT virus after ingesting blood from infected animals.** Without the vector, the disease cannot spread from animal to animal. BT virus transmission can occur throughout the year, particularly during rainy periods.

2. New Ramsar site: Recently, the Union Environment Minister said that five more Indian wetlands have been added to the global list of wetlands of international importance under the Ramsar Convention. **Of the five wetlands added to the Ramsar list, Magadi Kere Conservation Reserve, Ankasamudra Bird Conservation Reserve, and Aghanashini Estuary are in Karnataka and Karaivetti Bird Sanctuary and Longwood Shola Reserve Forest are in Tamil Nadu.**

3. MagSafe: MagSafe charger is a **wireless charger/power bank that connects to the back of your wireless-compatible mobile phone to charge your phone in the easiest of ways.** It is equipped with either a 5,000 or a 10,000 mAh battery pack on the inside, which can be used as a power backup. **This type of charger uses the magnetic current present at the back of your mobile phone and the magnets on the MagSafe charger.** A good MagSafe charger is just like any other wireless power bank that attaches to your mobile phone and works as a power bank. As with any other power bank, a MagSafe charger also needs to be charged. It is a **type of power bank that is only compatible with devices that support wireless charging.** The complete circuit allows the current to flow from the power bank to the device, which allows the charger to charge your mobile phone.

4. Animal Husbandry Infrastructure Development Fund: Animal Husbandry Infrastructure Development Fund (AHIDF) to be implemented under the Infrastructure Development Fund (IDF) for another three years up to 2025-26. It is a Central Sector Scheme. It has been **approved for incentivizing investments by individual entrepreneurs, private companies, MSME, Farmers Producers Organizations (FPOs) and Section 8**

companies to establish the dairy processing and value-addition infrastructure, meat processing and value addition infrastructure and Animal Feed Plant. The government of India will provide a 3% interest subvention for 8 years including two years of moratorium for loans up to 90% from the scheduled bank and National Cooperative Development Corporation (NCDC), NABARD and NDDB. Under this government entities and cooperatives are not eligible to get the benefit of this scheme.

3RD FEB

1. Codex Alimentarius Commission: It was **jointly established by FAO and WHO.** It is an international, intergovernmental body which is based in Rome. It consists of 189 member countries. Membership of the Commission is open to all Member Nations and Associate Members of FAO and WHO which are interested in international food standards. The Commission meets in regular sessions once a year, alternating between Geneva and Rome. **The programme of work of the Commission is funded through the regular budgets of WHO and FAO, with all work subject to the approval of the two governing bodies of the parent organisations.** The Commission works in the six official languages of the UN. The standards of CAC are recognized by the WTO as international reference points for the resolution of trade disputes concerning food safety and consumer protection. **The standards developed by the Committees are voluntary in nature.**

2. Inclusive Education for Disabled at Secondary Stage (IEDSS) scheme: IEDSS has been launched from the year 2009-10. **This Scheme replaces the earlier scheme of Integrated Education for Disabled Children (IEDC).** The aim of this scheme is to enable all students with disabilities to pursue four years of secondary education in an inclusive and enabling environment, after completing eight years of elementary schooling.

The scheme covers all children studying at the secondary stage in Government, local body and Government-aided schools, with one or more disabilities as defined under the Persons with Disabilities Act (1995) and the National Trust Act (1999)

in the class IX to XII, namely blindness, low vision, leprosy cured, hearing impairment, locomotory disabilities, mental retardation, mental illness, autism, and cerebral palsy, and may eventually cover speech impairment, learning disabilities, etc. Setting up of Model inclusive schools in every State is envisaged under the scheme. The School Education Department of the State Governments/Union Territory (UT) Administrations are the implementing agencies.

Central assistance for all items covered in the scheme is on 100 percent basis. The State governments are only required to make provisions for scholarship of Rs. 600/- per disabled child per annum. **This scheme now subsumed under Rashtriya Madhyamik Shiksha Abhiyan (RMSA) from 2013.**

3. GHAR Portal: It is a portal to digitally monitor and track the restoration and repatriation of children according to the protocols under the Juvenile Justice (Care and Protection of Children) Act, 2015, and Rules thereof. It has **been developed and launched by the National Commission for Protection of Child Rights (NCPCR).**

Salient features:

- **Digital tracking and monitoring of children who are in the Juvenile Justice system** and have to be repatriated to another Country/State/District.
- **Digital transfer of cases of children to the concerned Juvenile Justice Board/Child Welfare Committee of the State.** It will help in the speedy repatriation of children.
- Where there is a requirement of a translator/interpreter/expert, request will be made to the concerned State Government.

5TH FEB

1. Motion of Thanks: Article 87 provides for the special address by the President. The article provides that at the commencement of the first session after each general election to the House of the People and at the commencement of the first session of each year, the President shall address both Houses of Parliament assembled together and inform Parliament of the causes of its summons. Such an Address is called 'special address', and it is also an annual feature. This Address has to be to both Houses of Parliament

assembled together. If any of the amendments are put forward and accepted then the Motion of Thanks is adopted in the amended form. At the end of the discussion, the motion is put to vote.

The Motion of Thanks must be passed in the House.

Otherwise, it amounts to the defeat of the government. It is one of the ways through which the Lok Sabha can also express a lack of confidence in the government.

The other ways are:

- Rejection of a money bill.
- Passing a censure motion or an adjournment motion.
- The defeat of the government on a vital issue.
- Passing a cut motion

2. InTranSE Program: The Intelligent Transportation System Endeavor (InTranSE) is a **revolutionary collaborative research and development programme. It is an initiative of the Ministry of Electronics & IT.**

Purpose: To synergize the transformation in Intelligent Transportation Systems the Ministry of Electronics & IT took early steps by bringing together premier academic institutes like the Indian Institute of Technology (IIT), the Indian Institute of Science (IISc), Indian Institute of Management (IIM) etc. and Premier R&D Centre like C-DAC under one umbrella.

Significance: It will achieve traffic efficiency by minimising traffic problems, prompting efficient infrastructure usage, enriching users with prior information about traffic and reducing travel time as well as enhancing the safety and comfort of commuters.

3. Mera Gaon Meri Dharohar (MGMD): It is a pan-India initiative of Ministry of Culture under National Mission on Cultural Mapping and was launched in July 2023.

The main objective the project is to culturally map India's 6.5 lakh villages, spanning 29 States and 7 Union Territories, on a comprehensive virtual platform. Through MGMD, people will get an opportunity to immerse themselves in the diverse and vibrant cultural heritage of India. **The core idea behind this project is to encourage appreciation for India's culture and traditions, paving way for economic**

growth, social harmony, and artistic development in rural communities.

6TH FEB

1. India Energy Weeks: The Prime Minister of India inaugurated the India Energy Week (IEW) 2024 in Goa and the Oil and Natural Gas Corporation Limited (ONGC) Sea Survival Centre, and also participated in the Viksit Bharat, Viksit Goa 2047 programme. **India Energy Week 2024 is being held in Goa. It is India's largest and only all-encompassing energy exhibition and conference,** bringing together the entire energy value chain, and will catalyse India's energy transition goals. Encouraging, fostering and integrating startups into the energy value chain will be an important focus for IEW 2024.

India's position as the world's third largest energy, oil, and liquid petroleum gas (LPG) consumer, as well as the fourth largest liquefied natural gas (LNG) importer and refiner, was emphasised at IEW. The event reflects India's commitment to global cooperation in the energy sector, with a focus on collaboration and knowledge sharing in sustainable energy development.

ONGC Sea Survival Centre is an Integrated Sea Survival Training Centre to advance the Indian sea survival training ecosystem to global standards. It is anticipated to train 10,000-15,000 personnel annually, emphasising simulated exercises in harsh conditions.

2. Nagoya Protocol: Cameroon recently adopted the Nagoya Protocol on Access and Benefit Sharing. **The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation (the Protocol) is a legally binding global agreement that implements the access and benefit-sharing obligations of the Convention on Biological Diversity (CBD).** It was adopted by the CBD in Nagoya, Japan, in October 2010 and entered into force in 2014, 90 days after the deposit of the fiftieth instrument of ratification.

Benefits:

- It provides a transparent legal framework for the effective implementation of one of the three objectives of the CBD: **the fair and equitable sharing of benefits arising out of the utilisation of genetic resources.**

- It establishes a framework that helps researchers access genetic resources for biotechnology research, development, and other activities, in return for a fair share of any benefits from their use.
- It applies to genetic resources that are covered by the CBD, and to the benefits arising from their utilisation. **It also covers traditional knowledge (TK) associated with genetic resources that are covered by the CBD and the benefits arising from their utilisation.**

3. ABHYAS: It is a high-speed expendable aerial target (HEAT). It is designed by the DRDO's Aeronautical Development Establishment (ADE). ABHYAS offers a realistic threat scenario for the practice of weapon systems. It is the ideal platform for the validation of Armed Forces equipment slated for induction (only those that require aerial engagement).

- It is designed for autonomous flying with the help of an autopilot indigenously made by the ADE.
- It has a radar cross-section and a visual and infrared augmentation system required for weapon practice. **The target drone has a laptop-based Ground Control System** with which the aircraft can be integrated and pre-flight checks, data recording during the flight, replays after the flight and post-flight analysis can be carried out.

7TH FEB

1. SAMARTH Centres: The **Smart Advanced Manufacturing and Rapid Transformation Hub (SAMARTH) centres are set up under the Scheme for "Enhancement of Competitiveness in the Indian Capital Goods Sector.** These centres have been providing assistance to the MSMEs to train the workforce and make them aware of Industry 4.0 technologies in the following ways:

- Organizing Seminars/ Workshops and knowledge-sharing events on Industry 4.0;
- Training industries to create awareness about Industry 4.0;
- Providing consultancy (in areas such as IOT Hardware, Software development, and data

analytics) and incubation support to start-ups including MSMEs.

2. Vidyanjali Scholarship Programme: The Union Minister of Education and Skill Development & Entrepreneurship recently launched the EdCIL Vidyanjali Scholarship Programme. **This initiative guarantees access to high-quality learning systems by facilitating a seamless transition from secondary to higher education and extending financial support for the meritorious Navodaya Vidyalaya students who lack means.** The Vidyanjali programme intends to garner assistance and funding from non-government partners and private sources such as CSR grants etc. **The beneficiaries of the Vidyanjali programme in its initial phase will be students of grades XI and XII studying in Navodaya Vidyalayas across the country.** The sponsorship will be disbursed to students through this platform as Direct Benefit Transfer (DBT). **This platform will be instrumental in capturing data, receiving, hosting, and viewing student applications, tracking student progress, tracking grant disbursement, monitoring fund utilisation, generating impact reports towards SDG realisation, individual mentions of notable student achievement, and publicly acknowledging the support of the funders, among other platform utilities.**

3. Vaccine Safety Net: It is a global network of websites, established by the World Health Organization that provides reliable information on vaccine safety. It is a network of a diverse group of digital information resources (websites and social media), VSN members, located in countries around the world and providing scientifically based information on vaccine safety in various languages. **A key player in the Project is the Global Advisory Committee on Vaccine Safety (GACVS), established by WHO in 1999,** to respond promptly, efficiently, and with scientific rigour to vaccine safety issues of potential global importance. **At the outset of the Project, GACVS developed three categories of criteria for good information practices - regarding credibility, content, accessibility and design to which digital resources providing information on vaccine safety should adhere.** It is continuously expanding and to date, 110 websites from 45 countries provide vaccine safety information in 43 languages

4. Particular Vulnerable Tribal Group: According to the Ministry of Tribal Affairs (MoTA), India has **75 PVTGs, who are characterized by - Pre-agriculture level of technology, Stagnant or declining population, Extremely low literacy, and Subsistence level of economy.** PVTGs were recognised as a separate category based on the findings of the 1961 Dhebar Commission. In 1975, there were 52 PVTGs and the list had been expanded to 75 across 18 states and Union Territories. Data from the MoTA and the 2011.

Census shows that **Odisha has the largest population of PVTGs at 8.66 lakh, followed by MP at 6.09 lakh and Andhra Pradesh.** The total PVTG population is more than 40 lakh and the largest PVTG is Odisha's Saura community, numbering 5.35 lakh.

8TH FEB

1. Open Network Digital Commerce: It is an open-source network set up to enable buyers and sellers to transact with each other irrespective of the e-commerce platform on which either of them are registered. It will enable local commerce across segments, such as mobility, grocery, food order and delivery, hotel booking and travel, among others, to be discovered and engaged by any network-enabled application. It is an **initiative of the Department for Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry.**

Purpose:

- To promote open networks for all aspects of the exchange of goods and services over digital or electronic networks.
- To create new opportunities, curb digital monopolies and support micro, small and medium enterprises and small traders and help them get on online platforms.
- It seeks to democratise digital or electronic commerce, moving it from a platform-centric model to an open-network.

Benefits:

- It offers small retailers an opportunity to provide their services, and goods to buyers across the country through an e-commerce system.

- It enables merchants to save their data to build credit history and reach consumers.
- It is expected to digitise the entire value chain, promote inclusion of suppliers, derive efficiencies in logistics and enhance value for consumers.

2. Quantum Internet: A quantum internet would be a network of quantum computers, sensors, and communication devices that will create, process, and transmit quantum states and entanglement. It is anticipated to enhance society's internet system and provide certain services and securities that the current internet does not have. **The purpose of the quantum internet is not to replace the internet we know today, but to instead create a co-existent network that can be used to solve specific types of problems.** Quantum computers use fundamental units of information similar to the bits used in classical computing. **These are called "qubits."** However, unlike conventional computer bits—which convey information as a 0 or 1—qubits convey information through a combination of quantum states, which are unique conditions found only on the subatomic scale. **Qubits are not either 0 or 1, but rather both and neither, in a quantum phenomenon called superposition..**

3. Kilkari programme: 'Kilkari' is a centralised interactive voice response (IVR) based mobile health service. It delivers free, weekly, time-appropriate 72 audio messages about pregnancy, childbirth, and childcare directly to families' mobile phones from the second trimester of pregnancy until the child is one year old. Women who are registered in the Reproductive Child Health (RCH) portal based on the woman's LMP (last menstrual period) or the child's DoB (Date of Birth), receive a weekly call with pre-recorded audio content directly to the mobile phones of pregnant women and mothers with children under the age of one year. Kilkari audio messages are present in the form of the voice of a fictitious doctor character called Dr. Anita.

It is centrally hosted by the Ministry of Health and Family Welfare (MoHFW) for all the States/UTs and no further investment in the technology, telephony infrastructure or operational costs is required to be borne by States/UTs. This service is FREE of cost for States/UTs and beneficiaries. **Currently, Kilkari is under implementation in 18 States / UTs of India**

9TH FEB

1. Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana: It will be implemented as a Central Sector Sub-scheme under the Central Sector Component of the PMMSY.

Funding: Implemented at an estimated outlay of Rs.6,000 crore consisting of 50% i.e. Rs.3,000 crore public finance including the World Bank and the AFD external financing, and rest 50% i.e. Rs.3,000 crore being the anticipated investment from the beneficiaries/private sector leverage. It will be implemented for 4 years from FY 2023-24 to FY 2026-27 across all the States and UTs.

Intended Beneficiaries: Fishers, Fish (Aquaculture) Farmers, Fish workers, Fish Vendors or such other persons directly engaged in fisheries value chain. Micro and Small enterprises in the form of Proprietary Firms, Partnership Firms and Companies registered in India, Societies, Limited Liability Partnerships (LLPs), Cooperatives, Federations, Village Level Organizations like Self Help Groups (SHGs), Fish Farmers Producer Organizations (FFPOs) and Startups engaged in fisheries and aquaculture value chains.

Objectives:

- Gradual Formalisation of the unorganised fisheries sector through self-registration of fishers, fish farmers and supportive workers under a **National Fisheries Sector Digital Platform.**
- Facilitating access to institutional financing fisheries sector micro and small enterprises.
- Providing a one-time incentive to beneficiaries for purchasing aquaculture insurance.

2. SARTHI Portal: Sandbox for Agricultural and Rural Security, Technology and Insurance (SARTHI) is the comprehensive digital insurance platform launched in collaboration with United Nations Development Programme (UNDP) India. It will offer a digitised insurance journey, simplifying the process for farmers. **The portal will be a single-window platform for viewing, purchasing, and availing insurance products.** The platform has digital payment options and streamlined premium collection, effortless claim initiation, tracking and resolution besides user-friendly interfaces for stakeholders. Also, a spectrum of insurance products

will be introduced on the portal in a phased manner. In the first phase, personal accident and hospital cash policies, while in the second phase health, shop and home insurance and in the third phase tractor, two-wheeler, livestock and non-PMFBY insurance products.

3. Flue Gas Desulphurisation (FGD): It is a technology to eliminate sulphur dioxide (SO₂) from exhaust emissions. Fossil fuels such as coal and oil often contain high amounts of sulphur, and when these fuels are burned, around 95% or more of the sulphur is converted to sulphur dioxide (SO₂), which is emitted as flue gas. It is also a precursor of acid rain which has significant adverse impacts on forests, freshwaters, and soils, in turn killing insect and aquatic life forms, causing paint to peel, corrosion of steel structures such as bridges, and weathering of stone buildings and statues.

FGD is done through the addition of absorbents, which can remove up to 95% of the sulphur dioxide from the flue gas. Substances such as ammonia or sodium sulphite are used as absorbents; however, the use of lime or limestone slurry (wet limestone scrubbing) is also widespread. The uncleaned flue gas is sprayed in a scrubber tower (absorber tower) with a mixture of water and limestone (scrubbing slurry), whereby most of the sulphur dioxide is bonded by chemical reaction

10TH FEB

1. Kalasa-Bhanduri Project: The National Board for Wildlife (NBWL) recently deferred the decision on diverting forest land from the Kali and Sahyadri tiger reserves for the construction of a part of the Karnataka government's Kalasa-Bhanduri Project. The project involves the construction of dams and a canal system to divert water from the Mahadayi River, located in Goa, to the Malaprabha River (a tributary of the Krishna River) basin in Karnataka. **The main goal of the project is to meet the drinking water needs of the districts of Belagavi, Dharwad, Bagalkot, and Gadag in Karnataka.** Though the project was first proposed in the early 1980s, it has remained on paper owing to a dispute between Karnataka, Goa, and Maharashtra. As per plans, **barrages are to be built against Kalasa and Bhanduri**

streams— tributaries of Mahadayi — and water diverted towards Karnataka's parched districts.

2. Mahadayi River: It rises in the Western Ghats from the Bhimgad Wildlife Sanctuary in Khanapur taluk of Karnataka's Belagavi district. The river travels 35 km in Karnataka, and 82 km in Goa before joining the Arabian Sea at Panaji (North Goa). Also called Mandovi in Goa, Mahadayi is a rain-fed river that is shared between Karnataka and Goa for their water needs. The Salim Ali Bird Sanctuary is located on the island of Chorao in the Mandovi River.

Major Tributaries: Kalasa Nala, Bhanduri Nala, Surla Nala, Haltar Nala, Poti Nala, Mahadayi Nala, Pansheer Nala, Bail Nala and Andher Nala.

3. Small Industries Development Bank of India (SIDBI) It was established under an Act of Parliament in 1990. It is the Principal Financial Institution engaged in the promotion, financing & development of the Micro, Small and Medium Enterprises (MSMEs) sector and the coordination of the functions of the various institutions engaged in similar activities.

Objective: To offer loans (both direct and indirect) to MSMEs to help in addressing the development and financial gaps in the ecosystem of MSMEs. It helps MSMEs in acquiring the funds they require to grow the market, develop and commercialise their technologies and innovative products. It was made responsible for administering the Small Industries Development Fund and National Equity Fund.

4. Fund of Funds Scheme: The Fund of Funds for Startups (FFS) Scheme was approved and established in 2016 with a corpus of Rs 10,000 crore,

Funding to startups: Under FFS, the Scheme does not directly invest in startups, instead provides capital to SEBI-registered AIFs, known as daughter funds, who in turn invest money in growing Indian startups through equity and equity-linked instruments.

Small Industries Development Bank of India (SIDBI) has been given the mandate of operating this Fund through selection of suitable daughter funds and overseeing the disbursement of committed capital. AIFs supported under FFS are required to invest at least 2 times of the amount committed under FFS in startups.

12 FEB

1. Telecom Technology Development Fund (TTDF) scheme: It has been notified for domestic companies and institutions involved in the technology design, development, and commercialization of telecommunication products and solutions to enable affordable broadband and mobile services in rural and remote areas. It was **launched by the Universal Service Obligation Fund (USOF), a body under the Department of Telecommunications.**

Aims:

- To fund R&D in rural-specific communication technology applications and form synergies among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem.
- To promote technology ownership and indigenous manufacturing, **create a culture of technology co- innovation, reduce imports, boost export opportunities and creation of Intellectual Property.**

Under the scheme, USOF is also targeting to develop standards to meet countrywide requirements and create the ecosystem for research, design, prototyping, use cases, pilots, and proof of concept testing, among others. **Project timelines are generally up to two years. Extension of six months each at a time may be granted at the sole discretion of USOF/DoT.**

2. SWATI Portal: Principal Scientific Advisor to the Government of India launched "Science for Women- A Technology & Innovation (SWATI)" Portal. It is **aimed at creating a single online portal representing Indian Women and Girls in STEMM (Science, Technology, Engineering, Mathematics & Medicine).** The database of the SWATI Portal will serve in policy-making to address the challenges of Gender-gap. **The Portal is a complete interactive database; and the first of its kind in India which is developed, hosted and maintained by the National Institute of Plant Genome Research (NIPGR), New Delhi.** The objective is to scale up the effort exponentially to include each and every Indian woman in science (WiS), across all career stages.

3. National Creators Award: It is the **first-of-its-kind award that will be targeted at "Gen Z", a reference to the young generation hooked to the internet and social media.** The award aims to achieve: **Spotlight on Changemakers, Amplify Diverse Voices.** It brings a community of creators, leaders & government on one platform to spur a social revolution, a national movement during 'Amrit Kaal'. It's a **launchpad for using creativity to drive positive change.** Participants must be 18 years of age or above at the time of nomination. 19 categories are open exclusively to individuals of Indian nationality. **One category is dedicated to international digital creators. Content must be published on one or more of the following digital platforms:** Instagram, YouTube, Twitter, LinkedIn, or Facebook. Content submission can be in English or any other Indian language. Creators can self-nominate in a maximum of three categories. Those nominating others can nominate in all 20 categories.

4. Alaskapox: It is an **orthopox virus that was first discovered in Alaska, USA, in 2015. It is a double-stranded DNA virus belonging to the same genus (Orthopoxvirus) as smallpox, monkeypox, and cowpox.** Orthopoxviruses are zoonotic viruses that can infect various mammals, including humans. Current evidence indicates that the Alaskapox virus primarily occurs in small mammals. Symptoms of Alaskapox include one or more skin lesions (bumps or pustules) and other symptoms like swollen lymph nodes and joint and/or muscle pain. Immuno compromised people might be at increased risk for more severe illness. **While human-to-human transmission of Alaskapox has not yet been observed, some orthopoxviruses can spread by direct contact with lesions (particularly broken skin contact with lesion secretions).**

13TH FEB

1. GROW Portal: The "Greening and Restoration of Wasteland with Agroforestry (GROW)- Suitability Mapping" portal **allows universal access to state and district-level data.** It is **hosted on the Bhuvan website.** The GROW initiative aligns with national commitments, aiming to restore 26 million hectares of degraded land by 2030 and create an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent. The

initiative is led by NITI Aayog .Utilising thematic datasets, the project resulted in the creation of an **Agroforestry Suitability Index (ASI)**. This project on prioritisation of wasteland areas suitable for greening is based on the analysis of five remote sensing derived thematic layers land use, wasteland, slope, water proximity and soil organic content. **Highest weightage was given to wastelands.**

The key features of the system:

- Generates district-level information on wasteland areas suitable for agroforestry
- Generates area prioritisation regime i.e. highly suitable area, moderate and less suitable for agroforestry
- Generates live maps
- Generates area analysis-statistic report
- Offer an interactive mode/tool that provides flexibility in handling the weights as per local conditions/need

2. Biodiversity Heritage Site: Recently, the **Odisha government declared the Gupteswar forest in Koraput district as its fourth Biodiversity Heritage Site (BHS)**. These are areas that are unique, ecologically fragile ecosystems having rich biodiversity comprising of any one or more of the components such as; species richness, high endemism, presence of rare, endemic and threatened species, keystone species, species of evolutionary significance, wild ancestors of domestic/cultivated species or landraces or their varieties, past pre-eminence of biological components represented by fossil beds and having cultural or aesthetic value. **Under the Biological Diversity Act, the State Governments are empowered to notify in the official gazette, in consultation with 'local bodies', areas of biodiversity importance as Biodiversity Heritage Sites.** Also, the State Government in consultation with the Central Government may frame rules for the management and conservation of BHS. The State Governments are empowered to frame schemes for compensating or rehabilitating any person or section of people economically affected by such notification.

3. Types of Online Gaming:

e-Sports: These are video games that were **played privately or on consoles in video game stores in the**

1990s, but are currently played online in a structured manner between professional players, either individually or in teams.

Fantasy sports: These are games in which the player selects a team of real sports players from several teams and earns points based on how well the players perform in real life. For example, Dream11.

Online casual games: These could be **skill-based, where the outcome is heavily impacted by mental or physical skill or chance-based**, where the outcome is heavily influenced by some randomised activity, such as rolling a die. A game of chance may be considered as gambling if players bet money or anything of monetary value.

14TH FEB

1. PM Surya Ghar Muft Bijli Yojana: In this scheme, the **central government will provide 300 units of free electricity per month to its beneficiaries by investing worth ₹75,000 crores.**The free electricity scheme was earlier announced by the Finance Minister in an interim budget speech. It aims to light up 1 crore households. **Under the scheme, Urban Local Bodies and Panchayats shall be incentivised to promote rooftop solar systems in their jurisdictions.**

The Central Government will guarantee no financial burden on the people by providing significant subsidies directly to their bank accounts and offering highly concessional bank loans.

Expected benefits:

- Savings of up to fifteen to eighteen thousand rupees annually for households from free solar electricity and selling the surplus to the distribution companies;
- Charging of electric vehicles;
- Entrepreneurship opportunities for a large number of vendors for supply and installation;
- Employment opportunities for the youth with technical skills in manufacturing, installation and maintenance.

2. National Generic Document Registration System: It is a **project initiated by the Department of Land Resources, Ministry of Rural Development, Government of India.** It is a common, generic application developed for registration departments

across the country under the One Nation One Software initiative. **The NGDRS application is developed by the National Informatics Centre, Pune.** It is a common, generic and configurable application developed for registration departments across the country. The application is specifically designed for the use of sub-registrars, citizens and apex users from registration departments. **NGDRS facilitates states to create state-specific instances and configure the software as per requirements.** Offering a complete user interface for property and document registration, the application enables citizens to proceed with land buying online. They can find out the circle rate for land, calculate property valuation as per prevailing rates and understand the type of land. Transactions of prohibited properties are restricted for sale like government land, tribal land, mortgaged land etc., are also available, which ultimately helps them decide where and what type of land they should buy

3. e-Jagriti Portal: It is an initiative of the Department of Consumer Affairs, Ministry of Consumer Affairs, Food, and Public Distribution. It is a portal for consumer commissions. This portal has been designed to further improve the customer experience. It **provides a simple, fast, and cost-effective consumer dispute redressal software solution at all levels.** It is envisaged to integrate consumer grievance platforms, namely, the Online Case Monitoring System (OCMS), E-Daakhil, the National Consumer Dispute Redressal Commission (NCDRC) Case Monitoring System, CONFONET website, mediation application, on a single platform. **The e-Jagriti platform has case filing, online fee payment, case monitoring modules for seamless disposal of cases by all the Commissions, has Smart search facility on archived consumer complaints/cases/judgements using AI technology** for metadata and keyword creation, and Voice-to-text conversion of judgements, case history and other details using AI / ML technology.

15TH FEB

1. Mohammed Quli Qutb Shah's tomb: Recently, a reality tech firm unveiled the digital twin of Mohammed Quli Qutb Shah's tomb in Hyderabad. It is **one the grandest monuments in the Qutb Shah's tombs complex at the foothill of Golconda,**

Hyderabad. The majestic tomb built in 1602, is one of the largest tombs at the Qutb Shahi heritage park complex.

Qutub Shahi Tombs: These are erected in the memory of the departed kings of Golconda. **They are located one kilometer north of Golconda Fort's called Banjara Darwaza.** Built by the Qutub Shahis, these tombs are considered to be among the oldest historical monuments of Hyderabad. These tombs are present in a large group on a raised platform. They resemble **Persian, Pathan and Hindu architectural styles** that makes use of grey granite, with stucco ornamentation and is a one-of-its-kind place in the world where the whole dynasty is buried at a single spot. **Digital Twin is a digital model of an object, system or a process that acts the same as its real world counterpart.** It helps companies and organisations to understand a physical object or a process well.

2. PLI scheme for Advanced Chemistry Cells: The scheme is called **National Programme on Advanced Chemistry Cell (ACC) Battery Storage.** The Indian government aims to promote the manufacturing of technology-agnostic ACCs within the country, aligning with its commitment to fostering innovation and self-reliance in the renewable energy sector. **The scheme envisages setting up of a cumulative ACC manufacturing capacity of fifty (50) GWh for ACCs and an additional cumulative capacity of (5) GWh for Niche ACC Technologies.** The manufacturing facility as proposed by the beneficiary firm would have to be commissioned within a period of 2 years. The subsidy will be disbursed thereafter over a period of 5 years. The beneficiary has to ensure achieving a domestic value addition of at-least 25% and incur the mandatory investment (₹ 225 crore /GWh) within 2 Years (at the Mother Unit Level) and raise it to 60% domestic value addition within 5 Years, either at Mother Unit, in-case of an Integrated Unit, or at the Project Level, in-case of "Hub & Spoke" structure.

Nodal Ministry: Ministry of Heavy Industries

3. Cassini Spacecraft: **Cassini-Huygens was a joint NASA/European Space Agency (ESA)/Italian Space Agency (ASI) space mission to Saturn. It was launched on October 15, 1997.** The mission consisted of NASA's

Cassini orbiter, which was the first space probe to orbit Saturn, and the ESA's Huygens probe, which landed on Titan, Saturn's largest moon. It was one of the **largest interplanetary spacecraft**. The instruments on board Cassini included radar to map the cloud-covered surface of Titan and a magnetometer to study Saturn's magnetic field. It measured the structure of Saturn's atmosphere and rings, as well as how they interact with the planet's moons. It also **discovered six named moons and revealed Enceladus and Titan as promising locations to search for extraterrestrial life**.

16 FEB

1. Young Scientist Programme (YUVIKA): "Young Scientist Programme", or "YUva Vigyani KAryakram" YUVIKA, is a **learning and awareness-creating programme of the ISRO to impart basic knowledge on Space Technology, Space Science, and Space Applications to younger students** with a preference for rural areas. The programme is also expected to encourage more students to pursue Science, Technology, Engineering and Mathematics (STEM) based research/careers.

Those who have finished class 8 and are currently studying in class 9 can apply for the programme.

Three students from each state/Union Territory will participate in this programme every year, covering CBSE, ICSE, and state-board syllabus.

The selection is based on **8th Standard academic performance and extracurricular activities**. Students belonging to the rural area have been given special weightage in the selection criteria.

In case there is a tie between the selected candidates, the younger candidates will be given priority.

2. Coal Gasification: It is the process of producing syngas, a mixture consisting primarily of carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂), methane (CH₄), and water vapour (H₂O) - from coal and water, air and/or oxygen. **Gasification occurs in a gasifier, generally a high temperature/pressure vessel where oxygen and steam are directly contacted with the coal** or other feed material causing a series of chemical reactions to occur that convert the feed to syngas and ash/slag. **Syngas can be used for electricity production, used in energy-efficient fuel cell technology, or as chemical "building blocks" for industrial purposes.**

The hydrogen can also be extracted for use in fuelling a hydrogen economy. It is **considered a cleaner option compared to the burning of coal**. It will help in reducing reliance on imports of natural gas, methanol, ammonia and other essential products.

3. European Free Trade Association: India has rejected the demand of the four-nation European Free Trade Association (EFTA) for 'data exclusivity' provisions in the free trade agreement that both sides are negotiating. It is an intergovernmental organisation established in 1960 by the Stockholm Convention.

Objective: Promotes free trade and economic integration between its members within Europe and globally.

Member Countries: Iceland, Liechtenstein, Norway, and Switzerland.

The members of this organisation are all open, competitive economies committed to the **progressive liberalisation of trade in the multinational arena as well as in free trade agreements**. In contrast to the European Union (EU), it is not a customs union.

Governance: Its **highest governing body is the EFTA Council**. It generally meets 8 times a year at the ambassadorial level and twice a year at the ministerial level.

EFTA Court: It is **based in Luxembourg** and has the competence and authority to settle internal and external disputes regarding the implementation, application or interpretation of the EEA agreement. The **headquarters of the EFTA Secretariat is located in Geneva**.

17TH FEB

1. Bharatiya Bhasha Samiti: It is a **High-Powered Committee for the Promotion of Indian Languages**. It has been constituted by the Ministry of Education, Government of India in 2021. The **mandate of this committee would be to explore and recommend pathways for the holistic and multidisciplinary growth of Indian languages as envisaged in the National Education Policy 2020**. It has also been entrusted to advise the Ministry on all matters pertaining to the revitalization of existing language teaching and research and its extension in various institutions in the country. To perform the tasks assigned to it, the High-Powered Committee may appoint sub-committees/study groups.

The committee may organise seminars, workshops, conferences, and webinars to highlight the need for the promotion of Indian languages. It may also interact and coordinate with any institution of the Central/State Government dealing with teaching, research, and extension/promotion of languages.

Shri Lal Bahadur Shastri National Sanskrit University (SLBSNSU), New Delhi would provide secretarial assistance and space to house the High-Powered Committee and meet the related expenditure as per the Government of India rules, regulations and instructions from time to time. Necessary finance towards the same would be provided by the Ministry of Education (MoE) to the University.

2. National Science Day (NSD): Union Minister of State Science & Technology recently released the theme for the "National Science Day 2024", titled "Indigenous Technologies for Viksit Bharat". It is celebrated every year on February 28 to mark the contributions of scientists towards the development of the country. On this day, in 1928, Indian Physicist Sir CV Raman made an important discovery in the field of spectroscopy, which was later named after him: the Raman Effect. For this discovery, he was also awarded the Nobel Prize in Physics in 1930. The National Council for Science and Technology Communication (NCSTC), in 1986, asked the Government of India to announce February 28 as National Science Day. The government accepted and declared the day National Science Day. **The first National Science Day was celebrated on February 28, 1987.**

3. Munich Security Conference (MSC): World leaders gather for the sixtieth Munich Security Conference with growing concerns about a continued war in Ukraine and threats to North Atlantic Treaty Organization (NATO) cohesion. **It is the world's leading forum for debating international security policy.**

Objective: To build trust and contribute to the peaceful resolution of conflicts by sustaining a continuous, curated, and informal dialogue within the international security community. It has been held **in Munich, Bavaria, Germany, since 1963.** The conference is held annually in February. It brings **together security experts, politicians, military leaders, and the defence industry from around the world.** MSC

regularly convenes high-profile events on particular topics and regions and publishes the Munich Security Report, an annual digest of relevant figures, maps, and research on crucial security challenges

19TH FEB

1. Directorate General Of Civil Aviation: It is the **regulatory body in the field of civil aviation** primarily dealing with safety issues. It is an **attached office of the Ministry of Civil Aviation.** It is responsible for the regulation of air transport services to/from/within India and for the enforcement of civil air regulations, air safety and airworthiness standards. It also **coordinates all regulatory functions with the International Civil Aviation Organisation.** Headquarters: New Delhi.

2. Chinook Helicopter: Chinook/CH-47F is the S. Army's primary heavy troop and supply transport aircraft. It is an advanced multi-mission helicopter. It is manufactured by the American aerospace and defence firm Boeing for the US Army and international defence forces. **It is used for the transportation of troops, artillery, supplies, and equipment to the battlefield. India has about 15 CH-47 Chinook helicopters.** It is a twin-engine, tandem-rotor heavy-lift helicopter. It contains a fully integrated digital cockpit management system. It has advanced cargo-handling capabilities that complement the aircraft's mission performance and handling characteristics. It has a monolithic airframe with vibration reduction. It has a triple hook system, which provides stability for large external loads or the capacity for multiple external loads. It can carry up to 55 troops or approximately 10 tonnes of mixed cargo.

3. EU's Digital Services Act: The Digital Services Act (DSA), the EU's landmark rulebook that aims to make the online environment safer, has come into effect for all online intermediaries in the European Union. **Digital Services Act officially came into effect on August 25 2023** but was applied to very large platforms (having more than 45 million active monthly users in the European Union) at that time. The European Commission has since engaged itself in investigating and probing the compliance of these digital giants. Small companies defined as having less than 50 staff and a turnover of less than 10 million euros are relatively spared broader scrutiny by the law. **Its provision applies**

to Online platforms that offer goods, services, or content to EU citizens, such as social media, e-commerce, or cloud services. The aim is to regulate the online activities of tech players with a special focus on tech giants like Google, Facebook, Amazon, etc. and to create a safer and more transparent internet for everyone.

4. Quantum Critical Points Model: This model can help understand unusual behaviors in materials near a quantum critical point and may be used in comprehending entanglement and quantum computing.

Challenges with Established Framework: Silicon and other well-studied materials are understood with the help of well-established frameworks, such as the widely used density functional theory.

However, new materials like transition metal oxides, manganates, ruthenate, and iridates are difficult to understand using these frameworks.

Promise for Advanced Applications: The unique properties of these materials, such as sensitivity to small perturbations, make them promising for advanced applications in devices like sensors, GPS, and memory RAM.

20TH FEB

1. ASEAN-India Trade in Goods Agreement: The 3rd meeting of AITIGA Joint Committee for undertaking the review of ASEAN-India Trade in Goods Agreement (AITIGA) was hosted by India in Vanijya Bhawan, New Delhi. It is a trade deal between the ten member states of ASEAN and India. This agreement was signed at the 7th ASEAN Economic Ministers-India Consultations in Bangkok, Thailand in 2009. **The agreement, which came into effect in 2010, is sometimes referred to as the ASEAN-India Free Trade Agreement.** The Agreement covers trade in physical goods and products; it does not apply to trade in services. ASEAN and India signed a separate ASEAN-India Trade in Services Agreement in 2014.

2. Rubber Board: Recently, the government has increased the allocation for Sustainable and Inclusive Development of the Natural Rubber Sector by 23% for the next two financial years and the scheme is run by the Rubber Board. It is a **statutory organisation**

constituted under the Rubber Act, 1947. It functions under the administrative control of the Ministry of Commerce and Industry. It is responsible for the development of the rubber industry in the country by assisting and encouraging research, development, extension and training activities related to rubber. It also maintains statistical data of rubber, takes steps to promote marketing of rubber and undertake labour welfare activities. A crucial function of the Rubber Board is issuing licences to rubber producers, manufacturers, and exporters/traders. **This licence, known as the "Rubber Board licence/registration," is mandatory for anyone involved in rubber manufacturing and export. It is headed by a Chairman appointed by the Central Government. It has 28 members representing various interests of the natural rubber industry.**

Headquarters: Kottayam, Kerala.

3. Mission Aspides: The European Union recently launched Mission Aspides to protect commercial vessels in the Red Sea from attacks by Iran-backed Houthi rebels. It is a **European Union (EU) naval mission to protect cargo ships in the Red Sea from attacks from Yemen's Houthi rebels.** It will send European warships and airborne early warning systems to the Red Sea, Gulf of Aden and surrounding waters. So far, France, Germany, Italy and Belgium have said they plan to contribute ships. **Aspides vessels, whose operational command centre will be in the Greek city of Larissa, will have orders to fire on the Houthis only if they attack first and will not be authorised to shoot pre-emptively. The mission is planned for one year but may be renewed.**

4. U.S.-India Defense Accelerator Ecosystem (INDUS-X): It was launched in June 2023 during the state visit of the Prime Minister of India to the US. The objective is to expand strategic technology partnerships and defence industrial cooperation between governments, businesses, and academic institutions in India and the US. **INDUS X will be a defence innovation bridge, which will inter-alia, include Joint Challenges, Joint Innovation Fund, Academia engagement, Industry-startup connect, investment by private entities in defence projects, mentoring by experts and niche technology projects etc. It will focus on advancing high-**

tech cooperation and fostering joint research, development, and production opportunities in the defence sector. The initiative aims to explore possibilities for co-producing jet engines, long-range artillery, and infantry vehicles. India's Innovations for Defense Excellence (iDEX) and the Office of the Secretary of Defense (OSD), US, are leading INDUS-X activities.

21 FEB

1. **Rhodamine-B:** Recently, the Tamil Nadu government banned the sale and production of cotton candy in the state after it was found that the **chemical Rhodamine-B was being used for making it. It is a water-soluble chemical compound.**

While it appears green in powder form, it turns vivid fluorescent pink when it comes in contact with water. It is a chemical commonly used for dyeing in the textile, paper, leather, and paint industries as a colouring agent that helps in attaining the red and pink spectrum. As per the **Food Safety Standards Act, 2006, preparation, packaging, importing, selling and serving food items with Rhodamine-B in wedding ceremonies and other public events is a punishable offence.** It is an industrial dye which is not allowed in food anywhere in the world as it is toxic.

2. **IBSA Fund:** India has contributed USD 1 million to a fund established by India, Brazil and South Africa. It was **established in 2004 and became operational in 2006.**

The IBSA countries - India, Brazil and South Africa - each contribute one million dollars annually to the Fund in a spirit of partnership and support for Southern-led, demand-driven, transformational projects in developing countries. It includes promoting food security, addressing HIV/AIDS, and extending access to safe drinking water all to contribute to the achievement of the SDG. **The UN Office for South-South Cooperation (UNOSSC) serves as the Fund Manager and Secretariat of the IBSA Fund.**

It is a unique Forum which brings together India, Brazil and South Africa, three large democracies and major economies from three different continents, facing similar challenges.

The grouping was formalised and named the IBSA Dialogue Forum when the Foreign Ministers of the

three countries met in Brasilia on 6 June 2003 and issued the Brasilia Declaration. Five IBSA Leadership Summits have been held so far. **The 5th IBSA Summit was held in Pretoria on 18 October 2011. India was the IBSA Chair under the theme "Democracy for Demography and Development in 2021.** Brazil assumed on March 2, 2023, the rotating presidency of the India, Brazil, South Africa Dialogue Forum - IBSA.

3. **Raisina Dialogue:** It is an annual conference on geopolitics and geoeconomics, which aims to address the most challenging issues faced by the world. It is **held annually since 2016 in New Delhi.** The conference is attended by people from political, business, media, and civil society backgrounds. The Dialogue is structured as a multi-stakeholder, cross-sectoral discussion, involving heads of state, cabinet ministers and local government officials, who are joined by thought leaders from the private sector, media and academia.

It is **organised by the Observer Research Foundation (ORF) in partnership with the Ministry of External Affairs, Government of India.** The **theme of the 2024 edition is "Chaturanga: Conflict, Contest, Cooperate, Create. Six "thematic pillars".** These include:

- **Tech Frontiers:** Regulations & Realities
- **Peace with the Planet:** Invest & Innovate
- **War & Peace:** Armouries & Asymmetries
- **Decolonising Multilateralism:** Institutions & Inclusion
- **The Post 2030 Agenda:** People & Progress
- **Defending Democracy:** Society & Sovereignty,

22 FEB

1. **Flood Management and Border Areas Programme:** It is a **centrally sponsored Scheme. The Scheme has two components:**

Flood Management Programme (FMP) component: In this central assistance will be provided to State Governments for taking up critical works related to flood control, anti-erosion, drainage development and anti-sea erosion, etc. **The pattern of funding to be followed is 90% (Centre): 10% (State) for Special Category States (8 North-Eastern States and Hilly States of Himachal Pradesh, Uttarakhand and UT of Jammu & Kashmir) and 60% (Centre): 40% (State) for General/ Non-Special Category States.**

River Management and Border Areas (RMBA)

component: Under this flood control and anti-erosion works on common border rivers with neighbouring countries including hydrological observations and flood forecasting, and investigation & pre-construction activities of joint water resources projects (with neighbouring countries) on common border rivers will be taken up with 100% central assistance.

The **Scheme has the provision of incentivizing the States which implement flood plain zoning, recognized as an effective non-structural measure for flood management.** This is particularly relevant as the increased incidence of extreme events has been witnessed during the last few years in view of the likely impact of climate change and the situation may further aggravate in times to come exacerbating the problem of floods in terms of extent, intensity and frequency.

2. Rashtriya Udyamita Vikas Pariyojana: It is tailored specifically for beneficiaries of the PM SVANidhi scheme, this unique National Entrepreneurship Development Project underscores the government's steadfast commitment to nurturing job providers across the nation. It aims to equip individuals with comprehensive entrepreneurship training, creating job providers rather than job seekers.

This initiative focuses on reskilling and upskilling employees to enhance their competitiveness and adaptability in an era of disruptive technology. It will offer comprehensive entrepreneurship training over a period of 22 weeks, combining theoretical knowledge with practical exposure through experiential learning. The training will be conducted through offline, online and hybrid modes, with certificates awarded upon completion, enhancing the course's credibility.

3. Paruveta Festival: The festival, also known as the 'mock hunting festival', is celebrated at the Sri Narasimha Swamy temple in the town of Ahobilam, Andhra Pradesh. It is celebrated by all sections of people, irrespective of their caste. It is a festival of communal harmony, as devotees from other religious communities like Muslims also offer prayers to the Lord.

According to folklore, Lord Vishnu, upon his incarnation as a man-lion (Narasimha) in Ahobilam, married Maha Lakshmi, born as a tribal girl

Chenchulakshmi. The Kurnool District Gazetteers, published by Government Press in 1881, record several beliefs of the Chenchu tribes, including their reverence for Ahobila Narasimha as their brother-in-law and inviting him home for Makar Sankranti. While **Paruveta rituals are commonly observed in many temples during Vijayadashami or Sankranti, at Ahobilam, it is conducted for a 'mandala' (forty days).**

During the festival, the deity from the temple's inner sanctum is taken to the 32 Chenchu tribal villages surrounding Ahobilam town for a duration of 40 days. **Chenchus take 'Narasimha Deeksha' by wearing yellow robes and 'Tulasi Mala' and observe celibacy during this period**

23 FEB

1. Exercise Dosti: It is a trilateral coast guard exercise between India, Sri Lanka, and the Maldives. It is a biennial exercise. It was first conducted in 1991 between the Indian and Maldives Coast Guards. Sri Lanka joined the exercise for the first time in 2012. The exercises have focused on exercises and drills on providing assistance in sea accidents, eliminating sea pollution, and the Coast Guard's procedures and conduct during situations such as oil spills. **The aim of the exercise is to further fortify the friendship, enhance mutual operational capability, exercise interoperability and build cooperation** between the Coast Guards of India, Sri Lanka, and the Maldives. It is the 16th edition of the exercise. **The Coast Guards of the Maldives, India, and Sri Lanka, along with observers from Bangladesh, are participating in Dosti 16 to enhance collaboration between the forces.**

2. NaViGate Bharat Portal: Recently, the Ministry of Information and Broadcasting launched four portals — **Press Sewa, National Register for LCOs, CBC, NaViGate Bharat.** The 'National Video Gateway of Bharat (NaViGate Bharat) is developed by the New Media Wing of the Ministry of Information and Broadcasting. It is a unified bilingual platform which hosts videos on the entire gamut of Government's development-related and citizen welfare-oriented measures.

It empowers citizens by providing a single platform with an interactive user interface to search, stream, share, and download videos related to various Government

schemes, initiatives, and campaigns, with a filter-based advanced search option. The **portal eliminates the hassle of searching for official and reliable information from multiple sources, providing a one-stop platform for media and the general public.**

3. Press Sewa Portal: It is developed under the **Press and Registration of Periodicals Act, 2023 (PRP Act, 2023) by the Press Registrar General of India (PRGI - erstwhile RNI).** This portal aims to simplify the cumbersome registration procedures that were prevalent under the colonial PRB Act, 1867.

Key Features:

- **Online Application:** Publishers can file applications for title registration online.
- **Probability Metre:** Indicates the likelihood of title availability.
- **Real-time Tracking of application status:** Accessible through an intuitively designed dashboard.
- **Dedicated DM Module:** Enables District Magistrates to manage applications received from publishers in a centralised dashboard.

4. Kiru Hydel Power Project: Kiru hydroelectric power project is a run-of-the-river scheme being developed over the Chenab River in the Kishtwar Tehsil of Doha district in Jammu and Kashmir (J&K), India. The project will be constructed between Kirthai II (upstream) and Kwar (downstream) hydroelectric plants. **The project is being developed by Chenab Valley Power Projects (CVPP), a joint venture between - National Hydroelectric Power Corporation (NHPC, 49%), Jammu & Kashmir State Power Development Corporation (JKSPDC, 49%) and Power Trading Corporation (PTC, 2%).**

It was awarded scoping clearance by the Ministry of Environment Forests and Climate Change (MoEF&CC) in 2008. **Environment clearance was issued in 2016 and the project received approval from the State Administrative Council (SAC) in 2019.** The foundation stone for the hydroelectric power plant was laid in 2019, while the deadline for initiating commercial operations is July 2025.

24 FEB

1. MakhaBucha: MakhaBucha Day (Magha Puja) is a religious celebration marking Lord Buddha's teachings

to his disciples. It is **celebrated according to the traditional lunar calendar**, on the day of full moon of the third lunar month. **The term makha comes from the word "Magha" in Pali and it refers to the third lunar month, while bucha can translate as "to worship,"** both of which are derived from the Pali language used in Buddhist scripture. The term MakhaBucha refers to a day intended for worshiping on the third lunar month. **The aim of this day is to purify one's mind and do only good.** Some celebrate by offering food to monks and also attend candle light processions in the evening. **It is the first important religious festival in the Buddhist calendar, takes place in nations including Thailand, Laos and Cambodia,** where the majority of Buddhists practice Theravada Buddhism, also known as "Buddhism of the south".

2. PSiFI System: The system, known as the **personalized skin-integrated facial interface (PSiFI), features a first-of-its-kind bidirectional triboelectric strain and vibration sensor** that enables the simultaneous sensing and integration of verbal and non-verbal expression data. **The PSiFI system is self-powered, facile, stretchable, and transparent.** Coupled with a sophisticated data processing circuit, the system facilitates seamless wireless data transfer, enabling the instantaneous recognition of emotions. Empowered by machine learning algorithms, the technology showcases remarkable efficiency in recognizing human emotions accurately and promptly, even in scenarios where individuals wear masks. **Science behind the PSiFI technology:**

- The **technology is based on the phenomenon of "friction charging,"** where objects separate into positive and negative charges upon friction.
- Notably, the **system is self-generating,** requiring no external power source or complex measuring devices for data recognition.
- This innovative technology is poised to revolutionize various industries, including next-generation wearable systems that provide services based on emotions.

3. Household Consumption Expenditure Survey: For the first time in about 11 years, the government released the broad findings of the All India Household

Consumption Expenditure Survey carried out between August 2022 and July 2023. It is **usually conducted by the National Statistical Office (NSO) every five years. This survey aims at generating estimates of household Monthly Per Capita Consumption Expenditure (MPCE) and its distribution separately for the rural and urban sectors of the country**, for States and Union Territories, and for different socio-economic groups. The average monthly per capita consumption expenditure (MPCE) in Indian households rose by 33.5% since 2011-12 in urban households to ₹3,510, with rural India's MPCE seeing a 40.42% increase over the same period to hit ₹2,008. The proportion of spending on food has dropped to 46.4% for rural households from 52.9% in 2011-12, while their urban peers spent just 39.2% of their overall monthly outgoes on food compared with 42.6% incurred 11 years earlier. This reduction could translate into a lower weightage for food prices in the country's retail inflation calculations. **Among the States, the MPCE is the highest in Sikkim for both rural (₹7,731) and urban areas (₹12,105).** It is the **lowest in Chhattisgarh**, where it was ₹2,466 for rural households and ₹4,483 for urban household members. **The data will play a key role in reviewing critical economic indicators, including the Gross Domestic Product (GDP), poverty levels, and the Consumer Price Inflation (CPI).**

4. Nordic-Baltic cooperation: It is a regional cooperation format that brings together five Nordic countries and three Baltic countries in order to discuss important regional and international issues in an informal atmosphere. **In 2000, it was decided that the Nordic-Baltic cooperation format would be called the Nordic-Baltic Eight (NB8).**

Member countries: Finland, Sweden, Norway, Iceland, Denmark, Estonia, Latvia and Lithuania.

Nordic countries are members of the European Union (except Iceland and Norway which are members of EFTA).

India and NB8: The Nordic-Baltic cooperation with India spans fields as diverse as **innovation, green transition, maritime, health, intellectual property rights, new technologies, space cooperation and artificial intelligence, student exchanges, culture and tourism.** Trade and investment figures between the Nordic region and India are steadily increasing.

26 FEB

1. Shahpur Kandi Dam Project: It is located on the Ravi River in Pathankot district, Punjab, downstream from the existing Ranjit Sagar Dam. The water released by Ranjit Sagar Dam is utilized for generating power from this project. **The main purpose behind the construction of this dam is power generation and irrigation in Punjab and J&K States.** It is constructed by the irrigation department of the Government of Punjab. The project consists of a 55.5 m high concrete gravity dam, a 7.70 km long hydel channel, two head regulators, and two powerhouses.

2. SAMAR Assessment Certificates: System for Advance Manufacturing Assessment and Rating (SAMAR) certificate is a benchmark to measure the competency of defence manufacturing enterprises. **It is an outcome of the collaboration between DRDO and the Quality Council of India (QCI)** to strengthen the defence manufacturing ecosystem in the country to further the vision of making India self-reliant in defence manufacturing. It provides an objective assessment of the manufacturing capability of Defence Manufacturing Enterprises.

It enables enterprises to benchmark their performance across a range of business capabilities to enhance quality, reliability and competitiveness. All defence manufacturing enterprises, both MSME and Large enterprises, are eligible to apply for this certification.

Validity: It is valid for a period of 2 years from the date of issuance of the certificate.

The certification is based on a maturity assessment model developed by QCI and is applicable to all defence manufacturing enterprises i.e., micro, small, medium and large enterprises.

3. Exercise Dharma Guardian: It is an annual exercise and is conducted alternatively in India and Japan. **It is the 5th edition of joint military exercise between India and Japan.** The aim of the Exercise is to foster Military Cooperation and enhance combined capabilities to execute joint operations in the semi-urban environment under Chapter VII of the United Nations Charter. **The Exercise would focus on a high degree of physical fitness, joint planning, joint tactical drills and basics of**

special arms skills. It will enable the two sides to share their best practices in Tactics, Techniques and Procedures for conducting tactical operations. **The Exercise will also facilitate developing interoperability, bonhomie and camaraderie between troops of both sides.** This will enhance the level of defence cooperation, further fostering bilateral relations between the two friendly nations.

4. 'Sudarshan Setu' Bridge: Prime Minister Narendra Modi inaugurated the 'Sudarshan Setu' bridge connecting Beyt Dwarka island to mainland Okha in Gujarat's Devbhumi Dwarka district. **It is India's longest cable-stayed bridge, at 2.32 km, on the Arabian Sea.** It boasts a unique design, featuring a footpath adorned with verses from the Bhagavad Gita and images of Lord Krishna on both sides. **It also has solar panels installed on the upper portions of the footpath, generating one megawatt of electricity**

27 FEB

1. INDRA RV25: 240N: Hyderabad-based Raghu Vamsi Machine Tools Private Limited recently launched its fully indigenous Micro Turbojet Engine "INDRA RV25: 240N". It is a micro turbojet engine. It is **designed and developed indigenously by Hyderabad-based firm Raghu Vamsi Machine Tools with support from IIT Hyderabad.** It has primarily been developed for unmanned aerial vehicles (UAVs) or drones. The engine has applications in UAVs, air taxis, jetpacks, auxiliary power units, range extenders, and power generation in the future.

2. Turbojet Engine: A turbojet engine is a jet engine which produces all of its thrust by ejecting a high-energy gas stream from the engine exhaust nozzle. In contrast to a turbofan or bypass engine, 100% of the air entering the intake of a turbojet engine goes through the engine core. **The component parts of a turbojet engine are the inlet, the gas turbine engine, consisting of a compressor, a combustion chamber and a turbine, and the exhaust nozzle.**

Working: Air is drawn into the engine through the inlet and compressed and heated by the compressor. Fuel is then added to the combustion chamber and ignited. The burning fuel adds energy to the exhaust stream by heating and expanding the air. Sufficient energy to drive

the compressor is extracted from the exhaust stream by the turbine. The remainder of the exhaust energy is used to produce thrust, a process which is enhanced by the geometry of the exhaust nozzle.

As the exhaust gas passes through the nozzle, it is accelerated to high speed as it expands, thus providing propulsion. The thrust produced by the engine can be selectively increased by incorporating an afterburner or re-heat into the engine design. **Turbojet aircraft work on the principle of accelerating a relatively small mass of air to a high speed. Thus, turbojets have relatively poor propulsive efficiency at lower airspeeds, limiting their usefulness to high-speed aircraft.**

3. Aegis Graham Bell Awards: Recently, the Centre for Development of Telematics (C-DOT), the premier Telecom R&D centre of the Government of India, strikes a hat-trick by securing top position in three awards at 14th Annual Aegis Graham Bell Awards. It was **initiated in 2010 by the Aegis School of Data Science. It is a tribute to the father of telephony and great innovator, Alexander Graham Bell.** The Aegis School of Business, Data Science and Cyber Security has initiated this award to promote innovations and recognise the outstanding contributions by innovators in various fields including **education, Information and Communications Technology (ICT), Artificial Intelligence (AI) and data science.** This award in India is supported by **the Ministry of Electronics and Information Technology (MeitY), Skill India and the National Informatics Centre.** Following are the projects of C-DOT which received this award:

- **ASTR Project:** ASTR (AI & Facial Recognition-powered Solution for Telecom SIM Subscriber Verification) is a game-changer in the fight against cybercrimes.
- Designed to analyse, identify, and eliminate fake/forged mobile connections, it's a crucial step towards ensuring a secure telecom environment.
- **CEIR (Central Equipment Identity Register) solution:** CEIR helps revolutionise mobile security by detecting clone IMEIs, restricting the import of counterfeit mobile devices and also enabling the blocking and tracing of lost or stolen phones.
- **Quantum Key Distribution (QKD) product:** India employs quantum mechanics to create an

unbreakable cryptographic protocol even with Quantum computers.

29 FEB

1. **Haemophilia A:** Recently, the **union Science and Technology Minister** told that **India has conducted the first human clinical trial of gene therapy for 'haemophilia A' at Christian Medical College – Vellore.** It is a genetic disorder that affects the body's ability to form blood clots.

It is a **rare disorder in which the blood doesn't clot in the typical way because it doesn't have enough blood-clotting proteins.** It is a sex linked disorder. The gene for haemophilia is carried on the X chromosome. **It is caused by a mutation or change, in one of the genes,** that provides instructions for making the clotting factor proteins needed to form a blood clot. This type is caused by a lack or decrease of clotting factor VIII. Signs and symptoms of haemophilia vary, depending on the level of clotting factors. Males are much more likely to have haemophilia than are females. **It involves replacement therapy, which involves infusing clotting factor concentrates into the bloodstream to help the blood clot.** Other treatments may include medications to promote clotting or surgery to repair damage caused by bleeding.

2. **Financial Intelligence Unit:** It was **set up by the Government of India in November 2004.** It is the central national agency responsible for receiving, processing, analyzing and disseminating information relating to suspect financial transactions. It is also responsible for coordinating and strengthening efforts of national and international intelligence, investigation and enforcement agencies in pursuing global efforts against money laundering and financing of terrorism. It is an **independent body reporting directly to the Economic**

Intelligence Council (EIC) headed by the Union Finance Minister.

3. **Steadfast Defender 2024:** It is **B** It involves 90,000 forces from 31 member countries and NATO partner Sweden and is conducted across various NATO nations. **The exercise will feature an impressive array of military hardware, including over 50 naval vessels ranging from aircraft carriers to destroyers,** and a formidable air contingent of more than 80 units comprising fighter jets, helicopters, and drones. The ground forces are equally robust, with at least 1,100 combat vehicles, including 133 tanks and 533 infantry fighting vehicles, demonstrating NATO's ground capabilities. **The purpose of Steadfast Defender 2024 is to put NATO's new regional defense plans to the test.**

4. **North Atlantic right whales:** These **whales are migratory animals,** spending the winter in warmer waters and migrating to the poles for cooler waters in late summer. **These whales inhabit the temperate and subpolar waters of the North Atlantic and North Pacific oceans.** Depending on the time of year and which hemisphere they're found, right whales will spend much of their time near bays and peninsulas and in shallow, coastal waters. These are generally restricted to the coastal waters of the East Coast of the United States and Canada. **There are three recognized species of right whales that occur in different parts of the world. These are Southern right whales (Eubalaena australis), North Atlantic right whales (Eubalaena glacialis) and North Pacific right whales.** These whales often skim feed at or just below the water surface, slowly swimming through clouds of plankton with their mouths half open and then straining the plankton through their long baleen plates. **IUCN: Critically endangered CITES: Appendix I.**

PLACES IN NEWS

1. Indonesia (Capital: Jakarta):

- Recently, India and Indonesia commemorated the 75th anniversary of establishing their diplomatic relations.
- Political Features**
 - An archipelago, located off the coast of mainland Southeast Asia in the Indian and Pacific oceans.
 - Shares borders with **Malaysia, Papua New Guinea and East Timor.**
 - Maritime Neighbours:** Singapore, Philippines, Australia, and India.
- Geographical Features**
 - Five main islands:** Sumatra, Java, Kalimantan (two-thirds of the island of Borneo), Sulawesi and Papua.
 - Positioned in boundary zone of 3 major tectonic plates: Indian-Australian, Eurasian and Pacific.
 - Java Trench is the deepest point of the Indian Ocean.**
 - Highest Peak:** Puncak Jaya



2. Argentina (Capital: Buenos Aires):

- Argentina's Lower House of Congress approved 'Omnibus' reform bill to transform its economy and the state.
- Political Features**
 - Country in South America.
 - Neighboring Countries: Chile (south and west), Bolivia and Paraguay (north), and Brazil, Uruguay (east).
- Geographical Features**
 - Geographically divided into four major regions: **Andes, North, Pampas, and Patagonia.**

- Pampas is the agricultural heartland.**
- Bounded to the east by Atlantic Ocean.
- Major rivers:** Parana, Paraguay, Uruguay, Iguazu, Salado, etc.
- Highest peak:** Cerro Aconcagua.



3. Suriname (Capital: Paramaribo):

- A Parliamentary delegation from the Republic of Suriname, called on the President of India.
- Political Features**
 - Located on northern coast of South America.
 - Boundaries:** Atlantic Ocean to the north, French Guiana to the east, Brazil to the south, and Guyana to the west.
- Geographical Features**
 - Tropical rainforest covers southern part of the country.**
 - Economically, dependent on extensive supply of natural resources, most notably Bauxite.
 - Major Rivers:** Maroni, Courantyne, Coppename, Suriname River etc.
 - Highest Peak:** Juliana Top

4. Iran (Capital: Tehran):

- Iran announced 15-day visa-free policy for Indian tourists.

- **Political features:**

- **Location:** Iran is a country in the Middle East or West Asia.
- **Bordering nations:** Afghanistan, Pakistan, Turkmenistan, Azerbaijan, Armenia, Turkey, Iraq.
- **Bordering water bodies:** Caspian Sea, Gulf of Oman and Persian Gulf.

- **Geographical features:**

- **Major mountain ranges:** Zagros, Elburz,
- **Highest Point:** Mount Damavand (it is a dormant volcano and also the highest volcano in the Middle East)
- **Major deserts:** Dasht-e-Kavir and Dasht-e-Lut



6. Kawal Tiger Reserve:-

- **Location:**

- It is located in the northeastern part of Telangana (Old Adilabad district), with the Godavari River on one side and the Maharashtra border on the other.
- It forms part of the Deccan peninsula-central highlands.

- The government of India declared Kawal Wildlife Sanctuary a Tiger Reserve in 2012.

- **Rivers:** The reserve is the catchment for the rivers Godavari and Kadam, which flow towards the south of the sanctuary.

- Geographically, the reserve is situated at the southernmost tip of the Central Indian Tiger Landscape, having linkages with the Tadoba-Andhari (Maharashtra) and Indravati (Chhattisgarh) tiger reserves.

- **Habitat:** It has diverse habitats comprising dense forests, grasslands, open areas, rivers, streams and water bodies.

- **Vegetation:** Southern Tropical Dry Deciduous Forest.

- **Flora:**

- Teak is found extensively, along with Bamboo.
- As many as 673 plant species have been recorded, and the important ones are Anogeissus latifolia, Mitragyna parviflora, Terminalia crenulata, Terminalia arjuna, Boswellia serrata, etc.

- **Fauna:**

5. Iceland (Capital: Reykjavik):

- Recently, a volcano erupted in Iceland.
- **Political features:**
 - An island country, located in North Atlantic Ocean.
 - Part of the Nordic Countries.
 - **Other Nordic countries are Denmark, Finland, Norway, and Sweden.**
 - Bounded by Greenland Sea (North); Norwegian Sea (East); Atlantic Ocean (South and west); Denmark Strait (Northwest).
- **Geographical Features**
 - It is underlain by basalt, a dark rock of igneous origin.
 - Lies on the Mid Atlantic Ridge.
 - Ridge is formed at divergent plate boundary where the North American Plate and the Eurasian Plate are moving away from each other.
 - **Highest Peak:** Hvannadals Peak
 - **Major river:** Thjórs River

- It has a faunal diversity which is **typical of the Deccan Plateau**.
- The major wild animals include **nilgai, chousingha, chinkara, black buck, sambar, spotted deer, wild dog, wolf, jackal, fox, tiger, leopard,** and jungle cat.

7. Red sea:

The Red Sea, one of the most saline bodies of water in the world, is an inlet of the Indian Ocean between Africa and Asia.

Location/Map of Red Sea

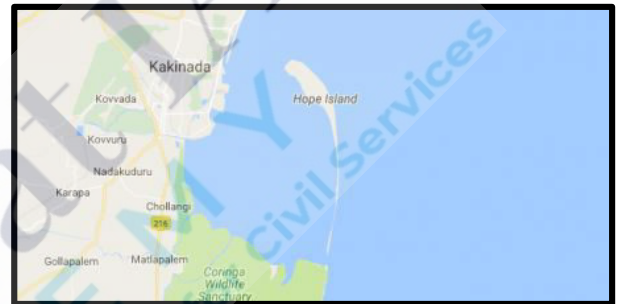
- The elongated and narrow-shaped basin extends between the Mediterranean Sea, to the north-west, and the Indian Ocean, to the south-east.
- At the **northern end, it separates into the Gulf of Aqaba and the Gulf of Suez**, which is connected to the Mediterranean Sea via the Suez Canal.
- At the **southern end, it is connected to the Gulf of Aden, and the outer Indian Ocean**, via the Strait of Bab-el-Mandeb.
- It is surrounded by desert or semi-desert areas, with no major freshwater inflow.
- Six countries border the Red Sea : **Egypt, Saudi Arabia, Yemen, Sudan, Eritrea, and Djibouti**

Mnemonic - YESS DE



8. Hope Island:

- It is a tadpole-shaped island, located off the coast of Kakinada, Andhra Pradesh, in the Bay of Bengal.
- **Hope Island is so named for providing a natural haven to sailors against the forces of wind and tide against the weary traveller.**
- This island is young, as it was formed in the late 18th century, by the waters of the Koringa River, which is a distributary of the River Godavari.
- The area **between Kakinada coast and Hope Island is known as Kakinada Bay.**
- It **acts as a natural barrier** from storm surges and is a natural breakwater for the Kakinada coast.



9. Bor Tiger Reserve: State :- Madhya Pradesh

- It is the **smallest tiger reserve in India by area.**
- The **Bor Tiger Reserve is traversed by the Bor River**, which plays a significant role in the ecology and biodiversity of the reserve.
- The Bor Tiger Reserve is strategically located between the Pench Tiger Reserve and the Tadoba-Andhari Tiger Reserve in the Nagpur and Chandrapur districts of Maharashtra.
- This **region acts as a crucial tiger corridor connecting these two tiger reserves.**
- It has **Dry Deciduous Forest.**

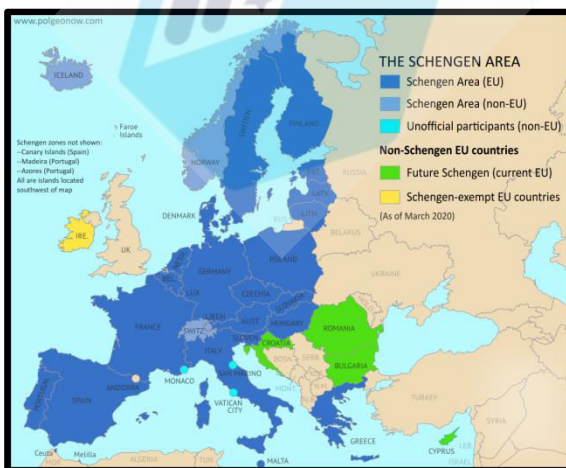
10. Abohar Wildlife Sanctuary: Urgent Conservation Concern for Blackbucks in Punjab

- **Location:** State of Punjab
- **Wildlife Census Alert:** Blackbucks on the verge of extinction in Punjab
- **Recognition:**
 - It has been **declared as the State Animal of Punjab, Haryana, and Andhra Pradesh.**
- **Cultural Importance:**
 - It is a **symbol of purity for Hinduism** as its skin and horns are regarded as sacred objects. For **Buddhism, it is a symbol of good luck.**
- **Protection Status:**

- **Wildlife Protection Act 1972:** Schedule I
- **IUCN Status:** Least Concern
- **CITES:** Appendix III
- **Threat:**
 - Habitat Fragmentation, **Deforestation, Natural Calamities**, Illegal Hunting.
 - Ownership: Entire sanctuary area on private or community-owned land of **13 Bishnoi villages**

11. The Schengen Zone in Europe:

- Kosovo recently secured visa-free access to the Schengen zone in Europe, world's largest zone of free movement, becoming the last western Balkan non-European Union (EU) nation to waive visa requirements.
- **Citizens of Kosovo can now enter the Schengen as tourists for 90 days within 180 days.**
- The zone is known after Schengen, the tiny Luxembourg village bordering France and Germany, where the agreement was signed in 1985 among five of the six EU founding members except Italy.
- Currently, it is **an area encompassing 27 European countries that have officially abolished border controls at their mutual borders.**
- It mostly functions as a single jurisdiction under a common visa policy for international travel purposes.
- **Croatia, a EU member since 2013, joined Schengen in 2023, while Romania and Bulgaria, EU members since 2007, will gain partial Schengen entry from 31 March 2024.**



12. Baltic Sea

- It is a semi-enclosed inland sea located in **Northern Europe.**

- It is an **arm of the North Atlantic Ocean**, extending northward from the latitude of southern Denmark almost to the Arctic Circle and **separating the Scandinavian Peninsula from the rest of continental Europe.**
- It has a coastline of approximately 8,000 km, shared by several countries, including **Sweden, Poland, Lithuania, Latvia, Finland, Estonia, Germany, Denmark, and Russia.**
- It covers an area of approximately 377,000 sq.km. The sea is approximately 1,600 km long and 193 km wide.
- It is **connected to the White Sea via the White Sea Canal** and to the **North Sea's German Bight via the Kiel Canal.**
- It connects to the **Atlantic Ocean through the Danish Straits.**
- The Baltic Sea **contains three major gulfs:** the **Gulf of Bothnia** to the north, the **Gulf of Finland** to the east, and the **Gulf of Riga** slightly to the south of that.
- It is often cited as the **world's largest brackish inland water body.**
- Its **water salinity levels are lower than that of the World Oceans** due to the inflow of fresh water from the surrounding land and the sea's shallowness.
- More than 250 rivers and streams empty their waters into the Baltic Sea. **Neva is the largest river that drains into the Baltic Sea.**
- **Islands:** It is home to over 20 islands and archipelagos. **Gotland**, located off the coast of Sweden, is the **largest island in the Baltic Sea.**



13. Melghat Tiger Reserve:

- **Location:**

- It is located in the **Amaravati district of Maharashtra**.
- It is located on the southern **offshoot of the Satpura Hill Range** in Central India, called **Gawilgarh Hill**.
- It was established as a wildlife sanctuary in 1967 and was declared a tiger reserve in 1974.
- It was the **first tiger reserve in Maharashtra**.
- It was among the first nine tiger reserves notified in 1973-74 under Project Tiger.
- The name 'Melghat' means the confluence of various 'ghats' or valleys, as is typical of the landscape of this Tiger Reserve.
- **Vegetation:** The forest is **tropical dry deciduous** in nature, and **dominated by teak**.
- **Rivers:** The reserve is a catchment area for **five major rivers: the Khandu, Khapra, Sipna, Gadga, and Dolar**, all of which are **tributaries of the river Tapti**.
- The **Tapti River and the Gawilgarh ridge** of the Satpura Range **form the boundaries of the reserve**.
- **Tribes:** The **Korkus** are the largest tribal community in Melghat. Other communities include the **Gawli community**, the **Gond tribe**, and several other smaller tribal communities.
- **Flora:** Some of the common species are **teak, Lagerstroemia Parviflora, Terminalia Tomentosa, Ougeinia Oojeinensis, Emblica Officinalis, Bamboo**, etc.
- **Fauna:**
 - Apart from Tigers the other prominent animals are **Sloth Bear, Indian Gaur, Sambar deer, Leopard, Nilgais, dhole, hyena, jungle cat, langur**, etc.
 - It is considered a stronghold of the **critically endangered forest owl**.

14. Brazil:

- Brazil is the **largest country in both South America and Latin America**.
- Its capital is **Brasília**.
- It is bounded by the **Atlantic Ocean on the east, and borders all other countries in South America except Ecuador and Chile**.

- Brazil is a founding member of the **United Nations, the G20, BRICS, Union of South American Nations, Mercosul** etc.



15. Papua New Guinea

- Recently, numerous men lost their lives in a fresh outbreak of tribal conflict in the remote highlands of Papua New Guinea.
- It is an **island country situated in the south-western Pacific**.
- It covers the eastern part of New Guinea, the world's second-largest island, and many smaller nearby islands.
- It shares its land border only with Indonesia.
- It is the **world's third-largest island nation, spanning 462,840 square kilometers**.



16. Albania:

Recently, Albania's Foreign Minister said that Albania is planning to open an Embassy in New Delhi, India while India will soon have a diplomatic mission in Tirana, Albania.

About Albania:

- **Location:** A country in **Southeast Europe**.
- **Bordering Countries:** It is bordered by **four countries**:
 - **Northeast:** Kosovo
 - **Northwest:** Montenegro
 - **East:** North Macedonia
 - **South and Southeast:** Greece
- It is bounded by the **Adriatic Sea** in the west and the **Ionian Sea** in the southwest.
- **Maritime Borders:** Italy, Greece and Montenegro



17. Almora Fault:

- It is a **geological fault located in Western Nepal and extends to the Uttarakhand region in India**.
- It lies on the Main Boundary Thrust (MBT) in the Himalayan fault zone.
- There are two thrusts in Kumaon, Uttarakhand: **One is the South Almora Thrust and the other is the North Almora Thrust**
- **MBT (Main Boundary Thrust):** It is a significant fault in the Himalayas, marking the boundary between the Lesser Himalayas and the Sub-Himalayas.

18. Pampore Region: It is in Jammu & Kashmir

- known as the **centre of the country's saffron (referred to as "red gold") cultivation**

- **Saffron is a spice derived from the flower of *Crocus sativus*, commonly known as the "saffron crocus".** The vivid crimson stigma and styles, called threads, are collected and dried for use mainly as a seasoning and colouring agent in food
- **Iran, India, Spain and Greece are the major saffron-producing countries** with Iran occupying the maximum area and contributing about 88% of the world's saffron production.
- Though, **India occupies the 2nd largest area but produces approximately 7 per cent of the total world production.**

19. Pir Panjal Valley:

- The **Pir Panjal is a sub-Range of Himalayas and it runs from the Neelam River in J&K all the way to the Beas River in Kullu in Himachal Pradesh** extending into Pakistan.
- It is a collection of mountains in the Lesser Himalayan region.
- It separates itself from the Himalayas near the bank of the Sulej river and forms a divide between the rivers Beas and Ravi on one side and the Chenab on the other
- **Major passes:** Six historical passes, Hajipir Pass, Gulabgarh Pass, Ratanpir Pass, Pir Panjal Pass, Banihal Pass, and Bairam Gala Pass are in this mountain range
- **Important peaks:** Deo Tibba (6,001 m) and Indrasan (6,221m) are two important peaks at the eastern end of the mountain range.



20. Gulf Of Aden

- The Gulf of Aden, an arm of the Indian Ocean is situated between Yemen on the south coast of the Arabian Peninsula and Somalia in Africa.
- It is bounded to the south by Somalia and the Socotra Islands, north by Yemen, east by the Arabian Sea, and west by Djibouti.
- The gulf – roughly 900 kilometers long and 500 kilometers wide is an important waterway for transporting Persian Gulf oil.
- The gulf connects the Red Sea to the Arabian Sea via the Strait of Bab el Mandeb. It forms an essential oil transport route between Europe and the Far East.
- Its marine life is rich in quantity and variety. Its coastline lacks large-scale fishing facilities but

supports many fishing towns, as well as the major ports Aden and Djibouti.

- In recent years, the gulf has received a lot of attention due to piracy, terrorism and refugee smuggling.



EDUFACTS

1ST FEB

1. In **Shakti Vahini v. Union of India, 2018**, the Supreme Court held that consensually choosing life partners is a manifestation of freedom of choice guaranteed under **Articles 19 and 21 of the Constitution**
2. **France is the 11th largest foreign investor in India**, with a cumulative investment of USD 10.49 billion from April 2000 to December 2022.
3. In May 2023, SEBI estimated that FPI Assets Under Management (AUM) of around Rs 2.6 lakh crore may potentially be identified as High-Risk FPIs requiring additional disclosures based on data as of 31st March 2023

2ND FEB

1. India is Myanmar's 4th largest trading partner and a major source of investment.
2. Graded Response Action Plan (GRAP) was approved by the Supreme Court in the case of **M. C. Mehta vs. Union of India 2016 and notified in 2017**
3. Recently, the **military regimes in Burkina Faso, Mali and Niger announced their immediate withdrawal from the West African bloc Economic Community of West African States (ECOWAS)**. India has a long-standing relationship with ECOWAS and was given the status of observer to the body in 2004

3RD FEB

1. LFPR for male in India increased from 75.8% in 2017-18 to 78.5% in 2022-23 and corresponding increase in LFPR for females was from 23.3% to 37.0%.
2. The share of various energy sources in the total Electricity Generation are: Fossil fuel (including Coal)- 56.8%, Renewable Energy (including Hydropower)- 41.4%, Nuclear fuel- 1.60%

5TH FEB

1. C4 plants are a **type of plants that utilize a specific photosynthetic pathway known as the C4 carbon**

fixation pathway. This pathway is an adaptation to hot and arid environments, as well as conditions where there is a high likelihood of photorespiration.

Example - millets

2. The **Falkland Islands are a British Overseas Territory**, but Argentina also claims sovereignty over the islands, leading to a historical conflict between the two countries.
3. Neuromorphic Computing is a **type of artificial intelligence (AI)**. It uses specialized hardware and software algorithms to simulate neurons and synapses to process data more efficiently than traditional computers

6TH FEB

1. In the interim budget 2024-25 an **11.1% increase in the capital expenditure outlay for 2024-2025 was announced**. The capital expenditure is set at Rs 11,11,111 crore, constituting 3.4% of the GDP
2. China's National Bureau of Statistics (NBS) reported a 5.2% growth in GDP, reaching 126 trillion yuan in 2023. Despite exceeding the target and outperforming the 3% recorded in 2022, this growth represents the slowest performance since 1990, excluding pandemic years
3. **India has increased its tally of Ramsar sites to 80** from the existing 75 by designating five more wetlands as Ramsar sites

7TH FEB

1. In line with **India's 'Neighbourhood First' policy, the largest share of the aid portfolio in the interim budget has been granted to Bhutan** with an allocation of Rs 2,068 crore
2. Nano urea contains 40,000 mg/L of nitrogen in a 500 ml bottle which is equivalent to the impact of nitrogen nutrient provided by one bag of conventional urea
3. A **Brain-Computer Interface (BCI) is a technology that enables direct communication between the brain and external devices**, such as computers or prosthetics, without using traditional neuromuscular pathways like nerves and muscles.

8TH FEB

1. The National Curriculum Framework for School Education 2023 (NCF) **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
2. Ministry of Finance in its Interim Budget 2024-25 has decided to reduce India's Fiscal Deficit to 5.1% of Gross Domestic Product (GDP) in 2024-25
3. **Shakti**, a fusion music group comprising tabla maestro **Zakir Hussain** and singer **Shankar Mahadevan**, has won the 66th Grammy Award (2024) for **Best Global Music Album for "This Moment"**.

9TH FEB

1. Delimitation Commissions have been set up four times — **1952, 1963, 1973 and 2002 under the Acts of 1952, 1962, 1972 and 2002**
2. The Constitution (Jammu and Kashmir) Scheduled Tribes Order (Amendment) Bill, 2024 focuses on including four ethnic groups in the list of Scheduled Tribes (STs) in Jammu and Kashmir - **Gadda Brahmin, Koli, Paddari Tribe, and Pahari Ethnic Group**
3. **Prunus Africana**, a plant endemic to **Cameroon**, is used to **make drugs for prostate cancer** but foreign companies buy a kilogramme of it USD 2.11 and sell the drugs made from it for USD 405.

10TH FEB

1. Micro-credentials are **brief learning activities with validated specific learning outcomes, offered through online, physical, or hybrid modes at various levels:** beginning, intermediate, or advanced. Various entities such as **Atingi, Coursera, edX, and others offer micro-credentials.**
2. According to NASSCOM, deep-tech start-ups in India raised USD 2.7 billion in venture funding in 2021, and now account for over 12% of the country's overall startup ecosystem. Bengaluru accounts for 25-30% of India's deep-tech start-ups, followed by Delhi-NCR (15-20%) and Mumbai (10-12%).

3. **Bharat Biotech's Typbar is the world's first clinically proven conjugate Typhoid vaccine.** Typhoid fever is a life-threatening infection caused by the bacterium *Salmonella Typhi*

12TH FEB

1. Learning poverty is a term that refers to the **inability of individuals to acquire the necessary skills and knowledge to participate fully in society.** This can be due to a lack of access to quality education, limited resources, or other factors.
2. **India's renewable energy status:- India aims to achieve 500 GW of renewable energy by 2030.** So far, 72 GW of solar and 44 GW of wind energy have been installed. Peak power demand is projected to grow from 240 GW in FY24 to 285 GW in FY28, with deficits of 10-15 GW, mainly in the evenings

13TH FEB

1. **Middle Class Housing Scheme:** Its announcement was made in the recent budget for FY 25. The government will start a program to assist middle-class individuals living in rented houses, slums, chawls, and unauthorized colonies to purchase or construct their own homes. While it is **part of the 'housing for all' policy, it's not an extension of Pradhan Mantri Awas Yojana (PMAY).** It's a new scheme where the government will define income levels, location, and accommodation types to identify beneficiaries.

Note– There is no defined criteria for the identification of the middle class in India yet.

2. Open Radio access Network (O-RAN):

- **It is not a technology but rather a continuous evolution in mobile network architectures** that enables service providers to integrate non-proprietary subcomponents sourced from diverse vendors.
- **Features-** O-RAN features an open, multi-vendor architecture for deploying mobile networks, contrasting with the single-vendor proprietary architecture.
- **Conventional RAN vendor limitation–** Traditionally, RAN infrastructure has been provided by a few major vendors, which has led to vendor lock-in and limited flexibility for

network operators.

- **Software-Defined Collaboration**– ORAN employs software to enable hardware from various manufacturers to collaborate effectively.
- **Protocol and Interface Openness**– The main idea behind Open RAN is to ‘open up’ the protocols and interfaces among different parts (such as radios, hardware, and software) in the RAN.
- **New solution for ORAN**– Recently, the new ORAN base station solution is being designed and developed for commercialization by IITB COMET Foundation (COMET), Bengaluru. Its aim is to create efficient wireless communication technology for 5G and 5G-Advanced radio networks.

Note– COMET is one of the 25 Technology Innovation Hubs (TIH) established under the National Mission for Interdisciplinary Cyber Physical Systems (NM-ICPS) by the Department of Science and Technology (DST).

3. Dhokra Shilpkala Sculpture:

| | |
|----------------------------|--|
| Description | The word “Dhokra” is believed to be derived from the Dhokra Damar tribes , the traditional metal smiths of Central India. |
| Origin | The origins can be traced back to the tribal communities residing in the regions of Chhattisgarh, Jharkhand, West Bengal, and Odisha . |
| Technique | It uses the lost-wax technique, or cire perdue , for metal casting. |
| Artistry and design | <p>1) The beauty of Dhokra Shilpkala lies in its rustic charm and the organic nature of its designs.</p> <p>2) Artisans draw inspiration from nature, mythology, and everyday life.</p> <p>They incorporate motifs such as animals, birds, deities, and tribal symbols into their creations.</p> |

| | |
|-------------------|---|
| | 3) Each piece display a sense of timeless elegance and cultural richness. |
| Challenges | <p>1) Rapid growth in <u>urbanization</u></p> <p>2) Rise of mechanized production techniques.</p> |

14TH FEB

1. Cuscuta dodder is an invasive weed which is slowly **choking the Chengalpet Forests and Vedanthangal Bird Sanctuary**, threatening the local Vegetation, ecology and habitat of migratory birds.
2. Plague is an **infectious disease caused by a specific type of bacterium called Yersinia pestis, a zoonotic bacterium usually found in small mammals and their fleas**. Pestis can affect humans and animals and is spread mainly by fleas.
3. ULPIN is the unique blockchain ID and the land parcel is uniquely identified using ULPIN from Bhunaksha. It is a **14-digit alphanumeric identification number for every land parcel that can be described as the AADHAR or fingerprint for land**. The identification is based on the longitude and latitude of the land parcel and is dependent on geo-referenced cadastral maps.

15TH FEB

1. **The Small Industries Development Bank of India (SIDBI) has recently released the CRISIL study report named “Prabhaav”**. It assesses the impact of the Fund of Funds for Start-ups (FFS).
2. **Significance Of NASA’s PACE satellite:**
 - 1) It will help scientists better understand about the impact of climate change on ocean phytoplankton.
 - 2) It will help understand the influence of particles in the air, like dust and smoke, on cloud formation, warming and cooling of the planet
 - 3) It may make significant breakthroughs in **aerosol-cloud-ocean research**.

16TH FEB

1. Scientists made a surprising discovery in the foothills of the Western Ghats in India — a **Bonnetmushroom growing out of the side of the Golden-backed Frog**.

2. Recently, the Assam government declared the GI-tagged 'Kaji Nemu' (Citrus Limon) as the State Fruit.
3. Micellar water, a product found in supermarkets, chemists and bathroom cabinets around the world, is a very effective cleanser and many people swear by it as part of their skincare routine.

19TH FEB

1. INTERPOL's Red Corner Notice:

- A Red Corner Notice, also called a **Red Notice (RN)**, is a **request to law enforcement worldwide to locate and provisionally arrest such fugitives**.
- It alerts the police forces across the world about these fugitives who are wanted internationally.
- A red notice **contains information that helps identify the wanted person**, including name, date of birth, nationality, and physical attributes like colour of hair, eyes, etc., along with pictures and biometric information.
- It **also includes information about the crimes** that they are wanted for.
- Interpol issues an RN at the request of a member country.

2. India has **initiated an anti-dumping probe into imports of certain solar glass from China and Vietnam**, following a complaint by domestic players. Anti-dumping duty is a **tariff imposed on imports manufactured in foreign countries** that are priced below the fair market value of similar goods in the domestic market.

20TH FEB

1. A UN convention on the conservation of migratory species of wild animals (CMS) adopted India's initiative for the Central Asian Flyway (CAF) and agreed to list **14 additional migratory species from across the globe for conservation in the CMS appendices**.
2. **OpenAI recently unveiled Sora**, an AI model that can produce realistic videos based on text instructions, with a duration of up to one minute. It is a **generative artificial intelligence (GenAI) model**

21 FEB

1. Milan Exercise:

- It is a **biennial multinational naval exercise** that was first conducted in 1995 and has grown to be the **biggest exercise held in India**.
- **Milan Exercise 2024:**
 - **Location:** Coast of Visakhapatnam, India.
 - **Participating Nations:** US, Japan, Australia, France, Bangladesh, South Korea, Vietnam, Indonesia, and Malaysia.
 - It will **feature large-force manoeuvres, advanced air defence operations, anti-submarine warfare and anti-surface drills**.

2. **Article 142 provides a unique power to the Supreme Court, to do "complete justice" between the parties, where, at times, the law or statute may not provide a remedy.** In those situations, the court can extend itself to put an end to a dispute in a manner that would fit the facts of the case

22 FEB

1. List Of Sectors in which FDI is prohibited:

List of prohibited sectors:

- *Lottery Business including Government/ Private lottery, online lotteries etc.
- Chit Funds
- Trading in Transferable Development Rights (TDR)
- Manufacturing of Cigars, cheroots, cigarillos, and cigarettes (tobacco or tobacco substitutes)
- Gambling and betting including casinos*
- Nidhi Company
- **Real Estate Business or Construction of Farm Houses
- Sectors not open to private sector investments – atomic energy, railway operations (other than permitted activities mentioned under the consolidated FDI Policy)

* Foreign technology collaboration in any form including **licensing for franchise, trademark, brand name, management contract is also prohibited for Lottery Business and Gambling and Betting activities**

** Real estate business shall not include the development of town shops, construction of residential/commercial premises, roads or bridges and

Real Estate Investment Trusts (REITs) registered and regulated under the SEBI (REITs) Regulations, 2014.

23 FEB

1. Digital Public Infrastructures like **Aadhar, UPI and FasTag** generated a value of USD 31.8 billion in 2022 which is 0.9% of GDP. The contribution is projected to increase to 2.9% - 4.2% by 2022, according to industry body NASSCOM's report.
2. **Tribals constitute about 23% of the population of Odisha.** Madhya Pradesh is the state with highest population of tribals in India.

26 FEB

1. **Hanooman:** In collaboration with the **BharatGPT ecosystem led by IIT Bombay, Seetha Mahalaxmi Healthcare (SML) has introduced 'Hanooman,'** a suite of Indic large language models trained across 22 Indian languages.
2. As Per NCRB Report 2023 the **crime against women in India increased by 4 % in 2023**

27 FEB

1. **World NGO Day is an international day dedicated to recognize, celebrate and honour all non-governmental and nonprofit organizations,** and the people behind them that contribute to the society all year around. Back in 2014, the 27th of February became a historic day for the NGO community worldwide. **This international calendar day, now known as "World NGO day," was inaugurated for the first time internationally.**
2. Open Acreage Licensing Policy (OALP) is a **policy reform introduced by the Government of India (GoI) to provide relief to hydrocarbon companies.** Under it the company can undertake prospecting for fuels in areas the GoI does not notify.

28 FEB

1. **Shrinkflation** is the practice of reducing the size of a product while maintaining its sticker price. It is a **form of hidden inflation.**
 - Raising the price per given amount is a strategy employed by companies, mainly in the food and beverage industries, to stealthily boost profit margins or maintain them in the face of rising input costs.
 - Shrinkflation is also referred to as package downsizing in business and academic research.
2. **Households in India contribute 70% to the gross domestic savings, with financial assets at 56% and physical assets at 44%.** Total household savings are expected to increase in FY23, driven by a rise in physical savings

29 FEB

1. The WHO defines elimination for Kala Azar as **having fewer than one case per 10,000 people at the sub-district (block Primary Health Centres) level in India.** Once achieved, the elimination is to be sustained for 3 years for KA elimination certification. In Oct 2023, **Bangladesh became the first country, globally, to be officially validated by the WHO for eliminating Kala Azar as a public health problem.**
2. Neural organoids, also **known as cerebral organoids,** are human pluripotent stem cells (hPSCs)-derived 3D in vitro culture systems that recapitulate the developmental processes and organisation of the developing human brain. These provide a **physiologically relevant in vitro 3D brain model for the study of neurological development and disease processes** that are unique to the human nervous system.