

www.vishnuias.com



FEBRUARY 2023

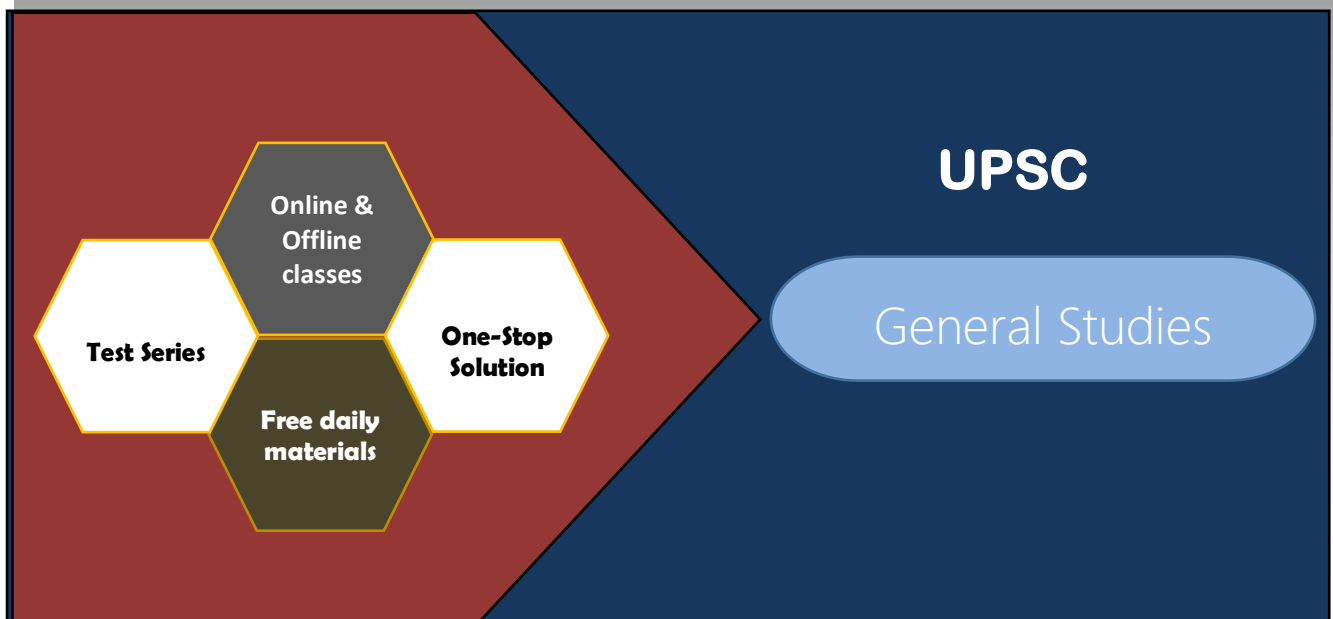
Monthly current affairs magazine

SHIKSHA

A MAGAZINE FOR CIVILSERVICES PREPARATION

JOIN OUR TELEGRAM: <https://t.me/vishnuiasmentor>

**Articles of the day
THE HINDU & INDIAN EXPRESS**



Contents

GS 1 : Heritage,culture ,Geography of the World and Society

1. Lithium Deposits in India
2. ASI Keeladi Report: Sangam Age pushed to 800 BCE
3. A devastating quake in Turkey recalls the tragedies awaiting India

GS 2 : Polity, Governance, International Relations

1. Collegium Issue | L.Victoria Gowri Case
2. India's law and order matrix needs a reboot
3. The funding and demand for MGNREGA
4. Alienation: the separation of labour from the product, process, humanity, society
5. India, U.S. step up strategic ties with tech plan
6. Privilege Motion
7. PM CARES Fund administered like PM's National Relief Fund, HC told
8. Budget's Green Growth push, one of the 'Saptarishi' initiatives for Amrit Kaal
9. The social sector has been short-changed once again
10. Charge sheet scrutiny is not a case of prying eyes
11. Need for Menstrual Leave in India
12. Supreme Court on Terminally Ill Patients
13. Cooperation in Trilateral Framework
14. E-Courts
15. Disclosure of Chargesheets
16. Pradhan Mantri Kisan Urja Suraksha Evam Uttham Mahabhiya (PM KUSUM)
17. End-of-life decisions
18. India, Canada FMs discuss Indo-Pacific cooperation, trade
19. Legal Aid Defense Counsel System (LADCS)
20. G7 and EU banning Russian diesel
21. The Stigma Associated with HIV
22. Quad Nations launch Quad Cyber Challenge
23. International Day of Zero Tolerance for Female Genital Mutilation 2023
24. Supreme Court's Legal Status to Advance Medical Directives
25. Locating China in the Russia-Ukraine war
26. India-France Strategic Partnership
27. India-U.S. Space Cooperation
28. 4G in name only: data needles stutter in 'grey spots' in India

29. The Adani-Hindenburg Saga
30. Not a pipe dream
31. Shaping a more disabled-friendly digital ecosystem
32. Green transition during India's G20 presidency
33. Post Retirement Appointment of Judges
34. Sri Lankan refugees in India
35. The Silent Pandemic of Antimicrobial Resistance (AMR)
36. Now, no age bar to register for cadaver organ transplant
37. Empowering MPs through Data
38. Supreme Court says NO to Sealed Cover suggestions
39. Indo-Pacific Strategy of Canada
40. Stock Market Regulation in India

GS 3 : Economy, Science and Technology, Environment

1. Solar energy is not the best option for India
2. Summary of Economic Survey 2022-23
3. A Budget that signals growth with stability
4. Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP)
5. Indian Military Joint Training Exercise Trishakti Prahar
6. Trade Integration Across Asia
7. Trading more within Asia
8. World Bank Report on Urban Financing
9. Climate Change and Hydropower Generation
10. Why have mangroves got a Budget push?
11. India's Just Energy Transition
12. 'Capital flows and commodity prices could still pose concerns'
13. Voice deepfakes: how they are generated, used, misused and differentiated
14. Spy balloon' is latest flashpoint between US, China: what is this age-old military device?
15. The Budget Push to Mangroves
16. Operation Sadbhavana
17. Is the government on track on fiscal deficit targets?
18. QR Code-based Coin Vending Machine
19. The status and proceeds of disinvestment

20. Union Budget 2023-24 on Fiscal Consolidation
21. Primary Agricultural Credit Societies
22. Free Trade Agreements to Lift Textile Exports
23. Nuclear power in India
24. Budgetary Allocation for Health Sector
25. Why has SEBI proposed tightening the responsibilities of mutual funds trustees?
26. Hill or city, urban planning cannot be an afterthought
27. QR Code-based Coin Vending Machines (QCVM)
28. Climate Risk Efforts of the Banks
29. Green Debt Swaps
30. Taxing windfall profits of oil companies
31. Indo-US exercise includes drill against nuke, bio terror attacks for the first time
32. India's Balance of Payments (BOP)
33. Global Labour Resilience Index 2023
34. Analysis of Budget 2023
35. Boosting the Tax Base
36. Indian Air Force's revised doctrine adopts a holistic approach to the country's security imperatives
37. Residence by Investment
38. Underwater noise emissions pose threat to Indian Marine species: Study
39. E-Waste Issue in India
40. India plans to export Solar Power

GS 1 : Heritage, culture ,Geography of the World and Society

1. Lithium Deposits in India

Lithium reserves found in Jammu and Kashmir.

Introduction:

- The Geological Survey of India has for the first time established Lithium inferred resources of 5.9 million tonnes in the Salal-Haimana area of Reasi District of Jammu & Kashmir.
- This report along with 15 other resource-bearing geological reports were handed over to respective state governments on 9th February 2023 at the 62nd Central Geological Programming board meeting.
- Out of these 51 mineral blocks, 5 blocks pertain to gold and other blocks pertain to commodities like potash, molybdenum, base metals, etc. spread across 11 states of Jammu & Kashmir (UT), Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Odisha, Rajasthan, Tamil Nadu and Telangana.
- The blocks were prepared based on the work carried out by GSI from field seasons 2018-19 to till date.

Significance of Lithium Discovery in India:

- As per the government, lithium reserves have been found for the first time in the country in Jammu and Kashmir.
 - The Atomic Minerals Directorate for Exploration and Research (AMD) under the Department of Atomic Energy, had earlier conducted preliminary surveys that had shown the presence of lithium resources of 1,600 tonnes in the igneous rocks of the Marlagalla–Allapatna region of Karnataka’s Mandya district.
- One of the essential components of electric vehicle (EV) batteries is lithium. The demand for lithium is increasing quickly as more and more people switch from driving gasoline and diesel automobiles to electric ones.
- Lithium is also used in batteries for gadgets like laptops and mobile phones. It has also found application in the glass and ceramics industries.
- Therefore, lithium has been dubbed “white gold” for its widespread usage in items indispensable to modern-day living.
- The demand for lithium is outstripping availability in the world already. According to a prediction by the International Energy Agency, a lithium shortage could occur by 2025.

- Lithium resources are concentrated in a few places. Around 50 percent of the world's lithium deposits are found in the salt flats of Argentina, Bolivia, and Chile. Australia also has around 2.7 million tonnes of lithium resources.
 - China controls 60 percent of the world's capacity for processing raw lithium products into batteries.
- With limited supply and rising prices, the discovery of Lithium in India is crucial as it currently relies on imports to meet its mineral demand, including lithium, nickel, and cobalt.
 - Over 165 crore lithium batteries are estimated to have been imported into India between FY17 and FY20 at an estimated import bill of upwards of \$3.3 billion.
- It is critical as India is trying to wean itself off dependence on China for crucial battery materials and position itself as an alternative in the electric vehicle supply chain.
- Although the lithium find in J & K, in inferred terms, is comparatively small, it is expected to give a big push to the government's plans of expanding into the EV market.
 - The proven reserves in Bolivia are 21 million tonnes, 17 million tonnes in Argentina, Chile (9 million tonnes) 6.3 million tonnes in Australia, and 4.5 million tonnes in China.

Steps taken by the Indian government to secure access to Lithium reserves:

- The government has directed three state-owned mineral companies (National Aluminium Company (Nalco), Hindustan Copper (HCL) and Mineral Exploration Corp. Ltd (MECL)) to team up for a new venture tasked with scouting and acquiring strategic mineral assets abroad.
- Khanij Bidesh India Ltd., (KABIL), a consortium of three PSU companies mentioned above is also prospecting to secure minerals from Argentina and Chile.
- Also, high-level visits like the President of India visiting these South American countries demonstrate a proactive and aggressive stance to secure lithium sourcing.
- India has leveraged its way into the Bolivian lithium reserves after signing a Memorandum of Understanding (MoU) in Bolivia for the development and industrial use of lithium.
- India has set up a National Mission on Transformative Mobility and Battery Storage.
- An inter-ministerial steering committee has also been set up which is chaired by NITI Aayog CEO Amitabh Kant.
- The government set up R & D and technology development centres for indigenous lithium-ion battery manufacturing plants: BHEL and LIBCOIN to build India's first Lithium-Ion Giga Factory.

- In the first phase, Rs 165 crore will be invested to produce li-ion cells having a total storage capacity of 200,000 Ah (Ampere hour) per day.

Lithium:

- Lithium is a non-ferrous, silvery-white alkali metal.
- Under standard conditions, it is the least dense metal and the least dense solid element.
- Like all alkali metals, lithium is highly reactive and flammable, and must be stored in vacuum, inert atmosphere, or inert liquid such as purified kerosene or mineral oil.
- It never occurs freely in nature, but only in (usually ionic) compounds, such as pegmatitic minerals, which were once the main source of lithium.
- Due to its solubility as an ion, it is present in ocean water and is commonly obtained from brines.
- Lithium metal is isolated electrolytically from a mixture of lithium chloride and potassium chloride.
- Lithium can be extracted in different ways, depending on the type of the deposit – generally either through solar evaporation of large brine pools or from hard-rock extraction of the ore.
 - In India, Lithium can be recovered from brines of Sambhar and Pachpadra areas in Rajasthan, and Rann of Kutch, Gujarat.
 - The major mica belts located in Rajasthan, Bihar and Andhra Pradesh and the pegmatite belts in Odisha, Chhattisgarh, alongside rock mining being undertaken at Mandya, Karnataka, are other potential geological domains.

2. ASI Keeladi Report: Sangam Age pushed to 800 BCE

Keeladi is a hamlet located near Madurai city in Tamil Nadu. It is along the banks of River Vaigai. The ASI started its excavations in Keeladi in 2014. Evidence was found that the civilization at Keeladi, that is, the Sangam Age civilization is older than thought before. Earlier it was believed that Sangam Era was 300 BCE. But the excavations at Keeladi revealed that Sangam Era was older and dated 800 BCE. Controversies arose with the new findings. Today, the ASI has put an end to the controversies finalizing that Sangam Age dates from 800 BCE.

What is the issue?

ASI conducts excavations in four to five phases. During the Keeladi excavations, consecutive phases did not receive funds on time. Also, the Tamil archaeologists working with ASI performing the excavations were transferred to Assam and other states. This created controversies. The issue was politicized. Criticisms were made

that the BJP government is doing Hindutva politics. If the excavations proved that the Sangam era dated 800 BCE, there is an established fact that the civilization in the south was secular and modern. And the modernization occurred earlier than in other parts of India. The Sangam era had excellent trade connections with the world. The women's literacy rate of the era was high and equal to men.

The criticism made: Hindutva politicians associated with the central government are not liking the fact that Tamil culture was older than thought before.

3. A devastating quake in Turkey recalls the tragedies awaiting India

The article highlights how India should use the recent earthquake in Turkey as a lesson and get ready for the future.

Why is Indian terrain prone to great earthquakes?

- The political boundaries roughly follow the **tectonic divides** in the west, the north and the east.
- The 2,500-km-long **Himalayan** plate boundary from the northwest to the northeast.
- The historical release of geological tension doesn't fully account for the strain that has built up.
 - **For instance**, the Central Himalayas has been historically deficient in earthquakes.
- **New dams** at the foothills of the Himalayas.

The trend in annual losses from disasters: Has been **markedly upward**, mainly due to an **increase in the aerial extent of habitation** in vulnerable areas.

Way ahead:

- Undertake a **comprehensive study of the vulnerability** of buildings and structures.
- **To ensure** –
 - All **new constructions** (especially in high-risk zones) can resist shaking and
 - All **existing buildings** are protected by retrofitting.
- In areas where traditional structures are more common, bolster traditional earthquake resistance
- **Must overhaul town and municipal planning** by-laws to accommodate hazard-safety measures.

- Use the **appropriate building codes**, developed by the Bureau of Indian Standards.
- **Develop an environmental land zonation scheme** for urban and rural areas.
- Translate detailed scientific knowledge on earthquake safety into a format that is easily **available, accessible, and actionable**
- **Real-time and free data-sharing** should become a norm.

Conclusion:

The Turkey and the Joshimath disaster must be an eye-opener for Indian authorities to **integrate development with disaster mitigation strategies**, through systematic, long-term, cost-effective and grassroots community-based initiatives.

GS 2 : Polity, Governance, International Relations

1. Collegium Issue | L.Victoria Gowri Case

A petition was filed in the Supreme Court challenging the appointment of L. Victoria Gowri to the Madras High Court for judgeship for her alleged engagement in hate speech against Muslims and Christians.

What is the issue?

- The collegium of Supreme Court (SC) recommended L.Victoria Gowri for the judgeship of Madras High Court.
- She was alleged to be engaged in hate speech against Muslims and Christians.
- The Chief Justice of India (CJI), who heads the collegium, stated that the collegium finished the appointment process even before they had taken knowledge of this issue.
- A last attempt to stop it by way of a legal challenge was rejected by two other judges of the Supreme Court.

Collegium system

- The **Collegium system** is one where the Chief Justice of India and a forum of the four senior-most judges of the SC recommend appointments to the higher judiciary and transfers of judges.
- **Three Judges Cases**-The collegium system does not figure in the Constitution.

- Its legal basis is found in three SC judgments usually referred to as the Three Judges Cases concerning the higher judiciary.

What are the Three Judges Cases?

- **The S.P. Gupta case (1981) or the First Judges Case** - It observed that the word “consultation” could not be interpreted as “concurrence”.
- The CJI’s opinion was **not binding** on the executive.
- Accordingly the CJI’s opinion was **not binding** on the executive
- **The Second Judges case (1993)** - The court overruled its earlier decision and held that the advice rendered by the CJI on appointments is **binding** on the President.
- It led to the introduction of the initial version of the collegium, where the CJI would consult two of his senior-most judges on appointments.
- **The Third Judges case (1998)** - It laid down that the CJIs should consult with four senior-most Supreme Court judges for judicial appointments and transfers resulting in the present collegium.

Why is the Collegium system being criticised?

- **Empire within an Empire** - The Central government has criticised it saying it has created an imperium in imperio within the Supreme Court.
- **Judiciary vs Executive** - The collegium system being born out of years of friction between the judiciary and the executive itself is a concern.
- **Haves and have-nots** - The Supreme Court Bar Association has blamed it for creating a “give-and-take” culture, creating a rift between the haves and have-nots.
- **Transparency** - The functioning of the collegium can be contrasted with judicial appointments in other democratic countries while the specific processes are different, they are all open.
- **Questioning an appointment** - Once a collegium recommendation has been made, the only way of contesting it is through a legal challenge.
- However, that challenge must be before the Supreme Court itself, leading to a set of juniors as judges.
- **All in one roof** - The appointments body (the collegium), the body for the constitution of Benches (the CJI’s office), the judicial review body (the Supreme Court) are all effectively one and the same so the correction becomes very difficult.
- **Eligibility and not suitability** - In considering with the case the question of whether alleged hate speech is a question of suitability or eligibility, the eligibility is considered and suitability is left aside.

What can be done?

- **In need of new MOP** - The appointment of the CJI and judges of the apex court is governed by a Memorandum of Procedure (MoP).
- The court told the Centre in 2015 to come up with a new MoP in order to make the collegium's proceedings transparent.
- In 2017, the MoP was finalised but was not adopted as the government said it was reconsidering the issue.
- **Transparent Collegium** - To avoid the harnessing tussle between judiciary and executive a transparent and viable collegium is needed.
- **Checks and Balances** - There should be a degree of separation between the judicial appointments commission and the court for a check and a corrective mechanism.

2. India's law and order matrix needs a reboot

Annual All India Conference of Directors General/Inspectors General of Police.

Details:

- The DGPs/IGPs conference is comparatively new and is being held since 1980. Earlier it was held as an annual conference of Heads of Intelligence and CIDs of different States.
- Apart from intelligence, crime, criminal investigation, technology, and forensics, the conference also deals with policy and personnel matters.

Associated Concerns

- It is argued that the presence of an increasing number of delegates and subjects for discussion leaves little scope for any in-depth discussion.
- It should be noted that security threats are becoming more challenging in the present scenario and need in-depth analysis on issues like cybercrime, the dark web, crypto, maritime security, drones, social media, drug trafficking, etc.
- Inadequate time to discuss these issues results in undermining both the quality and outcomes of such conferences.
- The security problems will grow at an exponential rate with swift technological change and the emerging challenges will require more innovativeness, agility, and newer cognitive skills.
- Furthermore, decision-making would require fundamental changes entailing more purposeful discussion at higher levels.
- It is suggested that law and order require newer skills, in both technology and crowd management, and these are not adequately available with security agencies. Notably, the attention of security forces is mostly focused on terrorism.

- A heavy-handed approach to dealing with angry and unruly mobs in present scenarios might lead to a catastrophic divide between law enforcement agencies and the public.
- It is argued that reforms in the selection process of security personnel are not debated by the higher echelons of the forces.
- It is also said by several experts that 'Open Source intelligence' is often neglected by security agencies.
- The techniques and methodologies of different security agencies (intelligence and investigative agencies) are usually different. This results in various contradictions.

Way Ahead:

- Newer practices and skills are required to understand the psychology of agitating mobs and make them realize the dangers of their own predilections.
- Police and security agencies should also be adequately trained. Human skills should be adequately tailored for the Internet, social media, and other breakthroughs, which usually provide protestors/agitators with an upper hand and is detrimental to law and order.
- Moreover, a top-down approach would be required because there will be significant competition for resources (weaponry and technology) within the agencies.
- The selection process of security personnel would also require to be changed.
- Apart from acquiring new skills, a new mindset is also required to employ a variety of skills and tactics.
- Reforms should be brought in intelligence approaches, investigative techniques, ground situations, etc.
- Apex-level meetings of higher authorities like DGPs/IGPs should provide necessary direction and policy imperatives.
- It is also suggested that the annual conference of DGPs/IGPs should be split into two separate conferences. For instance, a higher level conference of DGPs/IGPs that should cover policy-related issues, and a separate conference for intelligence and security agencies (IGs/CID) to discuss the finer points of methodology, techniques, and acquisition of new skills for existing and emerging challenges.

3. The funding and demand for MGNREGA

Economic survey showed that 6.49 crore households demanded work under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).

- There are currently **15.51 crore active workers** enrolled under MGNREGA.

- During the first COVID-19 lockdown in 2020, when the scheme was given its **highest-ever budget of ₹1.11 lakh crore**, it provided a critical lifeline for a **record 11 crore workers**.
- It helped compensate **20%-80% of the income loss** incurred **because of the lockdown**.
- **8.55 crore households** demanded MGNREGA work in **2020-21**, followed by **8.05 crore** in **2021-22**.
 - Total of **6.16 crore households** asking for work in the **pre-pandemic year 2019-20**.

Budgetary allocations to MGNREG:

- It has increased since 2013 from **₹32,992 crore in the 2013-14** to **₹73,000 crore in 2021-22**.
 - However, in recent years, the actual expenditure on the scheme has **successively been higher than the amount allocated in the budget**.
- In 2021-22, while **₹73,000 crore** was allocated to MGNREGS, later pushed up the revised estimates to **₹98,000 crore**, as **funds had run out** in the middle of the year.
- Central government once again **allocated ₹73,000 crore** (25% lower than the previous year's revised estimate) for the scheme in **budget 2022-23**, then seeking an **additional ₹45,000 crore** as supplementary grants in the **Winter Session**.

Challenges in implementation:

Low Budget

- **80-90%** of the budget **gets exhausted within the first six months**, which results into **slowdown of the work** at ground and **delay in wages to workers**.

Average days of employment:

- Since 2016-17, On average, **less than 10%** of the households **completed 100 days of wage employment** (PRS Legislative Research).
- The average days of employment provided per household under the MGNREGS fell to a **five-year low** this financial year.
- The **average days of employment** provided per household is just **42 days from 50 days (2021-22), 52 days (2020-21), 48 days (2019-20) and 51 days (2018-19)**.

Delay in wage payments:

- Centre owed **₹4,700 crore** in MGNREGA wages to **18 States**.

- **Supreme Court direction to government (2016):** Making workers wait for wages for months is equal to “**forced labour**”.
- Government also owed **₹5,450 crore worth of material costs** (for MGNREGA projects) to **19 States**.

Minimum wage under MGNREGA:

- It is fixed by **the central government** on the basis of the **Consumer Price Index-Agricultural Labourers**.
- However, the type of work done by agricultural labourers and MGNREGS workers was **different**, suggesting that minimum wage be decided **vis-a-vis the Consumer Price Index-Rural**.

Other issues:

- Fake job cards
- Widespread corruption
- Late uploading of muster rolls
- Inconsistent payment of unemployment allowance

About Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA):

- It is the **Indian labour law**.
- **Aim:** To guarantee the '**right to work**'.
- **Act passed:** 23 August 2005
- **Objectives:**
 - To guarantee a member of rural household **hundred days of wage employment** in a financial year to do unskilled manual work.
 - To reduce **urban migration** from rural areas.
 - To create **rural infrastructure** by using rural labour.
 - **Legal Right to Work**
 - Wages are paid under the **Minimum Wages Act 1948**.
 - **Demand-Driven Scheme**
 - Right to get **unemployment allowance** if employment is not provided within 15 days of submitting the application.
- **Eligibility:**
 - The applicant should be **the Citizen of India**.
 - Applicant has completed **18 years of age** at the time of application.
 - The applicant must be part of **a local household**.
 - Applicant must volunteer for **unskilled labour**.
- **Implementation:**
 - **Gram Panchayats** implement the programmes.

- Gram Sabha and the Gram Panchayat approves the shelf of works.
- **Funding:**
 - Funding is **shared between the centre and the states.**
 - There are three major items of expenditure – **wages** (for unskilled, semi-skilled and skilled labour), **material and administrative costs.**
 - The central government bears **100%** of the cost of unskilled labour, **75%** of the cost of semi-skilled and skilled labour, **75%** of the cost of materials and **6%** of the administrative costs.

4. Alienation: the separation of labour from the product, process, humanity, society

This article examines and critically evaluates the applicability of the “theory of alienation” by Karl Marx in the current situation.

Theory of alienation

- The idea of alienation was developed by a young Marx out of his study of Friedrich Hegel.
- Karl Marx explained the idea of alienation for the first time in his book “Economic and Philosophical Manuscripts”. Later, he further elaborated on the idea in his book “Capital”.
- As per Merriam-Webster dictionary, alienation refers to the withdrawal or separation of a person from an object or position of former attachment.
- However, according to Marx, alienation refers to a feeling of separation from one’s own labour and the loss of power over it.

Types of alienation

Karl Marx discussed four types of alienation, which includes:

- **Alienation of the worker from their product of labour:** In this form of alienation, a worker is neither involved in the design and development of a product nor has any kind of control or ownership over the product.
 - Further, the worker usually does not even receive any benefit from the existence of that product other than his wages. The product hence is not made for the worker’s own use but for the purpose of producing a profit for the capitalist.
 - Therefore the worker is said to be alienated from their own product of labour.
- **Alienation of the worker from the process of labour:** This form of alienation is closely related to alienation from the product of labour.

- As per this form of alienation, despite not being involved in design and development, the workers are often forced to work for long hours, in poor conditions, and perform repetitive tasks for low wages.
- Workers do not have control over production and are coerced to work as a means of survival.
- **Alienation of the worker from his Gattungswesen (species-essence):** Gattungswesen or species-essence is Marx's definition of human nature which consists of the person's inherent potential.
 - As per this form of alienation, the worker loses his inherent identity and the opportunity for self-development.
 - This often leads to psychological dissatisfaction for the worker.
- **Alienation of the worker from other workers:** According to this form of alienation, in a capitalist mode of production, workers become an ever-cheaper commodity the more goods they produce.
 - Further, his/her mental and physical energies are exhausted due to imposed or forced work and he/she is left with no time to interact with others.
 - Workers also start becoming competitive with each other in order to save their jobs.

Other perspectives on alienation

- Writers have further tried to provide a social-psychological perspective to the concept of alienation by linking it to powerlessness, meaninglessness, normlessness, self-estrangement and social isolation.
- According to experts, there can be several causes for these forms of alienation which includes:
 - Bureaucracy and organisational structures
 - Lack of ownership
 - Social disorganisation
 - Lack of technology
 - Poor management
- A few authors opine that assembly-line workers (production line workers) experience the greatest sense of alienation and workers/professionals like physicians or teachers experience the least form of alienation.
- Some authors further believe that alienation would most probably be the lowest in an organisational setup where members have control and opportunities for self-fulfilment in their roles.
 - This idea of alienation is different from that of Marx as this idea is a more reformist view, whereas Marx considered it necessary to abolish private property and change social and economic structures.

- Additionally, the idea of alienation is also used in a political dimension with the alienation of the electorate being one of the key reasons for the disaffection of people over various government policies.

Criticisms

- There have been criticisms over Marx's explanation that it was not worked out in terms of its consequences and how it might be addressed or eliminated.
 - Further, the solution of communism has not yet occurred, and it cannot be expected in the near future.
- Marx's idea of alienation has provided an overview of the labour market, and the living and working conditions of his era. However, most of those have changed significantly in modern times.
 - Currently, labour laws are in place across the world which has led to a greater division of labour.
 - At present, only some of the workers witness poor working conditions and not all. Furthermore, the effects of labour on different segments are dependent on the countries they live in.
- Critics also argue that the concept of Marxism focuses only on class and ignores various other key forms of segregation.
 - Critics point out that Marx studied the idea of alienation only in terms of the exchange of labour and private property. However, the concept of alienation can also be related to the segregation of society based on ethnicity, race, caste and gender.
- Experts like Ricoeur have argued that since the idea of alienation is popular, it is often used in subjective experiences of estrangement diluting the scientific and analytical potential of the concept.
- The theory is also criticised by philosophers such as Althusser, for its essentialism.
 - Modern-day experts also opine that Marx's theory of alienation is underdeveloped and tentative.
- Further, according to experts, this concept of alienation suffers from the danger of paternalism.

5. India, U.S. step up strategic ties with tech plan

The National Security Adviser of India, Ajit Doval, met his U.S. counterpart, Jake Sullivan, and other senior officials of the US during the inaugural edition of the Initiative on Critical and Emerging Technologies (iCET) dialogue.

Initiative on Critical and Emerging Technologies (iCET)

- The Initiative on Critical and Emerging Technologies (iCET) was announced during the meeting between the Indian Prime Minister and the U.S. President at the Quad meeting held in Tokyo in May 2022.
- The iCET dialogue is expected to focus mainly on various means to remove barriers in technology transfers and co-production in the domains of critical and emerging technologies.
- Further, the iCET also aims to develop supply chains to increase co-production and co-development between the countries and improve the linkages between the start-up ecosystems of the two countries.
- The iCET dialogue is spearheaded by the National Security Councils (NSCs) of India and the USA.

Key outcomes of the inaugural iCET dialogue

- A “fact sheet” released by the White House after the meeting has highlighted six areas of planned cooperation which include enhancing innovation ecosystems, defence innovation and technology cooperation, developing resilient semiconductor supply chains, space, STEM talent and next-generation telecommunications.
- The newly announced programmes include:
 - A Research Agency Partnership between the U.S. National Science Foundation and Indian science agencies.
 - A platform to collaborate on quantum computing that facilitates collaboration with academia and industry.
 - Devising a new defence industrial cooperation roadmap.
 - A mechanism to aid the development of semiconductors in India.
 - Furthering space cooperation which includes human spaceflight.
- **5G cooperation:** A private-public dialogue to enhance cooperation with respect to 5G/6G technologies and the adoption of Open RAN (technology that helps connect phones to each other and to the Internet) in India was also announced.
- **Jet engines:** The U.S. also assured that it will undertake a quick review of an application from General Electric to produce jet engines in India for India’s Light Combat Aircrafts (LCA).
- **Easing exports:** The two countries also discussed various means to ease export controls and restrictions.
 - The White House has released a statement which says that the U.S. administration would come up with ways to lower barriers to U.S. exports to India of High-Performance Computing and source code.
- **Human rights:** According to the White House’s statement, both India and the US affirm that the ways in which technology is designed, developed, governed, and used must be shaped by shared democratic values and respect for universal human rights.

- The statement by the White House further added that the two countries have committed that the technology will “reinforce our democratic values and democratic institutions”.
- However, it was only the White House’s statement that made references to human rights, as the statement released by the Indian Ministry of External Affairs did not make any reference to human rights.

6. Privilege Motion

A breach of privilege motion moved against senior BJP MLA and Deputy Leader of the Opposition led to an uproar in the Rajasthan Assembly recently, with Speaker announcing that a decision on the motion will be taken shortly.

About Privilege Motion:

- **All Members of Parliament (MPs)** enjoy rights and immunities, **individually and collectively**, so that they can discharge their duties and functions effectively.
- Any instance when these rights and immunities are disregarded by any member of Lok Sabha or Rajya Sabha is an offence, called **‘breach of privilege’**, which is **punishable under the Laws of Parliament**.
- **Article 105 of the Constitution** expressly mentions two privileges, that is, **freedom of speech in Parliament and right of publication of its proceedings**.
- Apart from the privileges as specified in the Constitution, **the Code of Civil Procedure, 1908**, provides for freedom from arrest and detention of members under civil process during the **continuance of the meeting of the House or of a committee thereof and forty days before its commencement and forty days after its conclusion**.

Applicability:

- The Constitution also extends the parliamentary privileges to those persons who are entitled to speak and take part in the **proceedings of a House of Parliament or any of its committee**
- These also include the **Attorney General of India**.
- The parliamentary privileges **do not extend to the President** who is also an **integral part of the Parliament**.
 - **Article 361 of the Constitution provides for privileges for the President.**

Role of the Lok Sabha Speaker and Rajya Sabha Chairperson:

- The speaker of Lok Sabha and the Chairperson of Rajya Sabha are the **first levels of scrutiny of a privilege motion** in the two Houses of Parliament.
- They can either take a decision on the privilege motion or can also refer it to the **privileges committee of Parliament**.
- Once the **Speaker or the House Chairperson** gives consent under Rule 222, the concerned member is allowed to explain himself or herself.

Rules Governing Privilege:

- **Rule No 222 in Chapter 20 of the Lok Sabha Rule Book** and correspondingly **Rule 187 in Chapter 16 of the Rajya Sabha rulebook** governs privilege.
- Rules say that a member may, with the **consent of the Speaker or the Chairperson**, raise a question involving a breach of privilege either of a member or of the House or a committee thereof.

Privilege Committee:

- The Speaker of Lok Sabha nominates a **committee of privileges** consisting of **15 members of parliament from each party**.
- While the Rajya Sabha committee has **10 members**.
- The Speaker may also **allow a half-hour debate** on the report by the committee before passing orders or directing that the report be tabled before the House.

7. PM CARES Fund administered like PM's National Relief Fund, HC told

Recently, Prime Minister's Office [PMO] told Delhi High Court that PM CARES Fund and Prime Minister's National Relief Fund [PMNRF] are accounts hold by Prime minister of India.

About PM CARES Fund

- It was set up under the name of '**Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund (PM CARES Fund)**'.
- It has been registered as Public Charitable Trust under the Registration Act, 1908 at New Delhi in March 2020.
- It does not go to **Consolidated Fund of India** which is **budgetary account of India**.

- It does not get any **budgetary support**.
- It was exclusively made for **COVID-19** purposes.
- It's Minimum amount of donation is **Rs. 10/-**.
- **Composition:**
 - **Ex-officio Chairman:** Prime Minister
 - **Members:** Minister of Defence, Minister of Home Affairs and Minister of Finance

Objective of PM CARES Fund

- To provide assistance during **public health emergency** or calamity or distress, either man-made or natural, including the creation or upgradation of healthcare or pharmaceutical facilities other necessary infrastructure, funding relevant research or any other type of support.
- Provide financial assistance **for making payments of money** or take such other steps as may be deemed necessary by the Board of **Trustees to the affected population** and raise money for any circumstance which is not compulsory to be stated.

Funding of PM CARES Fund and its Benefits

- It receives voluntary contribution from any **individuals/organizations and Public Sector Undertakings [PSU]**.
- Donations to **PM CARES Fund** would qualify for **benefits for 100% exemption** under the **Income Tax Act, 1961** and Foreign Contribution Regulation Act, 2010.
- It also fulfill the **Corporate Social Responsibility [CSR]** under **Companies Act, 2013**.

Prime Minister's National Relief Fund [PMNRF]

- It was established **prior** to the **PM CARES fund** on **January 1948**.
- **Its objective** was same as **PM CARES fund** but was majorly to support people displaced due to **partition of India and Pakistan**.
- It consists **entirely of public contributions** and does not get any budgetary support.
- Minimum amount of donation is **Rs. 100/-**.
- It's majorly attached to **hospitals** both in **Public as well as Private in state government and central government**.
- It also supports **acid attack victims, cancer treatments, kidney transplants**.

8. Budget's Green Growth push, one of the 'Saptarishi' initiatives for Amrit Kaal

The finance minister has recently listed 'Green Growth' as one of the seven priorities of her Budget to achieve the aim of **net-zero carbon emission** by 2070.

- "LiFE", or **Lifestyle for Environment** was earlier launched to promote **environmentally conscious lifestyle**.

Saptarishi

The Union Budget 2023 lays down seven priority areas known as Saptarishi:

1. Inclusive Development: Sabka Sath Sabka Vikas,
2. Reaching the Last Mile,
3. Infrastructure & Investment,
4. Unleashing the Potential,
5. Green Growth,
6. Youth Power, and
7. Boost to the Financial Sector

Budget announcement under Green Growth component

- **National Green Hydrogen Mission:** will facilitate the transition of the economy to **low carbon intensity**, **reduce** dependence on fossil fuel imports, and make the country leader in this **sunrise sector**.
 - **Sunrise sector** is a term that describes a **burgeoning** sector or business in its **infancy** stage that shows promise of a **rapid boom**.
 - India aims to reach a target of an **annual production** of 5 MMT of **green hydrogen** by 2030.
- **Energy Transition:** assistance is provided for priority **capital investments** towards **energy transition** and **net zero objectives**, and **energy security** by **Ministry of Petroleum & Natural Gas**.
- **Energy Storage Projects:** To steer the economy on the **sustainable development path**, **Battery Energy Storage Systems** with capacity of 4,000 MWH will be supported with Viability Gap Funding.
 - A detailed framework for Pumped Storage Projects will also be formulated.
- **Renewable Energy Evacuation:** **Inter-state transmission system** for evacuation and **grid integration** of 13 GW **renewable energy** from **Ladakh** will be **constructed** with **investment** of Rs 20,700 crore including central government financial assistance of 8,300 crore.
- **Green Credit Programme:** will be notified under **the Environment (Protection) Act 1986** to encourage **behavioural changes** by **incentivizing**

environmentally **sustainable** and **responsive actions** by **companies, individuals** and **local bodies**.

- It will help **mobilize additional resources** for such activities.
- **PM-PRANAM (Programme for Restoration, Awareness, Nourishment and Amelioration of Mother Earth)**: will be launched to promote **alternative fertilizers** and **balanced use of chemical fertilizers**.
- **GOBARdhan (Galvanizing Organic Bio-Agro Resources Dhan) scheme**: 500 new **'waste to wealth' plants** will be established to promote **circular economy**.
 - It will include **200 compressed biogas (CBG) plants** where **75 plants** will be established in **urban areas**, and **300 community or cluster-based plants**.
- **Coastal Shipping**: will be promoted as the **energy efficient** and **lower cost** mode of **transport**, both for **passengers** and **freight**, through public private partnership (PPP) mode with **viability gap funding**.
- **Vehicle Replacement**: It will enhance the **vehicle scrapping policy** by allocating **adequate funds** provided by the **Central Government** to **scrap old vehicles**.
 - **States** will also be supported in **replacing old vehicles** and **ambulances**.

Amrit Dharohar:

- It is one of the **components** of **Green Growth push**.
- It will be implemented over the **next three years** to encourage **optimal use of wetlands**, and enhance **bio-diversity, carbon stock, eco-tourism** opportunities and **income generation** for local communities.
- **Local communities** in it will function as **caretakers** of the **wetland ecosystem**.

Ramsar sites:

- **Ramsar sites** are wetlands of **international importance** that have been designated under the criteria of **the Ramsar Convention on Wetlands (1971)**.
- It contains list of **rare** or **unique wetland types** having their **importance** in **conserving biological diversity**.
 - It sustains a variety of **flora** and **fauna**, from **endangered aquatic life** to **migratory birds**.
- India has **75 Ramsar sites** that covers **1326678 hectares**.
- **49 new sites** have been added to the list since **2019** out of which **19** were added in **2022**.

Bhartiya Prakritik Kheti Bio-Input Resource Centres:

- It is one of the **components** of **Green Growth push**.
- **Aim:** to facilitate over the next **three years** 1 crore **farmers** to adopt **natural farming**.
- For this, **10,000 Bio-Input Resource Centres** will be set up, creating a **national-level** distributed **micro-fertilizer** and **pesticide manufacturing network**.

Significance of Bhartiya Prakritik Kheti Bio-Input Resource Centres:

- **Chemical fertilisers** are a major source of **water pollution** that impacts **groundwater, rivers, ponds** and **lakes**.
 - It also harms the soil by causing **acidification**, and impacts negatively the land's productivity.
- **Eutrophication** caused by **excessive use** of **chemical fertilisers** kills **fishes** and **other aquatic life**.
 - **Eutrophication** is covering of **lakes** and **ponds** with a **thick layer** of **algae** which reduces the **oxygen content** in the water.
- The **excessive use** of **chemical fertilisers** can cause **cancer** among **farmers**.

MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes):

- It is one of the **components** of **Green Growth push**.
- **Aim:** for **mangrove plantation** along the **coastline** and on **salt pan lands**.
- It will **raise funds** and **operate** by **converging** MGNREGS, CAMPA Fund and other sources.

Significance of MISHTI scheme:

- India has **mangrove forests** on both its **Eastern** and **Western coasts**.
 - The **Sundarbans in Bengal** is one of the **largest mangrove forests** in the **world**.
- **Mangroves** are some of the **most bio-diverse locations** in India.
 - It protects the **coastlines** from the **extreme** weather by preventing **flooding, land erosion** and acting as a **buffer** for **cyclones**.
- **Mangrove trees** can grow in **saline waters** and can **sequester** up to **four times more carbon** than **tropical rainforests**.

9. The social sector has been short-changed once again

The Union Budget 2023-24 reiterates the strategic vision of the government in which both economic recovery and job creation rest on increased capital expenditure (capex) while welfare segment has taken a toll.

The Budget announcements:

Increase in capex and its implications:

- **A capex of ₹10 lakh crore**, a 33% increase over last year.
- The budget estimate (BE) for effective capex is now is **4.5% of the GDP**, up from 3.9% last year.
- Government remains on its '**path of fiscal consolidation,**' with the **fiscal deficit** for FY24 projected to be **5.9% of the GDP (6.4% for the current year)**.
- The Finance Minister reiterated the commitment to reach a **fiscal deficit below 4.5% by 2025-26**.
- **Critic:** essential schemes that provide a safety net and contribute to better human development outcomes have been **underfunded**.

Decreased allocations for social sector programs:

- **For subsidy:** The BE for food subsidy is **₹1.97 lakh crore** compared to the revised estimate (RE) of **₹2.8 lakh crore** for 2022-23 (withdrawal of **Pradhan Mantri Garib Kalyan Anna Yojana**)
- **For MGNREGS** also seen a massive budget cut (BE for 2023-24 is ₹60,000 crore compared to the RE of ₹89,400 crore for 2022-23).
- **For programmes that provide nutritional support for women and children:**
- **For Saksham Anganwadi**, which includes anganwadi services, Poshan Abhiyan and a scheme for adolescent girls, allocation remains almost the same at ₹20,554 crore.
- The school meals scheme, rechristened **PM-POSHAN**, has seen a slight decline.
- **Samarthya**, the maternity entitlements scheme, has been allocated ₹2,582 crore compared to the previous year's allocation of ₹2,622 crore (BE).

□ For other initiatives:

- The allocations for old age, widow and disabled pensions under the **National Social Assistance Programme** have remained stagnant (around ₹9,600 crore).
- The important areas in the social sector – **education and health** – have not seen any substantial increase.

Way ahead:

- To achieve the spending goals set by the national policies on education (6% of GDP) and health (**2.5% of GDP**), **the allocations need to be doubled**.

- The removal of barriers to the timely and appropriate implementation of social sector programs is necessary, along with an increase in budgetary support.
 - For example, the app-based attendance monitoring system to ensure timely and error-free payments under MGNREGS.

Conclusion:

- It must be acknowledged that spending on these various social sector efforts significantly contributes to both economic recovery and long-term improvements in people's lives.
- India cannot achieve the vision for **Amrit Kaal** without ensuring access to quality and affordable education, health, nutrition and social security.

10. Charge sheet scrutiny is not a case of prying eyes

Details:

- The Supreme Court of India has agreed to live telecast some of its hearings. This move was warmly welcomed by activists clamouring for more openness and transparency in judicial proceedings.
- To make the judicial process more accessible, the Chief Justice of India said that the judgments of the Supreme Court will be translated into four languages (Hindi, Gujarati, Odia, and Tamil) as "the English language in its 'legal avatar' is not comprehensible to 99.9% of the citizens".
- However, SC's ruling on charge sheets appears to be retrograde. It is ruled that a charge sheet filed against an accused in a criminal case is not a 'public document' within the meaning of the Right to Information Act 2005 or the Indian Evidence Act. Thus, the demand to upload the charge sheet onto a public website as soon as it is filed in court was untenable.
 - Charge sheet is the Final Report specified by the Code of Criminal Procedure 1973.
 - It is a comprehensive account of the crime in question and has crucial information like a list of prosecution witnesses and documents in support of the investigating officer's conclusions.

Associated Concerns:

- It is argued that this is a setback for those demanding more transparency in criminal justice administration. It will also have severe impacts on investigating officers and victims of the concerned crimes.
- The ruling contradicts the earlier judgment in Youth Bar Association of India vs Union of India (2016).

- It was directed in the case that the First Information Report (FIR) in any case should be made available on the relevant investigating agency's website within 24 hours of its registration.
- However, as per this ruling, a charge sheet is different from FIR and thus cannot be shared with anyone other than the accused and the victim.
- It was further said that though information would become public during the trial, any attempt to part with details contained in these documents even before a trial begins would be detrimental to the accused and the victim.
- It was highlighted that the open publicity of the final report is not within the scheme of the Code of Criminal Procedure.

Significance of transparency of charge sheet:

- In the early days of the Constitution, confidentiality was the major aspect of all judicial activities. Judiciary was considered sacrosanct, where none of its actions was open to criticism or scrutiny.
- However, times have changed and judges, their personal life, and their judicial decisions are often debated and criticized.
- It is suggested by the author that, the demand for sharing the charge sheet with the public is very much in order. It is further said that though vested interests may find loopholes and undermine the prosecution, it should not be the reason to deny access to the public.
- Instead, it will provide an opportunity to evaluate the quality of the investigation.
- Moreover, the prospect of critical analysis by an outsider will potentially enhance the soundness of an investigation and prevent tendentious prosecution against innocent individuals.
- A trial court would benefit more from the outsider scrutiny of the charge sheet.
- Better analysis by well-meaning members of the public before the trials would reduce the chances of loosely framed charge sheets being presented in the court.

11. Need for Menstrual Leave in India

The menstrual leave policy has been criticized for its short-sightedness in acknowledging the lasting impact it could have on the overall physical and mental wellness of citizens.

Menstrual leaves

- Menstrual leave refers to a specific form of time off for those who experience period pains.
- It recommends that workers be given leave from work while menstruating, just as they would for any illness.
- These leaves are not covered and are taken in addition to the usual sick leaves provided to all employees.
- In India, there is **no legislative provision** for menstrual leave.

How menstruation is neglected and tabooed?

- In India, menstruation is considered a taboo with **notions of purity and pollution**.
- Misinformation, superstitions, societal restrictions and poor access to sanitation facilities and menstrual products are all apparent indicators of the country's reality and levels of neglect.
- Due to the neglect, menstrual hygiene continues to be one of the most neglected issues that Indian women face.
- In a country where more than 355 million women are in the menstrual age, more than 75% of them use an old cloth during periods instead of safer and hygiene methods.

Need for menstrual leave

- **Health** - In India, 20% of menstruators have PCOS and approximately 25 million suffer from endometriosis.
- **Disturbance to profession** - Many women advocate paid menstrual leave due to the excruciating pain and disturbance to professional responsibilities that period pain causes.
- **Opportunity for women to speak up** - Menstrual leave could be an opportunity for women to speak up about their menstrual cycle and to receive treatment for health issues related to it.
- **Humane working conditions** - It was not that women needed rest while menstruating, it was just the lack of humane working conditions that made labour movements push for menstrual leaves.

Debates against the menstrual leave

- **Fear of bias in hiring** - The introduction of mandatory paid maternity leave may lead to a bias in hiring due to the financial costs to employers.
- **Labour force participation of women** - The biased hiring may lead to the decline in the labour force participation of women.
- **Health complications** - In Maharashtra's Beed district, contractors in the sugarcane industry do not hire anyone who menstruates compelling more

than 10,000 female sugarcane cutters to surgically remove their uteri to secure work.

- **Human rights violation** - They are now experiencing various post-surgery health complications which is equated to the human rights violation.

What steps were taken in this regard?

Government initiatives

- The **Menstruation Benefits Bill, 2018** which stipulates 2 days of menstrual leave and better rest facilities at the workplace is yet to receive assent.
- **Kerala** - The Kerala government recently announced that it will grant menstrual leave to female students at state universities.
- **Bihar**- Bihar is offering 2 days of menstrual leave a month since 1992.

Private initiatives

- Mumbai-based companies, Gozoop and Culture Machine, became the first private companies in 2017 to introduce the first day of period (FOP) leave in India.
- Zomato has introduced menstrual leaves for up to 10 days a year for its women and transgender employees.
- Swiggy and Byju's have also introduced similar policies.

International initiatives

- **Soviet Russia** - In the 1920s and 30s, Soviet Russia relieved menstruating women from paid labour to safeguard their reproductive health, thus originating the idea of formal menstrual leave policy.
- **Japan** - In 1920s, labour unions in Japan popularised the concept that has stood for more than 70 years now.

What is the need of the hour?

- Menstrual leave can easily allow a woman to **work from home** and work on her own terms, and at her own comfort and flexibility.
- It will in fact increase the productivity of the employee during this time rather than reduce it.
- Considering the sizable population of menstruators in India who face stigma, period leave cannot be dismissed anymore as a foreign concept.
- It is a pivotal step in ensuring proper **reproductive health equity** in India.

12. Supreme Court on Terminally Ill Patients

The Supreme Court of India recently passed a judgement on altering the existing guidelines for 'living wills'.

Introduction:

- A Constitution Bench of the Supreme Court headed by Justice K M Joseph passed an order to significantly ease the procedure for passive euthanasia in the country by altering the existing guidelines for 'living wills', as laid down in its 2018 judgement in Common Cause vs. Union of India & Anr, which allowed passive euthanasia.
- The case had come back to the court after a petition filed by a nonprofit association submitted that the 2018 guidelines on living wills were "unworkable".

2018 Judgement:

- A five-judge Constitution Bench headed by then Chief Justice of India (CJI) Dipak Misra allowed passive euthanasia while recognising the living wills of terminally-ill patients who could go into a permanent vegetative state, and issued guidelines regulating this procedure.
- The Constitution Bench said that the guidelines would be in force until Parliament passed legislation on this. However, this has not happened, and the absence of a law on this subject has rendered the 2018 judgement the last conclusive set of directions on euthanasia.
- The guidelines pertained to questions such as who would execute the living will, and the process by which approval could be granted by the medical board. "We declare that an adult human being having the mental capacity to make an informed decision has the right to refuse medical treatment including withdrawal from life-saving devices," the court said in the 2018 ruling.
- Directions in the 2018 judgement had several implementation hurdles such as:
 - An advance medical directive (AMD) required the signatures of two independent witnesses, and also had to be countersigned by a Judicial Magistrate.
 - Also, the treating physician was required to constitute a board comprising three expert medical practitioners from specific but varied fields of medicine, with at least 20 years of experience, who would decide whether to carry out the living will or not. If the medical board

granted permission, the will had to be forwarded to the District Collector for his approval.

- The Collector was to then form another medical board of three expert doctors, including the Chief District Medical Officer.
- Only if this second board agreed with the hospital board's findings would the decision be forwarded to the Judicial Magistrate of First Class (JMFC), who would then visit the patient and examine whether to accord approval.

New guidelines:

- In its current order authored by Justice Joseph, the court said it needs to be signed by the executor/patient and independent witnesses in the presence of a notary or gazetted officer who would record his/her satisfaction that the AMD was voluntary and executed without coercion.
 - The AMD, if the executor chooses, may be made part of the digital health records.
- Instead of the hospital and Collector forming the two medical boards, both boards will now be formed by the hospital.
- The requirement of 20 years of experience for the doctors has been relaxed to five years.
- The requirement for the Magistrate's approval has been replaced by an intimation to the Magistrate. The medical board must communicate its decision within 48 hours; the earlier guidelines specified no time limit.
- In case the medical boards set up by the hospital refuses permission, it will now be open to the kin to approach the High Court which will form a fresh medical team.

THE CHANGES BROUGHT

	NOW	EARLIER
Living will	An attestation by a notary or a Gazetted officer to be sufficient for a living will	It was necessary that a judicial magistrate attest or countersign a living will
Access to the living will	Living will a part of national health record which can be accessed by Indian hospitals	Living will was kept in the custody of the district court concerned
Primary board to examine patient's condition	Three doctors, including treating physician and two other doctors with five years of experience in the specialty, will comprise the primary board of doctors	Primary board of doctors needs at least four experts from general medicine, cardiology, neurology, nephrology, psychiatry or oncology with overall standing of at least 20 years
Time taken to decide	Primary/secondary board to decide within 48 hours on withdrawal of further treatment	The 2018 judgment did not specify any outer limit on withdrawal of treatment
Secondary board	Hospital must immediately constitute a secondary board of medical experts	The district collector had to constitute the second board of medical experts

Euthanasia and Living Will:

- Euthanasia refers to the practice of an individual deliberately ending their life, oftentimes to get relief from an incurable condition, or intolerable pain and suffering. Euthanasia, which can be administered only by a physician, can be either 'active' or 'passive'.
- A living will, or an advance directive, is a document that a person can execute in advance, explaining his/her wish about withholding or withdrawing medical treatment in case of terminal illness and is undergoing prolonged medical treatment with no chances of recovery and cure.
- Passive euthanasia was legalised in India by the Supreme Court in 2018, contingent upon the person having a 'living will' or a written document that

specifies what actions should be taken if the person is unable to make their own medical decisions in the future.

- In case a person does not have a living will, members of their family can make a plea before the High Court to seek permission for passive euthanasia.

13. Cooperation in Trilateral Framework

India joins UAE, France for trilateral initiatives on various issues.

- India, France and the United Arab Emirates declared their common intent to formalise a “trilateral cooperation initiative” to collaborate on nuclear energy and explore opportunities in the Indian Ocean region.
- Three countries also discussed cooperation in a trilateral framework, to promote compatibility and co-production in the defence sector and in countering infectious diseases.
- A range of trilateral events will be held in the backdrop of the Indian Presidency of the G-20 and UNFCCC COP28 to be held in UAE in November-December 2023.
- The trilateral was first discussed when the three Ministers – Dr. Jaishankar, France’s Catherine Colonna and the UAE’s Abdullah bin Zayed Al Nahyan – had met on the sidelines of the UN General Assembly in New York in September 2022.

Cooperation to fight Climate Change:

- This trilateral cooperation initiative is with a focus on solar and nuclear energy, the fight against climate change and the protection of biodiversity.
- The initiative is expected to act as a platform to bolster cooperation on sustainable projects between the development agencies of the three countries, which will also work to align their economic, technological and social policies with the objectives of the Paris Agreement.
- The three countries also agreed to expand their cooperation through initiatives such as the Mangrove Alliance for Climate led by the UAE and the Indo-Pacific Parks Partnership led by India and France.
- It was agreed that the three countries should seek to focus on key issues such as single-use plastic pollution, desertification, and food security in the context of the International Year of Millets-2023.
- The three countries also underlined their keen desire to cooperate in the field of the circular economy under the aegis of India’s Mission LiFE.

Towards ‘One Health’:

- Separately, France, India and the UAE also agreed to increase cooperation in the field of combating diseases and pandemics and joining forces in the field of vaccination.
- In this regard, cooperation in multilateral organisations such as World Health Organization (WHO), Gavi-the Vaccine Alliance, the Global Fund, and Unitaid will be encouraged.
- Further, the three countries are planning to attempt to identify tangible cooperation on implementing the “One Health” approach, and support the development of local capacities in biomedical innovation and production within developing countries.

Collaboration in Defence Sector:

- Foreign Ministers of three countries also discussed cooperation in a trilateral framework to promote compatibility, joint development and co-production while seeking out avenues for further collaboration and training defence forces of the three countries.
- The development of trilateral cooperation between relevant academic and research institutions and efforts to promote co-innovation projects, technology transfer, and entrepreneurship will be encouraged.

14. E-Courts

Union Budget 2023-24 allocated 7,000 crore for the third phase of the e-courts project.

Key Details:

- The union budget for 2023-24 has allocated Rs 7,000 crore for phase III of the e-courts project that aims at using technological solutions to reduce the pendency of cases and make justice more accessible to the common man.
 - This is a big jump from the ₹639.411 crore and ₹1,670 crore spent in the first two phases.
- The e-courts project was conceptualised under the National Policy and Action Plan for Implementation of Information and Communication Technology in the Indian Judiciary -2005 submitted by the e-committee of the Supreme Court with the aim of attuning courts with digital technology.
- The allocation for the e-courts project, in keeping with the recommendations of the e-committee headed by Chief Justice of India D.Y. Chandrachud, comes in the midst of an ongoing confrontation between the government and the judiciary with regard to the process for the appointment of judges.

- The e-courts project envisages use of artificial intelligence and machine learning for data analysis and reducing pendency of cases.
- It also focuses on developing virtual courts, going paperless by doing away with case files and digitising the entire court records.

15. Disclosure of Chargesheets

The Supreme Court had recently held that the state is not obliged to provide the public free access to chargesheets by uploading them on police or government websites.

Supreme Court (SC) observation

Under Section 173 CrPC, a charge sheet is the final report prepared by a police officer or investigative agency after completing their investigation of a case.

- **SC observation** - The Court ruled that a charge sheet filed against an accused in a criminal case is **not a public document** within the meaning of the Right to Information Act 2005 or the Indian Evidence Act.
- It declared chargesheets to be **private documents**.
- It had held that putting up chargesheets for public viewing would **violate the rights** of the accused, victims and even the investigating agency.
- It would also be **contrary to the scheme of the Code of Criminal Procedure**.
- **Impacts** - It may be a **setback in ushering transparency** in the criminal justice administration.
- The Supreme Court's order is a wake-up call to all investigating agencies, including the Central Bureau of Investigation, which have often been assaulted by courts for **delays** in filing a charge sheet or for the **poor quality of investigation**.

What are the contradictions?

- **Youth Bar Association of India vs Union of India (2016)** - It directed that the First Information Report (FIR) should be on the relevant investigating agency's website within 24 hours of its registration for public perusal and appropriate action.
- **FIR vs chargesheet** - But now the SC differentiated the chargesheet from the FIR stating that the latter had vital information such as a list of prosecution witnesses.

Need for the disclosure of chargesheets

- **Filed after due investigation** - There is a need to disclose the chargesheets as they were filed after due investigation unlike First Information Reports (FIRs) which were based on unsubstantiated allegations.
- **Evaluate the quality of an investigation** - The prospect of critical analysis by a rank outsider has the potential to enhance the soundness of an investigation and prevent biased prosecution against innocents.

16. Pradhan Mantri Kisan Urja Suraksha Evam Uttham Mahabhiya (PM KUSUM)

The deadline for a key scheme by the Ministry of New and Renewable Energy to install 30,000 MW solar power capacity in rural India by 2022, has now been pushed to March 2026.

About the scheme:

- Ministry of New and Renewable Energy (MNRE) has launched the PM KUSUM Scheme for farmers for installation of solar pumps and grid connected solar and other renewable power plants in the country.
- The scheme will open a stable and continuous source of income to the rural land owners for a period of 25 years by utilization of their dry/uncultivable land.
- The scheme would ensure that sufficient local solar/ other renewable energy-based power is available for feeding rural load centres and agriculture pump-set loads, which require power mostly during the day time.

The Scheme consists of three components:

- **Component A:** 10,000 MW of Decentralized Ground Mounted Grid Connected Renewable Power Plants of individual plant size up to 2 MW.
- **Component B:** Installation of 17.50 lakh standalone Solar Powered Agriculture Pumps of individual pump capacity up to 7.5 HP.
- **Component C:** Solarization of 10 Lakh Grid-connected Agriculture Pumps of individual pump capacity up to 7.5 HP.

17. End-of-life decisions

The constitution bench has prescribed new modifications in advance medical directives and passive euthanasia.

Details:

- In 2018, Supreme Court (SC) granted legal status to the concept of ‘advance medical directives’ and allowed passive euthanasia (subject to certain conditions).
- It was seen as an important decision in terms of both the patient’s autonomy over end-of-life decisions and the right to a dignified death. It was later suggested by doctors that some specific conditions turned out to be “insurmountable obstacles”.

New Modifications:

- On 3rd February 2023, a Constitution Bench modified the earlier directions to make it more workable and simple. Some of the new modifications are:
 - The advance directive need not be countersigned by a judicial magistrate and can just be attested before a notary or a gazetted officer. This implies that it is enough to have the satisfaction of the notary or officer that the document is executed voluntarily, without coercion or inducement, and with full understanding.
 - In the earlier ruling, it was directed that the executor should name a guardian or a close relative who would be authorized to facilitate consent to refuse or withdraw medical treatment, in case the patient is incapable to take a decision. This has been amended to include multiple guardians or relatives.
 - Earlier it was the responsibility of the magistrate to inform the family members about the document (if they are absent at the time of its execution). This has been modified and now the onus is on the persons themselves to provide a copy of the advance directive to the guardians or close relatives named in it and the family physician.
 - The advanced directive may also be included in digital health records.
 - As per the new guidelines, the hospital would be required to constitute a primary medical board that would certify the instructions on refusal or withdrawal of treatment.
 - A secondary board should also be formed at the hospital level. This board must include a doctor nominated by the district’s chief medical officer. The task of the board is to endorse the primary board’s certificate.
 - It should be noted that in the original guideline (2018) the District Collector was supposed to constitute the second medical board.
 - The new guidelines also prescribe the experience and specializations of the members of the medical boards.
- These guidelines are important and useful for the concept of “living will” and advanced medical directives.

- It is also suggested that the Parliament should formulate a comprehensive law in this regard. Such a law should also have the provision of a repository of advance directives.

18. India, Canada FMs discuss Indo-Pacific cooperation, trade

- The Canadian Foreign Minister and the Indian External Affairs Minister met at the India-Canada Strategic Dialogue in Delhi which included discussions on Indo-Pacific cooperation and trade.
- The latest round of Dialogue is said to be an attempt by both countries to revive the bilateral ties which have witnessed several turbulent years.
- Canada had released its “Indo-Pacific strategy” in which it said that the Indo-Pacific region will play a significant role in its future, regarded China as an increasingly disruptive global power and recognised India as a crucial partner.
 - The strategy document had mentioned that Canada would seek opportunities to collaborate and engage in dialogue with India in areas of common interest such as security, promotion of democracy, pluralism and human rights.
- Acknowledging the shared vision of a free, open and inclusive Indo-Pacific, India has welcomed the announcement of the Indo-Pacific Strategy by Canada.
- According to the former High Commissioner to Ottawa, 2023 could become the year of the India-Canada reset, considering the Indo-Pacific strategy convergence and trade talks which could negotiate an Early Progress Trade Agreement (EPTA) between the countries.

19. Legal Aid Defense Counsel System (LADCS)

Recently the Chief Justice of Telangana High Court said that newly introduced system of Legal Aid Defense Counsel System (LADCS) should help under-trial prisoners belong to marginalised and weaker sections of the society.

Legal Aid Defence Counsel System

- It will provide **free legal assistance** to the accused in custody and the defendants in criminal cases in line with the public defence system.
- It would come to the **rescue of the needy**, for and distressed persons in the State.
- A team of select lawyers will fight cases for the **defendants for free**, on the lines of the **office of public prosecutors**.

- The LADCS lawyers will **receive monthly salary and would not handle other cases.**
- The legal aid is being offered at pre-arrest, remand, trial and appellate stages in criminal matters to the accused or convicts coming under **section 12 of the Legal Services Act-1987.**

About National Legal Services Authority:

- Constituted under the **Legal Services Authorities Act, 1987.**
- While the **Chief Justice of India is the Patron-in-Chief**, the second senior most judge of the Supreme Court of India is the **executive chairperson of the Authority.**
- In every State, State Legal Services Authority has been constituted to give effect to the policies and directions of the NALSA and to give free legal services to the people and conduct Lok Adalats in the State.
- The State Legal Services Authority is **headed by Hon'ble the Chief Justice of the respective High Court.**

Constitutional Provisions:

- **Article 39A of the Constitution of India** provides that State shall secure that the operation of the legal system promotes justice on a basis of equal opportunity, and shall in particular, provide free legal aid, by suitable legislation or schemes or in any other way, to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disability.
- **Articles 14 and 22(1)** also make it obligatory for the **State to ensure equality before law and a legal system** which promotes justice on a basis of equal opportunity to all.

Objectives of Legal Services Authorities:

- Provide free legal aid and advice.
- Spread legal awareness.
- Organize Lok Adalats.
- Promote settlements of disputes through Alternative Dispute Resolution (ADR) Mechanisms. Various kinds of ADR mechanisms are Arbitration, Conciliation, Judicial settlement including settlement through Lok Adalat, or Mediation.
- Provide compensation to victims of crime.

20. G7 and EU banning Russian diesel

G7 and The European Union(EU) has joined the United States and the United Kingdom in banning imports of Russian diesel with a price cap on refined fuel in response to attack on Ukraine.

G7 and EU

- G7 is an informal forum of leading industrialised nations, which include Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.
- Representatives of the European Union are always present at the annual meeting of the heads of state and government of the G7.
- The European Union (EU) is a unique economic and political union between 27 European countries.

What is the ban about?

- The European Union and the Group of Seven (G7) agreed to set a \$100 (€91) per barrel price cap on Russian diesel and a \$45 per barrel cap on discounted products like fuel oil.

Impact of the ban

On Russia

- **Nor a big difference** - A \$60 cap will not have much impact on Russia's finances.
- If the cap had been as low as \$50, it would cut into Russia's earnings and make it impossible for Russia to balance its state budget.
- **Alternative markets** - Russia has managed to keep its crude oil flowing, largely with support from India and China fixed up the oil escalated by traditional buyers at discount rates.
- **Rerouting** - Rerouting its diesel away from its largest market could be more challenging in the absence of a ready market for Russian fuel.
- Experts expect Russian diesel earlier sold to Europe to be diverted to Turkey and countries in Latin America and Africa.
- **Discounted rates** - There are countries that are willing to accommodate and to take discounted barrels.
- **Retaliation** - Russia could retaliate by shutting off shipments in hopes of profiting from a sharply higher global oil price on whatever it can sell around the sanctions.

On European Union

- **IMF report** - Half of the European Union is expected to be in recession this year and the slumping gas price also signals diminished demand for energy.
- **Imports from other countries** - EU intends to plug the fuel demand with increased supplies from the Middle East, Asia and the US to stop itself off Russian fuel.
- **Washing** - Russian diesel would be blended with other non-Russian products in countries such as Turkey and re-exported back into Europe.

What does it have for India and China?

India and China which have emerged as the biggest buyers of Russian crude oil in the last 12 months, could play a big role in hold up the EU's diesel stocks.

- **India** - India's diesel exports to Europe have escalated as refiners take advantage of low feedstock costs yet the Russian crude and high diesel prices been steeply discounted.
- When workers strikes shut down the French refining sector the EU saw a rise in diesel and related products imports from India which isn't a traditional supplier of the fuel to Europe.
- **China** - China policy is the game changer as it holds the key to all of the surplus refining capacity globally.
- China has raised its export quotas for diesel and other refined oil products which could potentially help push barrels from other producers westward into Europe.

21. The Stigma Associated with HIV

Drugs have been developed against HIV but stigma is still high and in some areas of the world the prevention strategies are hindered.

What is AIDS?

- Acquired immunodeficiency syndrome (AIDS) is a chronic, potentially life-threatening condition that damages the immune system.
- **Cause** - Human immunodeficiency virus (HIV)
- It attacks cells that help the body fight infection, making a person more vulnerable to other infections and diseases.
- **Spread** - It can spread through sexual contact, illicit injection drug use or sharing needles, contact with infected blood, or from mother to child during pregnancy, childbirth or breastfeeding.

- **Treatment** – There is no vaccine to prevent HIV infection and no cure for HIV/AIDS.

Stigma associated with HIV

UN report-2022 reported that more than 1.5 million people had become infected with HIV in 2021, around three times the global target.

- **Fear of judgement** – Sometimes, people avoid testing out because of fear of judgment and being discriminated if they got tested.
- **AIDS crisis** - Certain public health campaigns that emerged in the 1980s in response to the AIDS crisis are still deeply indulged in people's perceptions of the virus across the globe.
- **Issue in rural areas** - If woman comes from a tight-knit rural area for treatment the news of her positive status can spread fast among family and community members.
- **Misconception on sex** - The community will think that the sexual activity of that infected woman is all over the place and that's why they need treatment.
- **Reflection on the family** - In Kenya, **children's HIV status** could impair access to education because they will question the motherhood of the child's mom.

What are the steps taken by Indian government to eradicate AIDS?

- **National AIDS Control Organisation (NACO)** – It was delegated with the responsibility of formulating, implementing and monitoring policies of prevention and control of AIDS in the country.
- It took control of the National AIDS Control Programme (NACP) implementation for HIV prevention.
- **The National AIDS Control Programme (NACP), 1992** – It is being implemented as a comprehensive programme for prevention and control of HIV/AIDS in India.
- It was launched to coordinate the national responses of surveillance, blood screening details and programmes of health education.
- **Mass media campaigns** - NACO has been conducting regular thematic mass media campaigns on TV and radio regarding the spread and treatment.
- **National Strategic Plan on HIV/AIDS and Sexually Transmitted Infection (STI)** – It is a seven year programme (2017-24), which aims to attain universal coverage of HIV prevention, treatment to care continuum of services for people living with HIV.
- **Free Anti-retroviral therapy (ART)** - India is attempting free roll out of ART under the **test and treat strategy** to achieve the second 90 of the 90-90-90

treatment target, which aimed that, 90% of all people with diagnosed HIV infection will receive sustained ART.

- **Bilateral and multilateral partners** – A number of international organisations are working with the NACO in addressing HIV/AIDS issue by contributing their technical expertise and financial resources.

SDG Target 3.3 - End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases by 2030

Challenges in eradicating AIDS

Across countries

- **Croatia** - Treatment is available for free in Croatia only for people with insurance and not for those, such as undocumented migrants who do not have insurance.
- There is only one HIV treatment center in Croatia, thus posing difficulty in accessing care.
- **Thailand** - In some Thai provinces, it can take up to a day to get to a facility that treats the condition.
- Religion also impacts how HIV is perceived in the Buddhist tradition, the virus is often seen as bad karma, a sign of bad actions in a past life.
- **Kenya** - People are suspicious about taking pills for prevention on taking PrEP.

PrEP is a preventative medication for at-risk groups that, if taken correctly, can reduce a person's chances of getting the virus through sex by up to 99%.

What lies ahead?

- **ART** - The treatment for HIV is a combination of drugs taken daily called antiretroviral therapy (ART).
- There is a need to increase the access of ART usage worldwide as it has been very successful at lowering HIV mortality rates.
- **Daily oral medication** - Another preventative treatment is the PrEP, a daily oral medication that is highly effective if taken correctly.
- **Nullout the stigmas** - All countries have to work on the stigmas of people to nullify certain myths and increase the awareness among all the classes of people.

22. Quad Nations launch Quad Cyber Challenge

The QUAD Countries India, Australia, the US, and Japan recently launched the Quad Cyber Challenge. The main objective is to improve cyber security in the four countries. It is basically a competition. Any internet user from the Indo-Pacific region can participate in the challenge. National Security Council will be the Indian representative at the QUAD in implementing the challenge.

Focus of the challenge

Multi-factor authentication, routine security updates, identity checks, changing passphrases regularly, identifying phishing, online scams, etc.

Role of QUAD in the challenge

QUAD will provide the resources for the participating professionals. Also, QUAD will provide training to selected professionals from educational institutions and corporations before they participate in the challenge.

Resilient Cyberspace

The main objective of the challenge is to create a resilient cyberspace. Cyberspace is the internet platform where people share information, and engage in conversations, and other social media activities. Ransomware attacks, malware, software vulnerabilities, AI attacks, etc are the major challenges faced by cyberspace today. Other challenges are clickjacking, denial of service attacks, spyware, a man-in-the-middle attack, etc.

23. International Day of Zero Tolerance for Female Genital Mutilation 2023

Every year 6th February is observed as the International Day of Zero Tolerance for Female Genital Mutilation.

International Day of Zero Tolerance for Female Genital Mutilation

- **Aim:** To amplify and direct the efforts on the elimination of this practice.
- **2012:** UN General Assembly designated February 6th as the International Day of Zero Tolerance for Female Genital Mutilation

About Female genital mutilation (FGM):

- Female genital mutilation (FGM) comprises all procedures that involve partial or total removal of the external female genitalia, or other injury to the female genital organs for non-medical reasons.
- It is also known by other names including '**cutting**', '**female circumcision**' and '**initiation**'.
- FGM is recognized internationally as a violation of the human rights of girls and women.
- According to the United Nations Population Fund (UNFPA), while the exact origins of the practice remain unclear, it seems to have predated Christianity and Islam.

Types of FGM:

- **Type 1:** Partial or total removal of the clitoral glans.
- **Type 2:** Partial or total removal of the clitoral glans and the labia minora.
- **Type 3:** Also known as infibulation, this is the narrowing of the vaginal opening through the creation of a covering seal.
- **Type 4:** Includes all other harmful procedures to the female genitalia for non-medical purposes.

Why is FGM practiced?

- **Controlling female sexuality:** FGM has been closely associated with the control of female sexuality. Some believe the procedure curbs women's sexual urges, and thereby increases the likelihood of them remaining virgins until they are married.
- **Religion:** Sometimes it has started as part of a wider religious or traditional revival movement.
- **Social obligation:** Partly because of its association with religion, many societies consider FGM an essential part of raising a girl and preparing her for womanhood and marriage.
- **Economic factors:** In many communities, FGM is a prerequisite for marriage. In places where women may be financially dependent on marriage, economics can become a justification for FGM.
- **Aesthetics:** In some communities, the practice is presented as a form of beautification
- **Cultural tradition:** In most societies, it is considered a cultural tradition, which is often used as an argument for its continuation.

Dangers of FGM:

Health issues:

- Endangers the health of women and girls and can lead to long-term physical, psychological and social consequences.
- Interferes with the natural functions of girls' and women's bodies. Immediate complications can include severe pain, excessive bleeding and even death.
- FGM is normally carried out by older members of the community, often women who lack proper medical training.

Financial burden:

- As per WHO, current costs of treating health complications of FGM of 27 countries totaled **1.4 billion USD during 2018**.
- This amount is expected to rise to **2.3 billion in 30 years (2047)** if FGM prevalence remains the same.

Prevalence:

- FGM is mainly practiced in **sub-Saharan Africa and the Arab States**, but it is also practiced in some countries in **Asia, Eastern Europe and Latin America**.
- While the prevalence of FGM worldwide is down from three decades ago, at least **200 million** girls and women alive today have undergone FGM in the 31 countries, and **68 million girls** are at risk by 2030.
- In 2020 alone, **over 4 million girls** around the world are at risk of being cut.

Which countries have banned FGM? FGM has been banned by **most African countries and many other European and Western nations**.

24. Supreme Court's Legal Status to Advance Medical Directives

In a recent order, Supreme Court (SC) modified the directions of passive euthanasia thus simplifying the procedure.

Euthanasia

- **Euthanasia** is a painless killing of a patient suffering from an incurable and painful disease or in an irreversible coma.
- It is also known as Mercy killing or assisted suicide.
- There are two different types of euthanasia
- In **active euthanasia**, medical professionals, or a relevant authority, deliberately act upon a patient's desire (such as giving an injection or medication) to cause the patient to die.
- In **passive euthanasia**, the patient dies because the mechanism that keeps the patient alive is removed (life-support machines, feeding tube, a life-extending operation, and drugs).

Aruna Shanbaug case - In 2011, the Supreme Court, in a landmark judgement, issued a set of broad guidelines legalizing passive euthanasia in India.

What is the decision of the SC on passive euthanasia?

- **2018 Direction** - The Supreme Court granted legal status to the concept of 'advance medical directives' in 2018 and allowed passive euthanasia subject to stringent safeguards.
- The executor should name a guardian or a close relative who would be authorised to give consent to refuse or withdraw medical treatment in the event of the executor becoming incapable of a decision.
- The magistrate was tasked with informing family members about the document, in case they are not present at the time of its being executed.
- The district Collector should constitute the second medical board.
- **Current Order**- Supreme Court modified the directions of passive euthanasia that no more needs to be countersigned by a judicial magistrate.
- Instead it could be attested before a notary or a gazetted officer.
- Now, the executor could name more than one guardian or relative to give consent to refuse or withdraw medical treatment.
- The persons themselves have to hand over a copy of the advance directive to the guardians or close relatives named in it, as well as to the family physician.
- **Primary medical board** - The new guidelines require the hospital to constitute a primary medical board to certify whether the instructions on refusal or withdrawal of treatment is carried out.
- **The secondary board** - It should be formed by the hospital consisting of a doctor nominated by the district's chief medical officer and district collector is not needed to form the it.

How significant is the current SC directive?

- **Right to die** - The apex court had recognised the right to die with dignity as a fundamental right and laid down guidelines for terminally-ill patients to enforce the right.
- **Aid in framing a legislation** - Guidelines included are useful in the advanced recent directive so the time has come for the Parliament to come out with a comprehensive law to provide for the above.
- **Addressed the shortfalls** - Allowing individual living will and framing the appropriate guidelines has addressed the earlier shortfalls with taking forward passive euthanasia.
- **Simplified procedure** - The present judgement observed that the previous judgement had complex procedure to get approval for passive euthanasia.
- This consequently made the dignity of a dying person dependent on the whims and will of third parties.

25. Locating China in the Russia-Ukraine war

This article examines and analyses China's stance and role in the ongoing Russia-Ukraine war.

China's stand on the war

- China's official stand on the ongoing Russia-Ukraine war has been that "all countries deserve respect for their sovereignty and territorial integrity" and that "support should be given to all efforts that are conducive to peacefully resolving the crisis".
 - China has been reiterating this stance at various global multilateral institutions.
- China with its emphasis on "all countries" seems to be showcasing itself to be equidistant from both the conflicting countries.
 - However, despite this demonstration, China's stance on the conflict has been regarded as "**pro-Russian neutrality**" by various experts.
- Further, out of the seven resolutions put to vote in global institutions such as the UN General Assembly, UN Security Council, UN Human Rights Council and the World Health Organization (WHO) by the West against Russia, China has voted against in three instances and has abstained from voting in the other four occasions.
 - China however voted in favour of a UN Security Council resolution that referred to a proposal raised by Russia on humanitarian aid.
- It is well known that Russia and China are involved in a "**Comprehensive Strategic partnership of coordination for a new era**" and even during the ongoing war, China has moved forward to strengthen its relations with Russia.
- Furthermore, China on multiple occasions has supported the Russian narrative by accusing the U.S. and NATO of being the prime instigators of the crisis.
- Hence, China's narrative of being neutral has many discrepancies.

Involvement of China in the war

- China's actions to date have not been in a direct form and have been in an indirect manner.
- Ever since the onset of the conflict, China has significantly benefited from the purchase of oil and gas from Russia at cheaper prices.
 - China has replaced Germany as the largest buyer of Russian oil and Russia has displaced Saudi Arabia as China's largest supplier of crude oil.

- Apart from oil, gas and hydrocarbons the cooperation between China and Russia also extended to the exchange of materials and technology.
- As per the Wall Street Journal, China had extended covert support to Russia by accessing Russian customs data compiled by an American think tank named C4ADS.
- Reports also suggest that China's defence sector state-owned enterprises have dispatched navigation equipment, jamming technology, radar systems and fighter-jet parts to Russia.
 - Reports also claim that China had dissipated millions of chips which are a critical component of modern military equipment.
- Further, it is said that thousands of shipments of dual-use goods have been sent by China to Russia which would have otherwise been restricted due to sanctions.
- The U.S. has also imposed sanctions recently on a satellite company of China named "Spacety China" which was indirectly providing satellite imagery of Ukraine to a Russian private military force called "Wagner Group" which is involved in the conflict.
- However, China has dismissed such allegations and has held that the military dimensions of such transactions were just speculations.
- China is extending such assistance to Russia at a time when China itself is demanding that Western countries not send military aid to Ukraine as it intensifies the ongoing conflict.

Change in the stance

- As the war progressed, there seems to be a change in the Chinese stance.
- The President of China, during his meeting with the German Chancellor in November 2022 had said that the war should not cross the nuclear threshold referring to the Russian President's nuclear threats to Ukraine.
- Further, the Chinese Foreign Minister in an article said that if China knew about the crisis the war could cause, China would have tried to prevent the war.
- Additionally, there are many leaders within the Chinese governmental hierarchy who have criticised Russia's actions.
- Even during the G-20 summit held at Bali in November 2022, the leaders' declaration on the war, which stated that most of the G-20 members strongly condemned the war, was not endorsed by China only because of its objections towards calling the conflict a "war".
 - But China here only opposed the terminology of "war" and did not oppose the condemnation of the conflict itself.

Path ahead

- China's direct support to Russia will affect its relations with Ukraine as well as the European Union (EU).
 - China is the largest trading partner for both Russia and Ukraine.
 - Ukraine is China's largest corn supplier.
 - Furthermore, Ukraine is the third largest supplier of military equipment to China and Ukraine is the biggest market for defence goods from China.
 - China's first aircraft carrier, **Liaoning**, is a refurbished aircraft carrier bought from Ukraine after the disintegration of the Soviet Union.
 - China at present also has strong economic relations with the EU and cannot risk it.
- It is also important for China to ensure that Russia continues to be its close aid as Russia is China's premier ally in its larger global ambition to displace the U.S. as the global superpower.
 - Not just this, China could also use the Russian card to gain concessions from the West on the trade and technological fronts.
- The war has further provided an opportunity for China to compensate for the withdrawal of Western investment and technology in Russia.
- The prolonged conflict in Ukraine has also distracted the West from the Indo-Pacific theatre which has provided China with a chance to extend its influence in the region.

26. India-France Strategic Partnership

The celebration by India and France of 25 years of their strategic partnership presents an important opportunity for both to introspect on their relations.

How has India-France ties been?

Signed in 1998, the time-tested strategic partnership between India and France has continued to gain momentum over shared values and aspirations of peace, stability and their desire for strategic autonomy.

- **Key trading partner** - France has emerged as a key trading partner of India with annual trade of \$12.42 billion in 2021-22.
- France is the 11th largest foreign investor in India with 1.7% of the total foreign direct investment inflows into India.
- **Key defence partner** - France has become the second largest defence supplier in 2017- 2021.

- The crucial defence deals include the inducting of the French Scorpene submarines, being built in India under technology transfer agreement of 2005 and receiving of 36 Rafale fighter jets.
- The relations is further strengthened with the robust network of military dialogues and regularly held joint exercises
 - **Varuna** (navy)
 - **Garuda** (air force)
 - **Shakti** (army)
- **Nuclear deal and tests** - France was among the first countries with which India signed a civil nuclear deal.
- France also played a critical role in limiting India's isolation in the non-proliferation order after the 1998 nuclear tests.
- **Multilateral groupings** - France supports India's bid for permanent membership of the United Nations Security Council as well as its entry into the Nuclear Suppliers Group.
- **Maritime security** - India and France are resident powers of the Indian Ocean and in the Indo-Pacific.
- The two countries launched "Joint Strategic Vision of India-France Cooperation in the Indian Ocean Region".
- India and France in 2022 agreed to set up an Indo-Pacific Trilateral Development Cooperation Fund that will support sustainable innovative solutions for countries in the region.
- The two partners have formed a trilateral grouping with the United Arab Emirates to ensure maritime domain awareness and security from the east coast of Africa to the far Pacific.
- **Digital technology** - India is an important hub for French companies for day-to-day activities as well as R&D and innovation.
- The French tech services provides India with supercomputing hardware and quantum computing simulation software.
- **Environment** - India has supported France in the Paris Agreement expressing its strong commitment towards mitigating climate change impact.
- New Delhi and Paris, as part of their joint efforts on climate change, launched the International Solar Alliance in 2015.

What lies ahead?

- **Advanced technologies** - Enhancing bilateral cooperation in nuclear cooperation and enhancing space is of significance now.
- **Defence** - Next is the new commitment to go beyond the buyer-seller relationship in the field of weapons procurement.
- India comes up with clear policies for making arms in India.
- With this, the synergies between India's large defence market and the French strengths in armament production can offer much.

- **Political cooperation** - Political cooperation between India and France is relatively new.
- Today, France has emerged as India's most reliable partner on issues relating to terrorism and Kashmir.
- **Regional cooperation** - The relationship between India and France has gone beyond the bilateral to focus on the regional.
- **Global agenda-setting** - Besides the Solar Alliance, India and France have to turn to more ambitious ideas.

27. India-U.S. Space Cooperation

India-US group met in January 2023 to advance bilateral space collaboration.

Introduction:

- The eighth meeting of India-US Civil Space Joint Working Group (CSJWG) took place from January 30-31 in Washington DC.
- It was co-chaired by representatives from National Aeronautics and Space Administration (NASA) for the United States, and Indian Space Research Organisation (ISRO) for India.
 - The US delegation included officials from the Department of State, NASA, Department of Homeland Security, Federal Aviation Administration, United States Geological Survey and the National Oceanic and Atmospheric Administration of the Department of Commerce.
 - The Indian delegation included representatives from ISRO, Ministry of Environment, Forest and Climate Change, Indian Institute of Astrophysics, Ministry of Earth Sciences and the Ministry of External Affairs.
- The CSJWG discussions covered collaboration in earth and space science as well as human space exploration, global navigation satellite systems, spaceflight safety and space situational awareness, and policies for commercial space.
- Participants also considered implementation of guidelines and best practices developed by the United Nations Committee on the Peaceful Use of Outer Space (COPUOS) to ensure the long-term sustainability of outer space activities.

Significance of India-US Space Collaboration:

- The United States and India have strong bilateral cooperation in space, the NASA-ISRO Synthetic Aperture Radar (NISAR) mission planned to launch in 2024, is expected to systematically map the earth, using two different radar frequencies to monitor resources such as water, forests and agriculture.
 - The mission will provide important earth science data related to ecosystems, earth's surface, natural hazards, sea level rise and the cryosphere, it said.
- Both countries have agreed to advance space collaboration in several areas, under the 'initiative on critical and emerging technology' umbrella, including human space exploration and commercial space partnership.
- In November 2022, the U.S. began its Artemis programme by launching the Orion spacecraft towards the moon and bringing it safely back to earth. This can be crucial to India for its first human spaceflight mission (Gaganyaan) in 2024.
- Both countries have also taken significant strides in advancing the private space sector. Together, these endeavours will shape and impact U.S. and Indian space policies and programmes over the next decade.
- India could secure technologies and expertise by collaborating with an advanced spacefaring nation.

Roadblocks:

- Certain structural factors limit the extent to which the U.S. and India can collaborate in the short term. Even though countries have a mindset to collaborate, the structural factors overpower diplomatic incentives to pursue long-term cooperation.

a. Different Interests

- Two nations' interests in outer space are different right now, which is a structural factor that limits long-term India-U.S. space cooperation
- Although, the U.S. and its partners stress the importance of maintaining capabilities in low-earth orbit. It has ambitions firmly set on the exploration of the moon for the long term.
 - In this regard, the Artemis Program, the Artemis Accords, and the Biden administration's National Cislunar Science & Technology Strategy constitute the foundation for American ambitions beyond earth orbits.
- Meanwhile, India is focusing on building the nation's capability in and under earth orbits.
 - ISRO currently undertakes fewer than 10 launches each year. The Gaganyaan human spaceflight programme hopes to sustain India's human presence in space for the long term.

- India's top priority is to substantially increase its satellite and launch capabilities in earth orbits and catch up with other spacefaring nations such as China.

b. Asymmetry in capabilities is the second structural factor limiting India-U.S. space cooperation.

- The U.S. has the highest number of registered satellites in space. It also has a range of launch vehicles serving both commercial and national-security needs.
- Private entity SpaceX, for example, managed to achieve a record 61 launches in 2022, far higher than the number of launches undertaken by any other commercial entity or country.
- The American private sector has also assumed the challenge of replacing the International Space Station by 2030 with many smaller stations.
- India has just over 60 satellites in orbit and cannot undertake double-digit launches annually.
 - The Indian government also opened the space industry to the private sector only in 2020. Since the U.S. already has an extensive network of partners for space cooperation, it has few technical incentives to cooperate with India.

c. Disagreements on how best to govern space activities on the moon and other celestial bodies is another factor limiting India-U.S. space cooperation.

Way Forward:

- Sustaining the engagement between academics, the private sector and state-led entities would induce long-term cooperation between two countries.
 - Sustained engagement could also take the form of collaborating on highly specialised projects such as the NISAR mission.
- Partnership between state and private entities could substantially help in building a long-term cooperation.
 - A convention of American and Indian aerospace companies to advance collaboration under NASA's Commercial Lunar Payload Services (CLPS) programme was agreed in the recent meeting.
- India can send its astronauts to train at American private companies which could help India reduce its dependence on Russia while ISRO builds its own astronaut training centre.
- A consortium led by the government-owned NewSpace India Limited involving private companies in the U.S could accelerate India's human

spaceflight programme and give the U.S. an opportunity to accommodate Indian interests in earth orbits.

28. 4G in name only: data needles stutter in 'grey spots' in India

- The Government in India has revised the minimum broadband speed definition from 512 Kbps to 2 Mbps.
 - As per the Telecom Regulatory Authority of India (TRAI), from September 2022, the three main telecom providers in India classify almost 95% of their customer base as “broadband” customers, which now means that they should be able to access Internet speeds of minimum 2 Mbps.
 - Broadband speeds below 2 Mbps are not sufficient for video calls, streaming video and many other services.
- However, in the country, high speed broadband speeds are taken for granted in large cities whereas there are villages without any 4G network coverage.
- Besides these two categories there are smaller urban settlements and towns which are affected due to weak connectivity.
 - **White spots** are those places without cellular connectivity.
 - **Grey spots** are areas that are connected but may not let users get enough out of their access.
- The users in these towns, despite having 4G network towers, struggle to get usable Internet speeds mainly because of the shortage of towers i.e. these towers cannot handle high traffic due to high number of users.
- According to the data released by Ookla in December 2022, the mean wireless Internet speed in India was 108.86 Mbps, while the median was just 25.29 Mbps.
 - **Mean Speed:** indicates the internet speed an average user usually gets.
 - **Median Speed:** midpoint of the fastest and slowest connections.
 - This huge difference between the mean and median shows that there is huge inequality in the quality of access.

29. The Adani-Hindenburg Saga

Stocks of Adani Group tumbled recently after Hindenburg Research has highlighted financial irregularities in the company.

Hindenburg Research

Along with developing more than 3,100 miles of the country's road network, Adani Group is the largest private operator of India's sea and airports, controlling 33% of Indian air cargo traffic and 24% of its shipping capacity.

- Hindenburg Research is an investment research firm that focuses on analysing accounting irregularities, undisclosed transactions, illegal business or financial reporting practices among others.
- It alleged that Gautam Adani, founder and chairman of the Adani group, has added over \$100 billion to his net worth over the last three years, largely through **stock manipulation** and **fraud**.
- The research firm has raised concerns about its **substantial debt**.
- Hindenburg alleged that Adani used **offshore shells** for money laundering and siphoned from listed companies.
- Hindenburg revealed about short positions in Adani companies through bonds and non-Indian-traded derivative instruments.
- As per India's tax and SEBI laws, short selling of domestic stocks outside the country's jurisdiction is illegal unless they are listed on any exchange.
- While Adani bonds are listed on the US exchange, Hindenburg's reference to the '**non-Indian-traded derivatives**' raised the alarm for Indian regulators.

Short selling or shorting is a trading strategy based on the expectation that the price of the security will fall.

In short selling, the trader usually does not own the securities he sells, but merely borrows them.

Aftermath the Hindenburg report

- The group's stocks and Mr. Adani's personal wealth have taken a plunge after the report.
- The Adani Group has been facing a crisis of confidence as the stocks of most of its companies have been on the fall.
- Once ranked No. 2 among the world's wealthiest, he has tumbled to No. 21 on the **Bloomberg Billionaires Index**.
- Adani Enterprises decided to call off its Rs 20,000 crore follow-on public offer and return the money that it had collected from investors.

An FPO is a process wherein a company that is already publicly listed in the stock market issues additional shares to investors.

It is made by the company after an Initial Public Offering (IPO).

- Morgan Stanley Capital International (MSCI), a global index provider for financial markets, announced that it will reduce the free float designations for four Adani Group companies in multiple indices.

Free float refers to the proportion of the total outstanding shares of a publicly listed company that is readily available for trading in the market.

Generally speaking, shares held by promoters and large institutional investors are normally not freely traded in the market.

Impacts this episode on the economy

- **Capital flow** - MSCI's decision will adversely affect the amount of capital flowing into the Adani stocks as many passive investors invest in the indices that are constructed by bodies such as the MSCI.
- **India's index drop** - Goldman Sachs believes that India's weight in the MSCI's emerging markets index itself could drop by 20-30 basis points following the resultant reduction in weight of Adani stocks.
- **Hit on banks** - The turmoil has not only hammered Adani Group shares but is also hitting banks that have given loans to the companies including the State Bank of India.
- **Investor confidence** - The Adani-related headlines are generating a high level of negative attention, which could dampen investor appetite for Indian stocks.
- **Raising capital** - All this can adversely affect the group's efforts to raise capital from investors, whether it is in the form of equity or debt offerings.
- **Scarcity of shares** - The Indian-listed entities faces scarcity of shares for short sellers to borrow, and they are therefore more expensive.
- **India's growth** - If the slide in asset prices continues and further shakes investor confidence in Adani's empire, that would be a setback for India's growth story at a pivotal time.

30. Not a pipe dream

Increased budget outlay for Jal Jeevan Mission.

Details:

- The aim of Jal Jeevan Mission (JJM) is to provide functional piped water to every rural household by 2024.
 - A fully functional tap water connection means a household gets at least 55 litres of potable water per capita per day throughout the year.
- The Budget 2023-24 has allotted approximately ₹69684 crores for the scheme. It is a 27% increase as compared to the revised estimates of 2022 (₹54808 crores).
- However, it is argued that out of the targeted 19.3 crore rural households, only 3.2 crores had piped water in August 2019. And the JJM dashboard on the official website of the Ministry of Jal Shakti shows that around 11 crore

households (57% of the targeted beneficiaries) have access to tap water (as on February 2023).

- With just 12 months remaining, it would be difficult to ensure that the remaining 47% is also covered.
- The state-wise details of the scheme:
 - The states which have reported 100% coverage of eligible households with piped water are Goa, Gujarat, Haryana, and Telangana.
 - Punjab and Himachal Pradesh have coverage of nearly 97%.
 - Apart from the above, only 10 more states have reached 60% coverage.
 - Large and populous states like Uttar Pradesh and Rajasthan have reported only 30% coverage. Madhya Pradesh has covered around 47% of the targeted beneficiaries.

Associated Concerns:

- It is suggested that despite having a tap connection, village households depend on their local groundwater resources because of the inadequate quality of supplied tap water.
- According to a sample survey of nearly 3 lakh eligible households (commissioned by the Ministry of Water Resources) only three-fourths reported that water was provided seven days a week. It was also found that on average water was supplied for only three hours a day.
- More than 90% of institutions (Anganwadis and schools) reported access to tap water. However, many of them complained about the high levels of chlorine apart from bacterial contamination.
- It is also found that the current statistics are based on self-reporting and not certified by a third party.
- Some states like Bihar have highlighted that most of their connections were provided through state funds instead of JJM.

Way Ahead:

- Instead of aiming for a numerical target, the government should focus on ensuring the quality and consistency of tap water adoption in rural areas.
- Moreover, the Centre should also help states with the lowest adoption and largest population, instead of focusing on states that are close to the finishing line.

31. Shaping a more disabled-friendly digital ecosystem

Details:

- As per the World Health Organization, 16% of the global population is disabled.

- However, 2.21% of the disabled population in India estimated in Census 2021 appears to be a gross underestimation.
- Technology has great potential to level the playing field for the disabled. However, it can also reinforce barriers, if not designed as per their needs.
- It was found in 2020 that India has 750 million Internet/smartphone users.
- If the 16% figure is applied, it implies that there are roughly 12 crore internet/smartphone users with disabilities.

Assessment of the situation through a study:

- For an evidence-based assessment of the situation of technology and its accessibility for the disabled section, a report was prepared.
- In the study, ten widely used apps across five sectors were studied. These apps are Zomato, Swiggy, PayTM, PhonePe, Amazon, Flipkart, Uber, Ola, WhatsApp, and Telegram.
- Moreover, the Web Content Accessibility Guidelines were used to evaluate the app.
 - Web Content Accessibility Guidelines is a set of globally recognized parameters to determine disabled-friendly attributes of an app or website.
- It was found that 4 apps were ranked “low” in accessibility and 5 apps were ranked “medium”.
- The results highlight the immediate need to work on creating a disabled-friendly infrastructure both physical and digital.
- The aim of launching this report and rating index is to start discussions on digital accessibility, product design, and the development process.
- In the second phase of this report, the research group would collaborate with service providers and help them design practices and processes for improving app accessibility and educate the stakeholders about people with disabilities.
- It will further help in changing attitudes around disability, specifically within the business community, as they will move away from a charity-based approach to a rights-based and investment outlook.

Use of Artificial Intelligence:

- Artificial Intelligence (AI) can further help in automating the accessibility testing process.
- It can also help in analyzing the feedback from users with disabilities at a scale to provide insights to developers and manufacturers.

32. Green transition during India's G20 presidency

- Energy transitions are central to the G20 agenda. In 2023, during India's presidency, the geopolitics and governance of energy have become immensely challenging, as the shift from fossil fuels to renewable energy, concerns about energy security and, in many cases, the pressure on keeping financial commitments made related to tackling climate change have become complicated.

Green Transition

- **Moving away from fossil fuels:** The Green transition involves shifting away from traditional sources of energy that contribute to climate change, such as coal and oil.
- **For example:** In 2021, the Indian government announced plans to stop the import of coal by 2024 and to reduce the country's reliance on coal for power generation
- **Embracing renewable energy:** The transition involves embracing cleaner and more renewable sources of energy, such as solar, wind, and hydropower.
- **Examples:** In 2021, the Gujarat government announced plans to set up a 500 MW solar park, which is expected to be the world's largest solar park upon completion. In 2021, Google announced plans to power all of its data centers and offices using carbon-free energy sources by 2030.
- **Reducing carbon emissions:** The Green transition involves reducing carbon emissions from transportation, industry, and other sectors.
- **For instance, "Switch Delhi campaign":** In 2020, the Delhi government launched the Switch Delhi campaign to promote electric vehicles and reduce air pollution in the city.
- **Promoting sustainable lifestyles:** It involves promoting sustainable lifestyles and behaviours, such as reducing waste and conserving resources.
- **India's LiFE example:** The LiFE (Lifestyle for Environment) campaign is an initiative launched by the Indian to promote sustainable lifestyles and reduce the environmental impact by taking actions at individual level.
- **Encouraging sustainable innovation:** The Green transition involves encouraging innovation in sustainable technologies and practices.
- **For instance:** In 2021, The Government of India announced plans to set up a National Hydrogen Energy Mission to promote the use of hydrogen as a clean energy source in various sectors.

Energy Poverty at present

- **Increasing energy poverty in Sub-Saharan Africa:** The International Energy Agency counts 20 million more people worldwide without electricity now

compared to 2021. Predictably, the worst-affected are in sub-Saharan Africa, which is back to its lowest rate of electrification since 2013.

- **Inadequate energy supply in Europe:** In Europe, the number of people experiencing inadequate energy supply has risen to 80 million from 34 million in 2021.
- **Middle-income countries face fuel and electricity shortages:** Even middle-income countries in Africa, South America and Asia face fuel and electricity shortages and high levels of inflation.
- **Reduced availability of energy impact on economies and public health:** Reduced availability of energy is hurting economies as industries close, and is impacting public health as safe fuels such as cooking gas become expensive.
- **Balance of payments crisis and high energy costs:** A number of countries also face a balance of payments crisis, partly driven by high energy costs.
- **Global impact on sustainable development goals (SDG):** Energy poverty is global and widespread, impacting technology implementation, industry and SDGs all of which are also G20 goals.

Suggestions to produce swift results for India's G20 presidency

- **Financial support as a cornerstone of climate action and energy transition:** The G20 should prioritize providing financial support to those in need as a fundamental aspect of climate action and energy transition under the UNFCCC Protocol, as emphasized and reinforced in the Paris Agreement and successive Conference of the Parties (COPs).
- **Galvanizing the pursuit of financial support:** Although financial support to developing countries has increased over time, it still falls short of what is necessary for a successful transition to a low-carbon economy. The G20 has the potential to mobilize efforts and drive momentum towards securing the funding required for climate action and energy transition.
- **Public Financing alone is insufficient:** Public financing alone will not be sufficient to address the current energy challenges faced globally. Private finance is necessary to complement public finance.
- **Innovative approaches to climate financing:** Innovative approaches are required to address the financing needs of climate action. These approaches could include blending finance with public and private capital to create a unified effort. Additionally, impediments like exchange rate risks must be addressed to ensure smooth financing of projects.
- **Creation of a Global Climate Finance Agency to better integrate and drive global agenda:** The agency could be mandated to lower hedging costs to mitigate a key risk faced by developers of green projects and insure major clean energy projects from potential losses due to government utilities failing

to meet supply and payment obligations, which is a common issue in developing countries like India.

- **Harnessing power of public procurement system:** The G20 can use the public procurement system to speed up energy transitions and drive significant change. Effective public procurement can ensure funding and adaptation at scale, which has been proven through abundant evidence.

Conclusion

- The G20 should encourage financial centres and business communities, to create new business models and technologies for energy transitions. This will require cooperation and collaboration between financial centres, including through green financing and economy taxonomies. By doing so, the G20 can accelerate climate transition and energy security for all.

33. Post Retirement Appointment of Judges

Within a month of retiring from the Supreme Court of India, Justice S. Abdul Nazeer's appointment as Governor of Andhra Pradesh has stirred debates on post retirement appointments.

What is the issue?

- Justice Nazeer (retd), was part of the five-judge bench that delivered the November 2019 Ayodhya verdict.
- The former Supreme Court judge also headed the five-judge Constitution bench that upheld the Centre's decision to demonetise Rs 500 and Rs 1000 currency notes in 2016.
- Opposition leaders questioned the appointment of a former Supreme Court judge as a Governor as the move signals that **pre-retirement judgments are influenced by the desire of a post-retirement job.**
- Appointment of Justice P. Sathasivam as Governor of Kerala and Justice Ranjan P. Gogoi as a member of the Rajya Sabha has already stirred the debate.

Problem with such appointments

- Corrupt the judges
- Encourage a culture of sycophancy to get advantage
- Affect the independence of the judiciary
- Makes the public have less faith in the judiciary

- Against the separation of powers
- Undermine the constitutional values of impartiality in the dispensation of justice

Article 50 - The State shall take steps to separate the judiciary from the executive in the public services of the State

What is the need of the hour?

- **Clear demarcation** - The Indian judiciary must distinguish between political favours and other post-retirement employment opportunities.
- There needs to be a demarcation between roles where the presence of a judicial authority is clearly valuable.
- **Role of judicial community** - The judicial community should take a concerted decision of not taking up any appointments upon retirement stemming from political patronage.
- **Cooling period** - A cooling period of about 2 years should be considered a mandatory minimum before a judge agrees to take on any post-retirement adjudicatory role.

Law Commission had consistently maintained that judges accepting employment under the government after retirement was undesirable as it could affect the independence of the judiciary.

34. Sri Lankan refugees in India

This article discusses the status of Sri Lankan refugees in India

Introduction:

- Sri Lanka has experienced much strife and conflict over the past few decades, with a civil war that lasted for more than 25 years until it ended in 2009.
- During this period, many Sri Lankan citizens were forced to flee their homes and seek refuge in other countries, including India.
- Sri Lankan people sought protection in India, among a population of identical ethnicity in Tamil Nadu. The vast majority entered India in search of safety, many without travel documents and were received and hosted by the Government of India on humanitarian grounds.
- The Sri Lankan refugees in India also face numerous challenges and struggles in their new environment, and their plight is often overlooked or ignored by the wider world.

Refugees in India:

- The Ministry of Home Affairs (MHA) in its 2021-2022 Annual Report states that 3,04,269 Sri Lankan refugees entered India between 1983 and 2012 and were provided relief including shelter, subsidised ration, educational assistance, medical care and cash allowances.
- At present, 58,648 refugees are residing in 108 camps in Tamil Nadu while 54 are in Odisha. Another 34,135 refugees registered with Tamil Nadu authorities reside outside camps.
- The Government of India provided ₹1,226 crores for the relief and accommodation of refugees.

Issues faced by Sri Lankan Refugees:

- The Sri Lankan refugees in India have been granted asylum by the Indian government, but their situation remains precarious.
- They are not allowed to work in India, therefore, they are reliant on aid from the Indian government, as well as from international organisations such as the United Nations High Commissioner for Refugees (UNHCR) and various non-governmental organisations (NGOs).
- Living conditions in the refugee camps are often poor, with inadequate sanitation, limited access to clean water, and overcrowding.
- The refugees are also at risk of being exploited by human traffickers, who promise to help them reach other countries in exchange for money.
- Sri Lankan refugees in India lack legal status as they are not granted citizenship, which means that they are unable to access many basic rights and services.
- The Sri Lankan refugees in India also face challenges in maintaining their cultural identity as they are not allowed to integrate into Indian society. They are often seen as outsiders and face prejudice and discrimination from the local population.

Slow progress of repatriation:

- The objective of the Government of India remains the repatriation of refugees to Sri Lanka. In line with the Global Compact on Refugees, India along with the international community has significantly contributed to building conditions within Sri Lanka for a safe and durable return.
 - About 99,469 refugees were repatriated to Sri Lanka up to March 1995 and no organised repatriation was done thereafter.
 - Amongst them are 30,000 Persons of Indian Origin (also known as “Hill Tamils”). They have a claim to Sri Lankan citizenship via the Indo-Sri

Lanka Agreements of 1964, 1974 and 1987 and amendments to the Grant of Citizenship to Persons of Indian Origin Act of Sri Lanka.

- Sri Lankan Tamil refugees in India who wish to return voluntarily are being facilitated by the Government of Sri Lanka, and development partners.
- They have initiated programmes in the Northern and Eastern provinces, with objectives of resettlement, restoration of critical infrastructure, livelihoods and social services to the local population.
 - This led to significant improvements; the return of internally displaced persons (IDPs), infrastructure development, and expansion of agriculture and livelihoods.
 - Over the last year, 208 individuals have returned voluntarily.
- Despite these efforts, several challenges remain, including a lack of funds for recovery needs.
- The Easter Bombings in 2019 followed by COVID-19 slowed the development process, compounded by the economic and political crises in 2022.
- However, recent announcements, to commence ferry services to Kankensanthurai and start direct flights to Jaffna from India are expected to build confidence and aid those desiring to return.

Issue of voluntary return:

- Despite the challenges, the Sri Lankan refugees in India have shown remarkable resilience and resourcefulness. Many of them have set up small businesses in the refugee camps, such as tailoring or food stalls, to support themselves and their families.
- The UNHCR and various NGOs have been working to support the Sri Lankan refugees in India, providing them with aid and legal assistance. They have also been advocating for their rights and for better living conditions in the refugee camps.
- In recent years, the Indian government has allowed some refugees to leave the camps and settle in other parts of India, and some have even been granted Indian citizenship.
- Therefore, a significant population of Sri Lankan refugees in India does not wish to return, preferring to call India home as they were born and educated in India with no knowledge or experience of their country of origin.
 - UNHCR perceives voluntary return as the most desired choice to end refugee status.

35. The Silent Pandemic of Antimicrobial Resistance (AMR)

While the world is emerging from the acute phase of the COVID-19 pandemic, the very harmful but invisible pandemic of Antimicrobial Resistance (AMR) is unfortunately here to stay.

AMR

India is the largest consumer of antibiotics in the world.

Antimicrobial resistance (AMR)

- AMR is the ability of a microbe to resist the effects of medication previously used to treat them.
- Resistant microbes are more difficult to treat, requiring alternative medications or higher doses, both of which may be more expensive or more toxic.
- Microbes resistant to multiple antimicrobials are called **Multi Drug Resistant (MDR)** or sometimes **Superbugs**.

Causes of AMR

- **Usage** - There is an increasing use of antibiotics for human and veterinary purposes in the recent period.
- There is irrational consumption (over usage) of broad spectrum antibiotics.
- **Lack of effective regulation** - The current standards of Central Pollution Control Board do not include antibiotic residues, and they are not monitored in the pharmaceutical industry effluents.
- The existing good manufacturing practices (GMP) under the WHO (2016) framework is restricted to drug safety alone and does not recognise the environmental risk with pharmaceuticals products.
- **Waste Discharge** - The uncontrolled discharge of untreated urban waste is another major source for AMR in many low and middle income countries

An Indian Council of Medical Research (ICMR) study in 2022 showed that the resistance level increases from 5% to 10% every year for broad-spectrum antimicrobials.

Impacts of AMR

- **Treating infections** - Microbial resistance to antibiotics has made it harder to treat infections such as pneumonia, tuberculosis (TB), blood-poisoning (septicaemia) and several food-borne diseases.
 - The global epidemic of TB has been severely impacted by multidrug resistance — patients have less than a 60% chance of recovery.
- **Health cost** - AMR imposes a huge health cost on the patient in the form of longer hospitalisation, health complications and delayed recovery.
- **Affects vulnerable patients** - It puts patients undergoing major surgeries and treatments, such as chemotherapy, at a greater risk.

- **Disease burden** - AMR adds to the burden of communicable diseases and strains the health systems of a country.
- In 2019, AMR was associated with an estimated 4.95 million human deaths.

What efforts were taken by India to tackle the rising AMR?

- **Muscat Manifesto** - At the Third Global High-Level Ministerial Conference on Antimicrobial Resistance held in Muscat, over 30 countries adopted the Muscat Ministerial Manifesto on AMR.
- The Muscat Manifesto recognised the need to accelerate political commitments in the implementation of One Health Action for controlling the spread of AMR.
- The conference focused on three health targets
 - Reduce the total amount of antimicrobials used in the agri-food system at least by 30-50% by 2030
 - Eliminate use in animals and food production of antimicrobials that are medically important for human health
 - Ensure that by 2030 at least 60% of overall antibiotic consumption in humans is from the WHO “Access” group of antibiotics
- **Reporting to GLASS** - India plans to strengthen private sector engagement and the reporting of data to the WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS).
- **The National Action Plan on Antimicrobial Resistance (2017-21)** - It emphasised the effectiveness of the government’s initiatives for hand hygiene and sanitation programmes such as Swachh Bharat Abhiyan, Kayakalp and Swachh Swasth Sarvatra.
- **The National Health Policy 2017** - It has offered specific guidelines regarding use and limiting the use of antibiotics as over-the-counter medications and restricting their usage in livestock.
- It also called for scrutiny of prescriptions to assess antibiotic usage in hospitals and among doctors.

Need of the hour

- **Reduction of usage in agri-food system** - There is an urgent need to reduce the usage of antimicrobials in the agri-food system.
 - Countries such as the Netherlands and Thailand have decreased their usage by almost 50%.
- **Effective implementation of policies** - The government policies needs strong implementation on the ground.
- **Opportunities in G20** - The various G-20 health summits spread through 2023 offer an opportunity for India to ensure that all aspects of AMR are addressed.

- Some key areas for action are
 - Surveillance of priority pathogens
 - Sharing of data, including through WHO's GLASS platform
 - Regulatory and policy action to stop use of antibiotics
 - No use of antibiotics for growth promotion in animals
 - More government investment in research and innovation for new antibiotics
 - Special focus on combating TB and drug-resistant TB

36. Now, no age bar to register for cadaver organ transplant

- The Union Health Ministry has announced a major change in the organ donation policy of India.
- The clause that people aged over 65 years could not receive cadaver organ transplants has now been removed.
 - The government has decided to remove such a clause from the National Organ and Tissue Transplant Organisation (NOTTO) guidelines because it violates the right to life of individuals.
- Further, an organ recipient was also required to register for a transplant only in the domicile State which the Gujarat High Court had quashed saying that such a policy was discriminatory in nature.
 - In line with the High Court judgment, the Union government has removed this clause and now a patient irrespective of domicile State can register in any other State for a transplant.
- Additionally, certain States like Kerala and Maharashtra have been charging registration fees for patients and the Union government has now asked the States to not charge any registration fees from patients.
- A chapter would also be included in the school curriculum which discusses key aspects of organ donation and provides awareness about the same.
- As per the data available with the Union Health Ministry, the number of organ transplants has increased by close to three times to 15,561 in 2022 as compared to 4,990 in 2013.

37. Empowering MPs through Data

For Members of Parliament (MPs) to effectively engage with their constituents, data has the potential to serve as an imperative tool to understand and prioritise the issues most impacting their communities.

Data-based policy making

- Data-based policy making is an approach of optimal use of data, and collaborate with citizens to co-create policy.
- **Benefits**
 - Redressal of inter and intra-district inequalities
 - Targeted resource allocations
 - Improves transparency in policy making
 - Greater accountability in public services
 - Promotes peoples' participation in the governance

Significance of empowering MPs with data

- In a democratic set-up, the parliamentary constituencies (PCs) offer a natural unit for policy deliberation and governance.
- **Identification of priorities** - The data-based monitoring and governance of populations are central to identifying priorities in the parliamentary constituencies (PCs).
- **Synergy** - There is a need for better synergy between district administration and elected representatives.
- **Effective coordination** - MPs are empowered with appropriate data related to the populations they have been elected for them to effectively coordinate with multiple district administrations.
- **Independent functioning** - The MPs can serve independently without having to rely on the district administration which finds it difficult to provide accurate data on the parliamentary constituencies.
- **Mapping the critical issues** - Timely and accessible data at the PC-level can transform the work of MPs by bringing to light the most critical issues and at-risk populations.
- **Raising policy questions** - It can also empower MPs to raise policy questions at multiple levels of governments, from the floor of Parliament to their frequent interactions with the district administrations.
- **Civil society engagement** - It facilitates the MPs to independently initiate meaningful dialogue with civil society NGOs and other stakeholders to collaboratively address the issues most important to their constituents.

Efforts were taken regarding data governance

- **National Data Sharing and Accessibility Policy (NDAP)** - It was launched in 2012 to make a variety of data related to population health and well-being from current GOI schemes more accessible.
- **Department of Science & Technology (DST)** would be the nodal department for all matters connected with overall co-ordination, formulation, implementation and monitoring of the policy.

- **District-level data** - District-level data from GOI administrative data and independent surveys such as the National Family Health Surveys (NFHS), has emerged as a key input for policy deliberations.
- **District Coordination and Monitoring Committee (DDMC)** - The Ministry of Rural Development issued an order in 2016 to all states and Union Territories to constitute a DDMC.
- DDMCs are to be chaired by district MPs for implementation and monitoring of central schemes more efficiently.
- **PC data tracker** - A new interactive PC data tracker developed by the Geographic Insights Lab at Harvard University has for the first time provided data on crucial population, health, and well-being estimates.
- **National Data Governance Policy** - The announcement of a National Data Governance Policy during the 2023 budget session is a step in the right direction for good governance.

38. Supreme Court says NO to Sealed Cover suggestions

Central idea: The Supreme Court has said it did not want to accept in a “sealed cover” the Centre’s suggestions on who could be the members of a committee the court had proposed to assess the market regulatory framework and recommend measures, if any, to strengthen it in the wake of the Adani-Hindenburg affair.

- The article is about a public interest petition filed in the Supreme Court that calls for the establishment of an expert panel to strengthen regulatory mechanisms related to the Adani Group.
- The petitioners argue that the Adani Group has been able to bypass regulatory hurdles through its influence on government officials and agencies.

Sealed Cover Jurisprudence

- It is a practice used by the Supreme Court and sometimes lower courts, of asking for or accepting information from government agencies in sealed envelopes that can only be accessed by judges.
- A specific law does not define the doctrine of sealed cover.
- The Supreme Court derives its power to use it from Rule 7 of order XIII of the Supreme Court Rules and Section 123 of the Indian Evidence Act of 1872.

Need for sealed cover jurisprudence

There are several reasons why sealed cover jurisprudence is used-

- **National security:** For example, in cases involving sensitive information related to defense or intelligence agencies, the disclosure of such information in open court proceedings could compromise national security.
- **Individual privacy:** It is also used to protect the privacy in cases involving sensitive personal information. In such cases, the court may allow the submission of such information in a sealed cover to protect the privacy of the individual concerned.
- **Protect commercial or trade secrets:** In cases involving disputes between companies, the disclosure of confidential information related to their business operations could harm their commercial interests.

Nature of the power: Upholding Secrecy

- If the Chief Justice or court directs certain information to be kept under sealed cover or considers it of confidential nature, no party would be allowed access to the contents of such information.
- There is an exception to this if the Chief Justice himself orders that the opposite party be allowed to access it.
- It also mentions that information can be kept confidential if its publication is not considered to be in the interest of the public.
- As for the Evidence Act, official unpublished documents relating to state affairs are protected and a public officer cannot be compelled to disclose such documents.

Grounds of such secrecy

Other instances where information may be sought in secrecy or confidence is when its publication:

1. Impedes an ongoing investigation of cases related to national security
2. Details that are part of the police's case diary or
3. Breaches the privacy of an individual

Prominent cases of sealed jurisprudence

Sealed cover jurisprudence has been frequently employed by courts in the recent past.

(1) Rafale Deal

- In the case pertaining to the controversial Rafale fighter jet deal, a Bench headed by CJI Ranjan Gogoi in 2018, had asked the Centre to submit details related to deal's decision making and pricing in a sealed cover.

- This was done as the Centre had contended that such details were subject to the Official Secrets Act and Secrecy clauses in the deal.

(2) Bhima Koregaon Case

- In the Bhima Koregaon case, in which activists were arrested under the Unlawful Activities Prevention Act.
- The Supreme Court had relied on information submitted by the Maharashtra police in a sealed cover.

Issues with such jurisprudence

- **Undermines open justice:** This practice appears to be unfavorable to the principles of transparency and accountability of the Indian justice system.
- **Erodes public faith:** It stands in contrast to the idea of an open court, where decisions can be subjected to public scrutiny.
- **Increases arbitrariness:** It is also said to enlarge the scope for arbitrariness in court decisions, as judges are supposed to lay down the reasoning for their decisions.
- **Unfair trials:** Besides, it is argued that not providing access to such documents to the accused parties obstructs their passage to a fair trial and adjudication.

Way forward

- **Conduct an independent and thorough investigation:** Inquire into the allegations raised in the petition, and take appropriate legal action against the Adani Group if they are found to have violated environmental regulations.
- **Establish an expert panel as suggested by the petitioners:** To review the regulatory framework and suggest measures to strengthen it. The panel should include experts from various fields, including environmental science, law, and economics.
- **Ensure transparency and accountability in the regulatory process:** Foster a culture of environmental awareness and responsibility among businesses by promoting sustainable and eco-friendly practices. This could involve providing incentives and support to companies that adopt such practices.
- **Review the use of sealed cover jurisprudence:** Ensure that it is used judiciously and only in cases where it is necessary to protect sensitive or confidential information.

39. Indo-Pacific Strategy of Canada

Canadian Foreign Minister Melanie Joly met External Affairs Minister S. Jaishankar for the India-Canada Strategic Dialogue in Delhi.

Why is Melanie Joly's visit so significant?

- The two Ministers expressed interest in deepening collaboration across domains and look forward to the **Early Progress Trade Agreement (EPTA)**.
- India welcomed Canada's Indo-Pacific strategy, given the shared vision of a free, open and inclusive Indo-Pacific.
- India's growing strategic, economic, and demographic importance makes it a critical partner for Canada in the Indo-Pacific.
- In return, Canada can be a reliable supplier of critical minerals, a strong partner in the green transition and a major investor.

Canada's Indo-Pacific strategy

Canada is the last G7 nation to embrace the concept of the Indo-Pacific and 20% of its population originates in the Indo-Pacific region.

- **Fund** - The strategy contains a funding commitment of US \$1.7 billion over 5 years.
- **Area** - It is spread over infrastructure projects through the US-led **G7 Partnership for Global Infrastructure and Investment**.
- It allocates 403 million dollar for an enhanced military presence in the Indian Ocean, and expanded participation in regional military exercises.
- **Objectives**
 - Promote peace, resilience and security
 - Expand trade, investment and supply chain resilience Invest in and connect people
 - Build a sustainable and green future
 - Be an active and engaged partner to the Indo-Pacific

What about Canada-India relations?

The immigrants from India account for at least 1.4% of the population of Canada.

- **Common Values** - Shared values of democracy, pluralism, expanding economic engagement, regular high level interactions and long-standing people-to-people ties.
- **Development Cooperation** - As of 2021, Canada invested nearly \$24 million in 2018-2019 to support 75 projects in India via Grand Challenges Canada.

- **Nuclear Agreements** - The **Appropriate Arrangement (AA)** for the NCA was signed in 2013, under which a Joint Committee on Civil Nuclear Cooperation was constituted.
- **Security and Defence** - India and Canada collaborate closely in international for the UN, Commonwealth and G-20.
- **Science and Tech** - ISRO and Canadian Space Agency (CSA) have signed MOUs in the field of exploration and utilisation of outer space.
- **ANTRIX** has launched several nanosatellites from Canada.

Challenges in the bilateral relation

- The big issue for India is the safe haven that Canada has been for separatist Khalistani groups.
- In 2022, New Delhi objected to Canada permitting a Khalistani secessionist referendum in the Sikh diaspora, and hit back with an advisory against travel in Canada that warned against hate crimes.

40. Stock Market Regulation in India

The Supreme Court asked the Securities and Exchange Board of India (SEBI) and the government to produce the existing regulatory framework in place to protect investors from share market volatility.

What are the laws governing the market?

- The securities market in India is regulated by four key laws
 1. The Companies Act, 2013
 2. The Securities and Exchange Board of India Act, 1992 (SEBI Act)
 3. The Securities Contracts (Regulation) Act, 1956 (SCRA)
 4. The Depositories Act, 1996

Securities and Exchange Board of India (SEBI)

- SEBI was established in 1992 in accordance with the provisions of the Securities and Exchange Board of India Act, 1992 (SEBI Act).
- The SEBI headquarters is located in Mumbai.
- SEBI is run by a board of directors, including
 - A chair who is elected by the parliament
 - Two officers from the Ministry of Finance
 - One member from the Reserve Bank of India
 - Five members who are also elected by the parliament

The SEBI Act

- **Powers of SEBI** - It empowers SEBI
 - To protect the interests of investors
 - To promote the development of the capital/securities market
 - To register intermediaries like stock brokers, merchant bankers, portfolio managers
 - To regulate their functioning by prescribing eligibility criteria, conditions to carry on activities and periodic inspections
 - To impose penalties such as monetary penalties, including suspending or cancelling the registration
 - To regulate trading, clearing and settlement on stock exchanges

The Securities Contracts (Regulation) Act (SCRA)

- Powers of SEBI
 - To recognise (and derecognise) stock exchanges, prescribe rules and bye laws for their functioning
 - To recognise and regulate stock exchanges and commodity exchanges
- The Act also seeks to protect the interests of investors by creating an Investor Protection Fund for each stock exchange.

The Depositories Act

- This Act introduced and legitimised the concept of dematerialised securities being held in an electronic form.

The Companies Act

- It has delegated the SEBI to enforce the regulation of raising capital, corporate governance norms such as periodic disclosures, board composition and resolution of investor grievances.

Subject	Regulation
Fund-raising activities	Issue of Capital and Disclosure Requirement Regulations
Corporate governance norms	Listing Obligations and Disclosure Requirements Regulations
Collective investment scheme	Collective Investment Regulations

How to curb market volatility?

- Exchanges have upper and lower circuit filters to prevent excessive volatility.

- SEBI **does not interfere** to prevent market volatility but it has powers to regulate trading and settlement on stock exchanges.
- Using these powers, SEBI can direct stock exchanges to stop trading, totally or selectively.
- It can also prohibit entities or persons from buying, selling or dealing in securities, from raising funds from the market and being associated with intermediaries or listed companies.

What are the safeguards against fraud?

- The key forms of fraud includes
 1. Market manipulation
 2. Insider trading
- SEBI notified the **Prohibition of Fraudulent and Unfair Trade Practices Regulations** in 1995 and the **Prohibition of Insider Trading Regulations** in 1992 to prevent the fraud.
- The violation of these regulations are predicate offences that can lead to a deemed violation of the Prevention of Money Laundering Act.
- SEBI has been given the powers of a civil court to summon persons, seize documents and records, attach bank accounts and property, and to carry out investigations.
- Appeals against orders of SEBI and the stock exchanges can be made to the **Securities Appellate Tribunal (SAT)** comprising three members.
- Appeals from the SAT can be made to the Supreme Court.

GS 3 : Economy, Science and Technology, Environment

1. Solar energy is not the best option for India

Details:

- As a consequence of external pressure for carbon limiting and the growing enthusiasm to adopt renewable energy, too much pressure has been laid on Solar Energy in India.
- However, it is argued by the author that solar energy is not the best option and has some associated misconceptions.

Misconception associated with Solar Energy:

- It is suggested that the levelised cost of solar power is coming down and is close to that of coal.
 - However, it is a flawed calculation as the comparison is made at the load centre, instead of at the pithed, which costs about half that of the load centre.
 - Another flaw is not comparing the like with like, as coal electricity is continuous and solar electricity is intermittent. Moreover, the cost of battery storage should also be added for solar energy.
 - It is also suggested that the shadow price (or true economic value) of coal is lower than its market price because the cost of labour in mining carries a shadow price of zero (as they are unskilled workers who would be otherwise unemployed).
- Some researchers have devised certain methods that categorically make coal-based electricity unviable. For instance, quantifying the cost of carbon emission in terms of deaths due to particle (PM2.5) pollution. The number of deaths is then multiplied by a figure to arrive at the value of statistical life, which is later added to the cost of carbon.
- On the other hand, solar energy is made financially viable by leaving out storage battery cost, providing subsidies and concessions, and forcing it on industry and discoms through state policies.

Way Ahead:

- Large hydro is a better option for renewable energy as it has both low carbon and the least cost.
- Notably, the U.S. and Europe have utilized 90% and 98% of their potential, respectively. On the other hand, India has used only 15% of its hydro potential.
- Though China relies on renewable energy, it focuses more on coal and hydro. For instance, the Three Gorges project on the Yangtze is the world's largest hydroelectric project.
- However, there are some challenges in India like the following:
 - Large hydro projects in India are resisted by environmentalists.
 - The National Thermal Power Corporation Limited (NTPC Limited) has been diversified to renewables, which is not its core competence.
- These issues need to be rectified at the earliest by the policymakers.

2. Summary of Economic Survey 2022-23

The Economic Survey 2022-23 prepared by a team of economists led by chief economic adviser Anantha Nageswaran analyses developments in the economy in the past year and makes projections for the following year.



Growth

- India is the 3rd largest economy in the world in PPP terms and the 5th largest in market exchange rates.
- **GDP** - The Indian economy is expected to expand 7% in real terms in 2022-23.

- It has been projected to be around 6.0 to 6.8% in 2023-24 depending on the trajectory of economic and political developments globally.
- Global growth is forecasted to slow to 2.7% in 2023 as per IMF's World Economic Outlook, October 2022.
- **Private consumption** - As a percentage of GDP, private consumption recovered to 58.4% in the second quarter of 2022-23, due to rebound in contact-intensive services such as trade and transport.

Fiscal developments

- **Inflation** - India's retail inflation rate peaked at 7.8% in April 2022, above the Reserve Bank of India's (RBI) upper tolerance limit of 6%.
- **Tax collection** - The gross tax revenue registered a year-on-year growth of 15.5% from April to November 2022 driven by robust growth in the direct taxes and GST.
- **Capital expenditure** - The Centre's capital expenditure rose to 2.5% of GDP in 2021-22.

Monetary management

- **Non-performing assets** - The gross non-performing assets ratio of scheduled commercial banks fell to a seven-year low of 5%.
- **CRAR** - The Capital-to-Risk Weighted Assets Ratio (CRAR) remains healthy at 16.0.
- **Fiscal deficit** - The survey expressed confidence that the Union government should be able to meet the fiscal deficit target of 6.4% of GDP for this financial year.
- The government aims to lower the fiscal deficit to 4.5% of GDP by FY26 from a target of 6.4% of GDP in this fiscal year.

Social infrastructure and employment

- **Education** - As a share of total GDP, the budgetary allocation for education was at 2.9%.
- **Health** - The out-of-pocket expenditure as a percentage of total health expenditure declined to 48.2 % in 2018-19.
- **Food security** - Schemes like PM-Kisan and PM Garib Kalyan Yojana have helped in ensuring food security and their impact was also endorsed by the United Nations Development Programme (UNDP).
- **Inclusion** - The JAM (Jan-Dhan, Aadhaar and mobile) trinity and direct benefit transfers has brought the marginalised sections into the formal financial system.

- **Employment** - Labour markets recovered beyond pre-Covid levels, in both urban and rural areas, with unemployment rates falling to 4.2% in 2020-21.
- Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is indirectly creating opportunities for rural households to diversify their sources of income generation.

Agriculture and food management

- **Private investment** - Private investment in agriculture rose to 9.3% in 2020-21.
- **Institutional credit** - Institutional credit to the agricultural sector continued to grow to Rs 18.6 lakh crore in 2021-22.
- **MSP** - The minimum support price for all mandated crops was fixed at 1.5 times of the all-India weighted average cost of production from 2018.
- **Foodgrain production** - Foodgrain production in India saw sustained increase and stood at 315.7 million tonnes in 2021-22.
- India stands at the forefront to promote millets through the International Year of Millets initiative.

Industry

- India became the second-largest mobile phone manufacturer globally.
- The production-linked incentive (PLI) schemes were introduced across 14 categories, with an estimated capex of Rs 4 lakh crore over the next five years, to plug India into global supply chains.

Services

- The services sector is expected to grow at 9.1% in 2022-23.
- India was among the top ten services exporting countries in 2021.
- India's e-commerce market is projected to grow at 18% annually through 2025.

External sector

- **Exports** - Merchandise exports were 332.8 billion dollars for April-December 2022 as India diversified its markets to Brazil, South Africa and Saudi Arabia.
- India entered into a comprehensive economic partnership agreement with the United Arab Emirates and an economic cooperation and trade agreement with Australia in 2022.
- **Remittances** - India continued to be the largest recipient of remittances in the world, netting 100 billion dollar in 2022.
- Remittances are the 2nd largest major source of external financing after service exports.

- **Forex reserves** - As of end-November 2022, India was the 6th largest foreign exchange reserves holder in the world.

Climate Change and Environment

- India declared the Net Zero Pledge to achieve net zero emissions goal by 2070.
- India achieved its target of 40% installed electric capacity from non-fossil fuels ahead of 2030.
- A mass movement LIFE- Life style for Environment was launched.
- Sovereign Green Bond Framework (SGrBs) were issued in 2022.
- National Green Hydrogen Mission enables India to be energy independent by 2047.

Infrastructure

- **Physical Infrastructure-** Projects that are currently active include
 - National Infrastructure Pipeline
 - National Monetisation Pipeline
 - Gati Shakti
 - National Logistics Policy
- **Digital Public Infrastructure**
 - Unified Payment Interface (UPI)-based transactions grew in value (121%) and volume (115%) terms between 2019-22.
 - Rural internet subscriptions witnessed a 200% increase, between 2015 and 2021.

Challenges for the Global Economy

- The Survey narrates about six challenges faced by the global economy.
 1. **COVID-19** related disruptions in economies
 2. **Russian-Ukraine conflict** and its adverse impact along with disruption in supply chain
 3. Central Banks led by Federal Reserve responding with **policy rate hikes** to curb inflation, leading to appreciation of US Dollar and widening of Current Account Deficits (CAD) in net importing economies
 4. The prospects of **global stagflation** compelling the nations to protect their respective economic space, thus slowing cross-border trade
 5. **China's slowdown** induced by its policies
 6. **Loss of education and income-earning opportunities** brought in by the pandemic

3. A Budget that signals growth with stability

Union Finance Minister Nirmala Sitharaman presented the Union Budget 2023-24 in Parliament on February 01.

Introduction:

- The Economic Survey 2022-23 has laid emphasis on India's remarkable broad-based recovery to reach the level of income that existed before the outbreak of the coronavirus pandemic.
- The pandemic was followed by the Russia-Ukraine conflict and the accompanying sanctions that have been imposed by the West on Russia, the slowdown and the recession in major economies and the rise in inflation leading to sharp increases in interest rates, followed by capital outflow and the pressure on the exchange rate.
- Even though the economy has staged a recovery and surpassed the pre-pandemic income level, it is still 7% below the pre-pandemic GDP trend.
- This budget is termed as the "first Budget in Amrit Kaal" by the Union Finance Minister.
- With an eye on 'India at 100', the Budget proposals were aimed at actualising a technology-driven and knowledge-based economy with strong public finances, and a robust financial sector.

Growth and Fiscal Deficit Dilemma:

- The fiscal deficit ratio is to come down from 6.4% in FY23 to 5.9% in FY24, to achieve the fiscal deficit target of 4.5% of GDP by 2025-26. The fiscal deficit target assumes that the economy is on a relatively strong footing, with another year of healthy tax collections.
 - However, a third of the global economy is expected to slip into recession in the calendar year 2023, as per the International Monetary Fund which may affect manufacturing and other related sectors and impact revenue collections.
 - The fiscal deficit of ₹17.8 lakh crore is to be financed using short-term borrowings and the National Social Security Fund. Given the tight liquidity condition of the banking system, this will not exert pressure on the flow of funds.
- Inflation is beyond the upper tolerance limit and aggregate fiscal deficit (Centre and States) is in the range of 9% to 10% of GDP. Therefore, ensuring macroeconomic stability requires continued fiscal consolidation.

- Thus the government is faced with the dilemma of accelerating growth by increasing public investment while containing the fiscal deficit. With interest payments accounting for 40% of the net revenues of the Centre, there is hardly any room for complacency.
- Despite a significant increase in food and fertiliser subsidies of Rs. 2 lakh crore, the government has managed to keep its goal of the fiscal deficit in the current fiscal to a maximum of 6.4% of GDP mainly due to the increase in the nominal value of GDP and also the increase in tax collections.

A balancing act:

- Union Budget 2023-24 made a greater allocation to infrastructure spending, and the capital expenditure is budgeted to increase from 2.7% of GDP to 3.3% and considering that capital expenditure has a significant 'crowding in' effect, it should help to increase private capital expenditures as well.
 - This comes after the 25% increase in capital expenditures in the last budget.
 - This is also supplemented by the ₹79,000 crore on affordable housing on the revenue expenditure side.
 - But the constraint is demand, as reflected in capacity utilisation, which is still around 75%. Hence, capex needs to percolate down to higher disposable incomes and increase demand.
- The Reserve Bank of India has estimated the multiplier effect of capital expenditure at 1.2 which should help revive the sluggish investment climate.
- With deleveraged balance sheets and an increase in commercial lending by banks, the investment climate is expected to further improve and arrest the declining trend in the overall investment-GDP ratio in the country.
- In addition, the continued provision of an interest-free loan to States to supplement their capital expenditures should contribute to an increase in capital spending by States.
- Expenditure on the social sector does not register a quantum jump, though there is an increase in absolute terms with some new initiatives towards skilling in both education and health.

Compression in subsidies:

- Target to achieve fiscal adjustment by mainly containing revenue expenditure will improve the quality of public spending.
- The budgeted increase in revenue expenditures for 2023-24 is just 1.2% higher than the revised estimate for the current year as there is a significant compression in subsidies.
 - The fertiliser subsidy is expected to be reduced by ₹90,000 crore from ₹2.87 lakh crore to ₹1.87 lakh crore.

- The fertiliser subsidy is expected to be compressed by ₹50,000 mainly as fertiliser prices have come down.
- In addition, allocation to centrally sponsored schemes is expected to decrease by about ₹20,000 crore, and the overall current transfer to States is kept constant at 3.3%-3.4% of GDP.
- The Budget has provided direct tax sops for individuals and MSMEs which may not translate into higher consumption as it is an indexation of the lower tax brackets with inflation, which has been high in the recent past.

4. Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP)

Recently, the Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP) organised a 'National workshop on LiFE' in association with National Museum of Natural History, a subordinate office of Ministry of Environment, Forest and Climate Change.

About Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP):

- **Environmental Information System (ENVIS)** was renamed as EIACP (Environmental Information, Awareness, Capacity Building and Livelihood Programme).
- ENVIS came into existence as a **plan programme in 1983**.
- It serves as a **single-stop web-enabled repository of comprehensive environmental information** with collection, collation, storage, retrieval and dissemination of the same through a **nationwide network of ENVIS Hubs and ENVIS Resource Partners (RPs)**.

About National Museum of Natural History:

- The National Museum of Natural History (NMNH), **New Delhi** was established in 1972.
- The museum functions under the **Ministry of Environment, Forests and Climate Change, Government of India**.
- It is an institution devoted to environmental education, derives its strength principally from theme-based exhibition galleries, experiential resource centers and Out-Reach Activities, with the intention to depict the country's rich natural heritage and natural history (**Geology, Botany and Zoology**).
- **Objectives of NMNH:**
 - To develop the NMNH in the country's capital to achieve the highest level of quality to promote environmental education on a national level

- To develop Regional Offices (Regional Museum of Natural History) in various regions of the country in order to extend its activities at the regional/local levels
- To develop museum-based educational projects at the level so as to help school curriculum on environmental education
- To develop environmental education resource materials (such as audio-visual aids, low-cost teaching aids, school loan kits, etc.) to promote environmental education
- To undertake research (musicological and collection based) consonant with the scope and resources of the museum
- To extend professional help to other agencies/organizations regarding natural history collections/museums
- To develop national and international cooperation/collaboration with other organizations/professional bodies/museums related to natural history/environmental education.

5. Indian Military Joint Training Exercise Trishakti Prahar

The Indian Defense Forces conducted firepower exercises called the “TRISHAKTI PRAHAR” to synergize the firepower assets and to orchestrate a battle. The exercise is important to keep the forces ready for battle. The exercise was conducted by the Indian Air Force, CAPF, and the Indian Army. It was a firepower exercise.

Trishakti Prahar

- The main objective of Trishakti Prahar was to refresh battling skills
- All the latest defense equipment was used during the exercise. This includes helicopters, infantry combat vehicles, new-generation equipment, mortars, artillery guns, etc.
- Equipment made as a part of Atma Nirbhar Bharat Abhiyan was also used in the exercise
- Forces moved and rehearsed across the regions of North Bengal
- The Indian Army checks if the troops are in battle preparedness through these exercises

Reviewed by Eastern Command

The eastern command officer Lt Gen RP Kaltia reviewed the exercise. The eastern command is based in Kolkata and is one of the six commands of the Indian Army.

Where was the exercise held?

Teesta Field Firing Ranges. It is near Siliguri. The Siliguri is strategically important to India. This narrow 20 to 30-km-wide passage touches Bangladesh in the south and Bhutan in the north. If this passage is closed, the Indian mainland will lose its contact with the northeastern states. For this reason, the Siliguri corridor is important to India.

6. Trade Integration Across Asia

IMF Forecast on global trade in 2023.

Resilient growth of South Asia:

- The International Monetary Fund (IMF) on January 31, 2023, warned that global trade would slow down from 5.4% in 2022 to 2.4% in 2023.
- This forecast is optimistic with various risks such as an escalating Russia-Ukraine war, a decoupling from global supply chains and tackling variants of the COVID-19 virus.
- A recently published paper in an IMF book, "South Asia's Path to Resilient Growth", argues that a strong base exists for South Asia trading more with dynamic East Asia.
- Since the 1990s, South Asia-East Asia trade has gathered pace, which is linked to India's trade re-aligning towards East Asia through its 'Look East' and 'Act East' policies, South Asia adopting reforms, and also China offshoring global supply chains to Asia.
- South Asia returned to the growth rates of the past two decades, achieved resilient and climate-friendly growth without a renewed buildup of macroeconomic vulnerabilities, and resumed the momentum of poverty reduction after the pandemic shock.
- Between 1990 and 2018, the overall merchandise trade between South Asia and East Asia increased by around 10% yearly, reaching \$332 billion in 2018. This commerce is expected to increase to about \$500 billion in the future.
- As global trade is slowing, trading more within Asia makes economic sense. The political will to implement pro-trade policies can improve the lives of people within Asia.

Regional trade integration across Asia:

- A narrower geographical coverage between South Asia and Southeast Asia may be a building block for eventual trade integration across Asia.

- Regional trade integration across Asia can be encouraged by gradually reducing barriers to goods and services trade which were raised since the 2008 global financial crisis and never reversed.
- South Asia's trade opening should also be calibrated with tax reforms as trade taxes account for much of government revenue in some economies.
- To encourage trade benefits and reduce income inequality, it is also crucial to provide adjustment funding to losing industries so that production components may be redistributed and people can be retrained.
- Economies shall improve the performance of special economic zones (SEZs) by ensuring macroeconomic and political stability, adopting good practice regulatory policies towards investors, providing reliable electricity and 5G broadband cellular technology, and also upgrading worker skills.
 - South Asia has over 600 SEZs in operation, in Kochi (India), Gwadar (Pakistan), Mirsarai (Bangladesh) and Hambantota (Sri Lanka).
- Countries shall pursue comprehensive FTAs that eventually lead to the Regional Comprehensive Economic Partnership (RCEP) to provide for regional rules-based trade to insure against rising protectionism.

Relevance of FTAs:

- Historically, South Asia is described as having one of the lowest levels of trade integration in the world and the South Asian Free Trade Area (SAFTA) is believed to have had little success in facilitating intraregional trade.
- Pursuing comprehensive FTAs eventually leading to RCEP can provide a framework of regional rules-based trade to help insure against rising protectionist tendencies.
- India can still prepare for future RCEP membership by undertaking structural reforms to boost business competitiveness in supply chains and foster greater regulatory coherence with East Asia.
 - The rest of South Asia may be encouraged to join RCEP if India does so due to fear of being left out and facing the negative impacts of trade diversion.
- Stronger economic links and support for the interests of smaller members can be facilitated by a renewed Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).
 - Reinventing BIMSTEC requires better resourcing of its Secretariat, concluding the long-running BIMSTEC FTA, building trade capacity in smaller economies, and introducing dialogue partner status to encourage open regionalism in Asia.
 - To mitigate a backlash against regionalisation, the larger economies should facilitate gains from trade to the smaller and poorer South Asian economies.

7. Trading more within Asia

The International Monetary Fund's (IMF) warning that global trade would slow down from 5.4% in 2022 to 2.4% in 2023 has spurred the debate on narrowing the trade within Asia.

Why trade within Asia is important?

- **SEZ** - South Asia has over 600 Special Economic Zones (SEZs) in operation in terms of exports and jobs and fostering domestic linkages.
- **FTAs**- South Asia has made a start with Free Trade Agreements (FTAs) such as the Japan-India FTA, the Sri Lanka-Singapore FTA and the Pakistan-Indonesia FTA.
- **Trade surplus** - Many countries of East and Southeast Asia have maintained substantial trade surpluses as they have been net exporters.
- **Agriculture** - Asia is the biggest producer of rice in the world, and rice remains an important commodity of intraregional trade.
- International Sugar Agreement, the Asian and Pacific Coconut Community and the International Tea Committee designed to promote intraregional trade helps in price stabilization
- **Inland navigation** - It is capable of carrying goods and passengers at small cost over considerable distances.
- **Trade integration** - Narrower geographical coverage between South Asian and Southeast Asia may be a building block for eventual trade integration across Asia.
- **Success of other groups** - The successful of these groups is Organization of Petroleum Exporting Countries (OPEC), which is dominated by the major oil-producing countries of Southwest Asia.
- The Association of Southeast Asian Nations (ASEAN) has fostered joint economic ventures among its member states and has worked to reduce trade barriers.

India's trade has been re-aligning towards East Asia through its 'Look East' and 'Act East' policies.

What needs to be done?

- **Tax reforms** - South Asia's trade opening should be calibrated with tax reforms as trade taxes account for much of government revenue in some economies.
- **Reduction of barriers** - Regional trade integration across Asia can be encouraged by gradually reducing barriers to goods and services trade.

- **Performance of SEZs** - The performance of SEZs needs improvement and investment to facilitate industrial clustering and exports.
- **FTAs** - Comprehensive FTAs can be pursued to lead to the Regional Comprehensive Economic Partnership (RCEP) to provide for a regional rules-based trade to insure against rising protectionism.
- **BIMSTEC** - A reinvented trade-focused Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) can facilitate stronger trade ties.
- **Utilising the G20 Presidency** - India is South Asia's largest economy and its G-20 presidency can be a good platform to initiate these changes.

8. World Bank Report on Urban Financing

A recent report on urban financing for India is another case of a top down approach that is over dependent on technocentric solutions and capital-intensive technologies.

Case of urbanization in India

- **Urbanization** - Urbanization is the increase in the proportion of people living in towns and cities.
- Urbanization occurs because people move from rural areas to urban areas (towns and cities).
- **Trend in India** - In 2021, approximately a third of the total population in India lived in cities.
- **Major causes of urbanization**
 - Industrialization
 - Commercialization
 - Better services in urban areas
 - High standard of living
 - Ample employment opportunities
 - Modernization
 - Rural-urban transformation

Findings of the World Bank report

- **Focus area** - The World Bank report focuses on private investments ameliorating urban problems.
- **Source of urban finance** - After three decades of reforms, urban finance predominantly comes from the government.

- Of the finances needed to fund urban capital expenditures, **48%, 24% and 15%** are derived from the central, State, and city governments, respectively.
- Public-private partnership projects contribute **3%**.
- **Government revenue** - The report points out that nearly 85% of government revenue is from the cities.
- **WB estimates** - The World Bank (WB) estimates that nearly Rs 70 lakh crore would be needed for investment in urban India to meet the growing demands of the population.
- **Suggestion** - The solutions suggested include improving the fiscal base and creditworthiness of the Indian cities by enhancing the tax base.

What are the issues?

- **Demand and supply gap** - Matching the gap between demand and supply is a major challenge.
- The flagship programmes such as the Smart City mission, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), the Pradhan Mantri Awas Yojana (PMAY), etc., are not more than Rs. 2 lakh crore.
- **Skepticism in enhancing the tax base** - Meeting the rising demands of urban infrastructure in the cities even by enhancing the tax base remains skeptical.
- **Top to bottom approach** - The basic problem with this report is that it is made using a top to bottom approach, with too much of a focus on technocentric solutions.

What is the need of the hour?

- Plans must be made from below by engaging with the people and identifying their needs.
- The city governments and the people need to be empowered.
- The recommendations of the national task force that reviewed the **74th Constitutional Amendment**, chaired by **K.C. Sivaramakrishnan** can be implanted. It includes
 - Empowering the people
 - Transferring subjects to the city governments
 - 10% of the income-tax collected from cities be given back to them
 - Ensuring that this corpus fund was utilised only for infrastructure building
- Regular elections should be held in cities and there must be empowerment through the transferring of the three Fs: finances, functions, and functionaries.

The 74th Amendment Act of 1992 provides a basic framework of decentralisation of powers and authorities to the Municipal bodies at different levels.

9. Climate Change and Hydropower Generation

This article discusses the impact of climate change on hydropower generation.

Introduction:

- A two-person team from IIT Gandhinagar studied the hydroclimatic changes in the catchment areas and their implications for hydropower generation in 46 major dams located in north, central and south India. The findings have been published in the journal iScience.
- According to their study, hydropower, which accounts for 13% of total power generation, is a significant contributor to clean global electricity generation.
- The team looked at the increase in rainfall in the catchment areas and the resultant inflow into all the 46 major reservoirs in the near (2021–2040), mid (2041–2060), and far (2081–2100) periods against the reference period (1995–2014) for two shared socioeconomic pathway scenarios.

Projected Increase:

- Under a warmer climate, hydropower production is expected to increase across the country as precipitation increases, resulting in increased inflow to reservoirs.
- Based on selected hydroelectric dams, the projected increase in hydropower potential in India is 10-23%.
- A warmer and wetter climate is projected to bring about 5%-33% increased rainfall. As a result, hydropower production is very likely to increase by 9%-36% for most dams due to increased inflow (7-70%) into the dams.
- The potential hydropower generation is projected to rise by more than 50% in Tehri, Ramganga, Kadana, Omkareshwar, Maheshwar, and Sriramsagar dams in the far period.
- In south India, eight out of eleven dams are projected to experience a decline in hydropower potential.
- Dams in central India are expected to generate more hydropower than dams in the north and south of the country.
- Significant warming forecast for north India may reduce snow and glacial storage, lowering snowmelt water contribution in the long run. However, a significant increase in rainfall is more likely to compensate for the loss from snowmelt in north India.

Impact on Reservoirs:

- Extreme rainfall caused by global warming will result in an increase in extreme inflow and high reservoir storage conditions for the majority of dams.

- High and sudden inflow from extreme rainfall, particularly when reservoirs are already full, can complicate reservoir operations and create a flood-like situation due to sudden water release.
 - Chennai in 2015 and Kerala in 2018 witnessed massive flooding due to heavy inflow into already full reservoirs.
- Compared with central and south India, north India is projected to experience higher warming in the future.
 - According to the study, north India will experience the greatest warming (about 5 degrees Celsius), while central and southern India will experience warming of 3-4 degrees Celsius.
- The study found that inflow to a few dams in Ganga, Mahanadi, Brahmani, and west-coast river basins is projected to decline in the future.
 - This reduction in inflow is due to increase in atmospheric water demands in response to the considerable warming compared to increase in precipitation.

10. Why have mangroves got a Budget push?

Mangrove plantation initiative in Union Budget 2023-24.

Details:

- The Union Budget for 2023-24 has proposed Mangrove plantation along the coastline and on saltpan lands under MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes).

Significance of Mangroves:

- The salt-tolerant plant communities found in tropical and subtropical intertidal regions are called Mangroves.
- They are crucial for coastal biodiversity and act as bio-shields against extreme climatic events like floods and cyclones.
- They are very important because the threat of climate change and frequent tropical storms are increasing at exponential rates.
- Thus planting more mangroves along the coastline of India(7500 km) is a great step in the right direction.

Background Details:

- According to the 'State of World Mangroves 2022' report by the Global Mangrove Alliance, the total mangrove cover of the world is around 147000 sq km (14.7 million hectares).

- The report further highlights that mangroves hold up to four times more the amount of carbon than other ecosystems. It was explicitly mentioned that “the loss of even 1% of remaining mangroves could lead to the loss of 0.23 gigatons of CO₂ equivalent, equal to over 520 million barrels of oil.”
- As per the Indian State of Forest Report (ISFR) 2021, India has nearly 4992 sq km (0.49 million hectares) of mangroves.
- In India, Mangroves are distributed across 9 States and 3 Union Territories with West Bengal having the highest mangrove cover of 2114 sq km.
- The ISFR report also showed that the mangrove cover in India has increased from 4046 sq km in 1987 to 4992 sq km in 2021.
- However, the mangrove ecosystem in India is facing challenges due to the rising population in coastal areas and the increasing demand for land, timber, fodder, fuel-wood, and other non-wood forest products like fisheries.
- The tree species in mangrove forests/ecosystems are categorized into:
 - True mangroves: They display morphological adaptations like pneumatophores, vivipary or crypto vivipary germination, and salt-secreting cells. There are 42 true mangrove species in India.
 - Mangroves associates: The species that exist side by side with the true mangroves. There are 68 mangrove associate species in India.

Challenges to Wetland Ecosystem:

- One of the biggest threats to the mangrove ecosystem is the aquaculture or fisheries along the coast that obstructs the tidal flow. For instance, in Sunderbans (the largest mangrove forest in India) several instances of clearing the mangrove forest for aquaculture has been witnessed.
- Land reclamation for agriculture and industries along the coastline also impacts the mangrove ecosystem.
- Discharge of untreated domestic and industrial effluents hampers the natural inter-tidal flow along the coast and obstructs the mixing of freshwater and saline water, which is important for the formation of the mangrove forest.

Mangrove plantation initiative:

- MISHTI will be implemented through the convergence of various schemes like MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme), CAMPA (Compensatory Afforestation Fund Management and Planning Authority) Fund, and other sources.
- It would further require extensive cooperation from local communities.
- It is found that the survival rate of mangrove seed plantation and saplings is 50% and 60% respectively. Moreover, it takes three years for a new plant to stabilize. Thus a contract-based one-time plantation under MGNREGS and

CAMPA might not work efficiently without the local communities taking ownership of the forests.

- Moreover, MISHTI is in line with India's Nationally Determined Contributions of creating an additional carbon sink of 2.5-3 billion tonnes of carbon dioxide (CO₂) equivalent by 2030.
- Additionally, India also joined the Mangrove Alliance for Climate at COP27.

11. India's Just Energy Transition

The first G20 Energy Transition Working Group (ETWG) Meeting under India's Presidency is taking place in Bengaluru.

Introduction:

- The first G20 Energy Transition Working Group (ETWG) Meeting under India's Presidency is taking place in Bengaluru. from Feb 5-7, 2023.
- About 150 participants including G20 member countries, nine special invitee guest countries - Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, UAE and Spain are participating in the meeting.
- Leading international organisations such as The World Bank, Asian Development Bank, United Nations Development Program (UNDP), International Energy Agency (IEA), Clean Energy Ministerial (CEM), United Nations Environment Program (UNEP), International Solar Alliance (ISA) etc are also attending the Meeting.
- The first ETWG meeting will focus on six priority areas. These include: (i) Energy transition through addressing technology gaps (ii) Low-cost financing for energy transition (iii) Energy security and diversified supply chains (iv) Energy efficiency, industrial low carbon transitions and responsible consumption, (v) Fuels for Future (3F) and (vi) Universal access to clean energy and just, affordable, and inclusive energy transition pathway.
- The Union Ministry of Power is the nodal Ministry for ETWG and will lead the discussions and negotiations on focused priority areas.

Just Energy Transition Partnership (JET-P):

- JET-Ps are an emerging financing cooperation mechanism, which aims to help a selection of heavily coal-dependent emerging economies make a just energy transition.
- The goal is to support these countries' self-defined pathways as they move away from coal production and consumption while doing so in a way that addresses the social consequences involved, such as by ensuring training and alternative job creation for affected workers and new economic opportunities for affected communities.

- This has taken on particular significance following the insertion of the phrase ‘phase-down’ of coal in the Glasgow Pact.
- The first such JETP emerged from UNFCCC COP 26 in Glasgow, when South Africa was promised USD 8.5 billion in financing by France, Germany, the United Kingdom, the United States, and the European Union.
- The donor pool has since been expanded to include multilateral development banks, national development banks, and development finance agencies.
- As they involve a relatively small group of actors, JETPs can potentially make much faster progress on the energy transition than what would be possible in the UN climate talks themselves, where large oil and gas-producing countries could veto agreements.

JET-P and India:

- After South Africa, Indonesia, and Vietnam, India is considered the next candidate for a JET-Partnership.
- India is working towards clean energy with ambitious targets like 500GW of non-fossil, including 450 GW renewable energy (RE) capacity addition and 43% Renewable Energy (RE) purchase obligation by 2030.
- These targets are supported by various policies such as (Energy Conservation (Amendment) Act), missions (National Green Hydrogen Mission), fiscal incentives (production-linked incentives) and market mechanisms (upcoming national carbon market).
- Initial JET-P negotiations for India are said to have stalled over whether and how India should consider coal “phase-down,” as well as how to operationalize India’s just transition.
- The Central Electricity Authority projects a near doubling of electricity demand by 2030 which requires adequate supply from a diverse mix of sources.
- As India cannot afford to halt its development while decarbonising, it must develop a coherent domestic just energy transition (JET) strategy in order to negotiate a financing deal that addresses its unique set of socio-economic challenges.
- India’s JET-P deal must consider a broader framework for financing and supporting an energy transition.
- With India holding the G-20 presidency, it has an opportunity at hand to negotiate a deal for itself while also shaping international cooperation on just energy transitions.

Concerns with JET-Ps:

- Energy transitions could give rise to intra-generational, intergenerational, and spatial equity concerns.

- Transitions have an impact on jobs that are currently dependent on fossil fuels, disrupt potential future energy access, reduce the state's ability to fund welfare programmes, and worsen already existing economic disparities between coal and other regions.
- Existing JET-P agreements give little consideration to intra-generational inequity, such as job losses brought on by a phase-down of coal.
- However, among the three JET-P deals signed so far, only South Africa's deal mentions a 'just' component – funding reskilling and alternative employment opportunities in the coal mining regions – to be financed as part of the initial \$8.5 billion mobilisation.
 - The other two JET-Ps (Indonesia and Vietnam) are focused on mitigation finance for sector-specific transitions.
- Without paying enough attention to national context, developed countries' emphasis on the phase-down of coal ignores the significant distinction in the energy transition between industrialised and emerging economies.

Road Ahead Towards Clean Energy:

- These sets of actions could further expedite India's energy transition while also addressing domestic developmental priorities, and justice and equity concerns.
- First, acceleration in RE deployment rates to match the pace of demand growth is critical to India's JET.
 - Solarisation of agricultural electricity demand, electrification of diesel-powered Micro, Small and Medium Enterprises (MSMEs) and decentralised RE for residential cooking and heating can shift energy demand patterns along with significant developmental co-benefits.
 - In addition to accelerating RE, stimulating energy demand through increased rural output will also assist to close the rural-urban economic gap, create rural jobs, thereby address intergenerational and spatial imbalances.
- Second, domestic manufacturing of clean energy components is critical to sustain a JET, build energy self-sufficiency.
 - While India must recognise the importance of achieving cost competitiveness – (Indian components are 20% costlier than Chinese components) to improve the pace of deployment.
- Third, the current use of coal resources must be optimised to enhance efficiencies until the period of phase-down.
 - Coal-fired power plants must be placed closer to coal mines rather than based on energy demand in States for efficient transportation which leads to fewer emissions and cheaper power, as transportation accounts for one-third of the cost of coal for power plants.

- The resultant savings could also help finance much needed emission control retrofits.
- These measures will create new job opportunities, achieve emissions reduction and prepare the country for deeper decarbonisation through a future coal phase-down.

12. 'Capital flows and commodity prices could still pose concerns'

- The Economic Affairs Secretary in a recent interview has talked about the Union Budget 2023.
- According to the Economic Affairs Secretary, there are three global factors that can have a significant impact on the Indian economy. They are:
 - **Slowdown in the global economy:** A slowdown of massive scale will impact India's exports which ultimately will impact the growth prospects.
 - **Foreign capital inflows:** The inflation moderating in major economies in recent months and the latest trends indicate a prevailing uneasy equilibrium w.r.t. foreign [capital] inflows into India.
 - **Global prices of major commodities:** The uncertainties in the prices of major commodities such as oil, gas, and even major metals are also a cause for concern.
- The Economic Affairs Secretary has said the uncertainties with these factors could lead to an economic accident and it is important to "be prudent in managing our economy and not to take an over-optimistic view".
- He further added that regulators and various departments have been asked to review their regulations and norms in order to facilitate the ease of doing business.
- Additionally, the increase in the capex expenditure in the latest budget is mainly to attract private investments, improve the economy's productive capacity, as well as facilitate the creation of a huge number of jobs.

13. Voice deepfakes: how they are generated, used, misused and differentiated

Recently, users of social media platform named "4chan" used the features of "speech synthesis" and "voice cloning" and replicated the voice deepfakes of celebrities to make racist, abusive, and violent comments.

Deepfakes

- Deepfakes refer to digital content such as video, audio and images which are edited, altered and manipulated using Artificial Intelligence (AI) technology.
- Deepfakes are artificial images and audio that are often put together using machine-learning algorithms and are used to spread misinformation and replicate a person's appearance, voice, etc.
- The main machine learning methods used to create deepfakes are based on deep learning and involve training generative neural network architectures, such as autoencoders or generative adversarial networks (GANs).

Voice deepfakes

- Audio can also be deepfaked to create "voice skins" or "voice clones" of public figures or celebrities.
- A voice deepfake refers to mimicking a real person's voice by accurately replicating the tone, accents and other unique features of that person.
- Voice deepfake is created using AI, advanced computers with high-end graphics cards and robust cloud computing technologies.
- Other than the specialised applications and softwares, training data are to be fed to AI models in order to create deepfakes.
 - This training data includes original voice recordings of the targeted individual so that the AI can use the training data to render an authentic-sounding voice.
- **Well-known tools/software used for voice cloning:** OpenAI's Vall-e, My Own Voice, Resemble, Descript, ReSpeecher, and iSpeech.

Concerns associated with voice deepfakes



- There have been instances where voice deepfakes were used to defraud users and in various other illegal activities such as phone scams and posting fake videos on social media.
 - In the UAE, a bank manager was duped \$35 million by a person who had cloned a company director's voice.
- Critics have also flagged the potential risks of identity theft using deepfakes and voice deepfakes.
- Also, the use of voice deepfakes in filmmaking has given rise to ethical concerns about the use of the technology.
- Furthermore, improvements and advancements in the existing technologies are making it much easier to gather clear voice recordings of people and improving the quality of data fed to AI models. This has facilitated the creation of more accurate and believable deepfake voices which can lead to scarier situations.

Ways to detect voice deepfakes and the way forward

- Detecting voice deepfakes requires the adoption of highly advanced applications, software, and technologies that have the ability to synthesize speech patterns, background noise, and other elements.
- However, there are still no cybersecurity tools that can detect audio deepfakes in a foolproof manner.
- Researchers across the world are examining the prospects of using watermarks and blockchain technologies to detect deepfake technology.
- Existing applications such as “Deeptrace” are helping to provide protection to a certain extent.
 - The “Deeptrace” application uses a combination of antivirus and spam filters that surveil data and flags suspicious content.
- Researchers at the University of Florida have also come up with a technique that measures acoustic and fluid dynamic differences between original voice samples and those created artificially.
- Call centres across the world are required to undertake various measures to mitigate the threat from voice deepfakes.
- There is a need to deploy multifactor authentication (MFA) and anti-fraud solutions in order to address the risks associated with deepfakes.
- Additionally, factors such as devising call metadata for ID verification, digital tone analysis, and key-press are to be used to analyse behavioural biometrics and identify fake or suspicious calls.

14. Spy balloon' is latest flashpoint between US, China: what is this age-old military device?

The **United States** has recently accused **China** of flying a “**spy balloon**” in its airspace.

Tensions between the US and China:

- **Issues:** China's claims over **Taiwan** and the **South China Sea**.
- Other **bone of contention** includes: **violation of human rights** in China's western **Xinjiang** region and the **clampdown on democracy activists** in **Hong Kong**.

China's claim on balloons:

- Balloon is a **civilian airship** used for **research**, mainly **meteorological**, purposes which was affected by the **Westerlies**.
- Because of limited **self-steering capability**, the airship has **deviated** from its **planned course**.

U.S.'s stand on balloons:

- The balloon is carrying **sensors and surveillance equipment**.
- It can sense **electromagnetic emissions** that **higher-altitude satellites** can't detect such as **low-power radio frequencies** that can be used to understand how different **U.S. weapons** systems **communicate**.

Spy balloon:

- After the **first ever hot air balloon** used by **humans**, balloons were used for **military purposes**.
- During the **French Revolutionary Wars** in the late **18th century**, balloons were used to provide a **bird's eye view** of the **battlefield**.
- It was also used in the **Battle of Fleurus** in **1794** and many wars ranging from the **American Civil War** to **World War I**.
- Before **aircraft technology**, balloons helped to detect **enemy positions** and **movements** which was **impossible** to obtain from the **ground**.
- During **World War II**, as technologies evolved **balloons** could be **pushed to higher altitudes**.
 - The **Japanese military** tried to loft incendiary **bombs** into **US territory** using balloons designed to **float in jet stream air currents**.
- After the war, the **US military** started exploring the use of **high-altitude spy balloons**, which led to a series of **missions** called **Project Genet**.

- The photographic **balloons** were made to flew over **Soviet bloc territory** in the 1950s.
- **Project Mogul**- During the **post-World War II era**, the **U.S.** used them and **sensors** were **strung together** to detect **Soviet missile launches**.

Relevance of high-altitude balloons today:

- **Satellites** and **improved aeroplane** and **drone technologies** have reduced the use of **high-altitude balloons** in the **military**.
- Unlike **satellites** which can cost lots of **finance** to **create**, and **require complex** technology to launch, high-altitude balloons are **cheap** and easy to **launch** and **control**.
- **Balloons cannot** directly be **steered** but can be **roughly guided** to a **target area** by changing **altitudes** to catch different **wind currents**.
- Unlike **satellites** which are present at **higher altitudes** and move at **high speeds**, **spy balloons** can **hover** at **lower heights**.
 - Thus, balloons can provide better **quality images** and more **time** to gather **intelligence** in a **particular area**.
- Some of it can be used to detect **hypersonic missiles**.

15. The Budget Push to Mangroves

The Union Budget for 2023-24 announced an initiative for mangrove plantation along the coastline and on salt pan lands, under MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes).

Mangroves

- **Mangroves** - They are a group of trees and shrubs that live in the coastal intertidal zone.
- They only grow at tropical and subtropical latitudes near the equator because they cannot withstand freezing temperatures.
- **True mangroves** - The tree species that form a mangrove forest or ecosystem are broadly classified as true mangroves and mangroves associates.
- **Distribution** - Mangroves in India are distributed across 9 States with 4975 sq km and three Union Territories with **West Bengal** having the highest mangrove cover.

Benefits of mangroves

- **Salt tolerant** - Mangroves are salt-tolerant plant communities found in tropical and subtropical intertidal regions.

- **Indicators of changes** - True mangroves are the ones which display morphological adaptations for a high saline mangrove ecosystem such as pneumatophores and salt-secreting cells.
- **Bulwark of climate change** - With the threat of climate change and frequent tropical storms looming large, planting more mangroves is welcoming for India which has a coastline of about 7,500 km.
- **Potent carbon sites** - Mangroves are potent carbon sites with 4-5 times greater efficiency than terrestrial forests.
- **State of World Mangroves 2022** points out that mangroves are estimated to hold up to four times the amount of carbon so the loss of even 1% of remaining mangroves could lead to the loss of 0.23 gigatons of CO₂ equivalent.
- **Disaster risk reduction** - Not only do mangroves stabilise coastlines by holding sediments together but they also act as safety nets against storms and surges.

IFSR report points out that there has been an increase in the mangrove cover from 4,046 sq km in 1987 to 4,992 sq km in 2021.

Threats to mangroves

- **Population** - In India the mangrove ecosystem faces constant pressure due to increasing population in coastal areas.
- **Logging** of mangroves for timber and charcoal production and the extension of usable areas for settlements, agriculture is an issue.
- **Aquaculture or fisheries** along the coast obstructing tidal flow is one of the biggest threats to the mangrove ecosystem.
- **Tourism** is a booming industry and an important source of income in many developing nations that affects mangroves massively.
- **Overreliance on mangroves** for fuel because of a lack of affordable alternatives pose serious threats to mangroves.
- **Deforestation for fuel** is the biggest threat to mangroves in Madagascar.
- **Discharge of untreated domestic and industrial effluents** into the rivers impede the natural inter-tidal flow along the coast and the mixing of freshwater and saline water.

What is the need for a Budget push?

- The survival rate of mangrove seed plantation is 50% and of saplings is about 60%.
- It takes 3 years for a new plant to stabilize so we need various schemes to increase mangrove plantation with local community support.

- **Schemes** - MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme), CAMPA (Compensatory Afforestation Fund Management and Planning Authority) Fund and other sources.
- A contract-based one-time plantation under MGNREGS and CAMPA may not work unless the local communities take ownership of the forests.

What can be done for mangrove conservation?

- Participate in a mangrove cleanup
- Help plant mangroves
- Reduce single-use plastic consumption
- Protect existing mangroves
- Patronize businesses with mangrove conservation in mind
- Support mangrove nonprofits and research organizations
- Spread the word and engage your local community
- Trial and testing with field experience and monitoring

16. Operation Sadbhavana

As part of 'Operation SADBHAVANA', Indian Army is undertaking multiple welfare activities in remote areas of Union Territory (UT) of Ladakh.

About Operation Sadbhavana:

- Operation Sadbhavana (Goodwill) is a unique humane initiative undertaken by **Indian Army in the Jammu and Kashmir and Ladakh** to address aspirations of people affected by terrorism, sponsored and abetted by Pakistan.
- As part of '**Operation SADBHAVANA**', Indian Army is undertaking multiple welfare activities such as running of **Army Goodwill Schools, Infrastructure Development Projects and Education Tours** for the children living in **remote areas of Union Territory (UT) of Ladakh**.
- To improve the standard of education and to provide them with quality education, Indian Army is presently running seven (07) **Army Goodwill Schools (AGS) under 'Operation SADBHAVANA' in Ladakh Region**.
- Some of the objectives achieved through '**Operation SADBHAVANA**' are national integration tours, women empowerment, employment generation, education and development activities towards nation building.
- '**Operation SADBHAVANA**' projects are selected after taking local aspirations into consideration, in conjunction with local civil administration

and it is ensured that there is no duplicates with projects of civil administration.

17. Is the government on track on fiscal deficit targets?

In the Union Budget for 2023-24, Finance Minister has projected a decline in fiscal deficit to 5.9% of gross domestic product (GDP) in FY24, compared to 6.4% in FY23.

Key projections on Fiscal Deficit:

- If government continues on the path of **fiscal consolidation** than **fiscal deficit** will reach below **4.5%** by **2025-26**.
- To finance the **fiscal deficit** in **2023-24**, the **net market borrowings** from **dated securities** are estimated at **₹11.8 lakh crore**.
 - The gross market borrowings are estimated at ₹15.4 lakh crore.
 - The **balance financing** will come from **small savings, provident funds, external debt and other sources**.
- In the **revenue budget**, the **revised estimate deficit** was **4.1%** of **GDP** in **2022-23**.
- In Union Budget **2023-24**, **revenue deficit** is **2.9%** of **GDP**.
- **Revised estimate of primary deficit** stood at **3%** of **GDP** in **2022-23**.
 - The **primary deficit** is **interest payments deducted** from **fiscal deficit**.
 - The **primary deficit** reflects the **current fiscal stance** devoid of **past interest payment liabilities**.
- The **primary deficit** is pegged at **2.3%** of **GDP** in Union Budget **2023-24**.

Fiscal Deficit:

- It is the **negative difference** between **total revenue** and **total expenditure** of the government that **arises** when a **government spends more money** than it earns during the **fiscal year**.
- **Fiscal Deficit = Total expenditure** by the government (revenue and capital expenditure) - **Total income** of the government (loan recovery, revenue and non-revenue receipts).
 - While calculating the total revenue, **borrowings** are **not** included.
- This **imbalance** also known as **current accounts deficit** or the **budget deficit** is common in governments all over the world.
- It generally takes place either due to **revenue deficit** or a hike in **capital expenditure**.
- It is usually **financed** through **borrowing** from either the **central bank** of the country or **raising money** from **capital markets** by issuing different instruments like **treasury bills** and **bonds**.

- The **gross fiscal deficit** (GFD) is the **excess** of **total expenditure** including **loans of revenue receipts** (including external grants) and **non-debt capital receipts**.
- The **net fiscal deficit** is the **gross fiscal deficit** minus **net lending** of the Central government.
- The **Fiscal Responsibility and Budget Management Act, 2003** (FRBM Act 2003) had stipulated that centre and the state government has to keep the **fiscal deficit below 3% of the GDP per annum**.

Advantages of Fiscal Deficit:

- It is very **helpful** in the effective **manipulation** of the economy like during a **downturn** in the **economy**, when **private sector** is not coming forward to **invest**, **public expenditure** may infuse the necessary **demand**.
- Government borrowing may not let **interest rates** fall too much which may lead to the situation of **liquidity trap**.
 - **Liquidity trap** is the situation where **interest rates** are too **low** and further **lowering** of the **rate of interest** doesn't have any impact on the **investment**.
- **Keynes** has found **fiscal policy** more effective than **monetary policy** in maintaining the **full employment** equilibrium.
- If fiscal deficit **increases** due to **increased spending** on **bail out packages** during the financial crisis, then it is not bad.
- In **developing countries** if fiscal deficit is **increasing** due to **capital expenditure**, then it is a form of **investment**.
 - This will **increase** the **productivity, output, income and employment** later.

Negative impacts of fiscal deficit:

- It **crowds out private sector borrowings**, manipulate capital structures and **interest rates**.
 - **Result:** less funds are available with **private sector** which in turn invests less in the economy and leads to unemployment and associated impacts.
- It **decreases** net exports that leads to either higher taxes, higher inflation or both.
- The **high fiscal deficit** means **higher interest payments** in future which means more **expenditure** for which government had to **borrow more** and more borrowings means higher interest payments.
 - This leads to a spiral or web which may lead to **debt trap**.
- **High fiscal deficits** can make **public and investors** lost the **confidence** in the **ability** of the Government to **repay the loans**.

- **Result:** government is unable to **raise the funds** from the **market** and are forced to raise the **interest payments** leading to web of debt trap.
- **Implications:** loss of employment, high rate of inflation and thus **economic instability**.

18. QR Code-based Coin Vending Machine

The machine was launched by the Reserve Bank of India. The apex bank finalized its decision of launching the machine during its recently held MPC meeting. The QR code is being introduced as fake currency notes are increasing in coin vending machines.

About the new vending machine

- The machine is to be launched in 12 cities in the first phase.
- These machines will use UPI-based code systems to provide coins. Earlier the machines tendered the bank notes physically.

What is a QR code-based coin vending machine?

Here the consumer need not use currency notes. Rather he shall use his bank account password or a pin to get coins. As he enters the pin or password, the vending machine verifies with his bank account and issues coins from his bank account directly. Earlier, the consumer had to drop in currency notes to get coins.

Need for the machine

- To increase the accessibility of coins in the country and also to increase the distribution of coins in the country
- To address the issue: The supply of coins in the country is very high, but distribution is not even

Where will the new vending machines be available?

These new coin vending machines are to be placed in 19 locations across 12 cities. They are to be placed in shopping malls, railway stations, and in other public places where people can access them easily.

19. The status and proceeds of disinvestment

With the Union Budget 2023-24 the government has set a disinvestment target of ₹51,000 crores.

Background

- The disinvestment target in the Union Budget 2023-24 has declined by close to 21% from the budget estimate for the FY 2022-23 and only about ₹1,000 crores more than the revised estimate.
- The disinvestment target in the Union Budget 2023-24 is also the lowest target in about seven years.
- Furthermore, the government has also not met the disinvestment target for 2022-23.
 - To date, the government has realised ₹31,106 crores out of which ₹20,516 crores (33.33% of the budgeted estimate) have come from the initial public offering (IPO) of 3.5% of the government's shares in the Life Insurance Corporation (LIC).

Disinvestment

- Disinvestment or divestment refers to the selling of the assets or a subsidiary such as a Central or State public sector enterprise by the government.
- There are three key approaches to disinvestment which include:
 - **Minority disinvestment:** The government despite restoring to disinvestment still retains majority shares in the company usually greater than 51%.
 - With respect to minority disinvestment, the government still holds management control.
 - **Majority disinvestment:** In the case of majority disinvestment, the government transfers the control to the acquiring entity and retains only some stake.
 - **Complete privatisation:** With respect to complete privatisation, 100% of the control of a public entity is transferred to the acquiring entity.
- The **Department of Investment and Public Asset Management (DIPAM)** is a separate department working under the Union Finance Ministry which looks after disinvestment-related procedures.

Significance of disinvestment

- Disinvestment can help reduce the fiscal burden on the government and can also compensate for the revenue shortfall in a particular year.
- The disinvestment proceeds are also used to finance the fiscal deficit.
- Disinvestment also encourages private ownership of assets and trading in the open market.
- Successful disinvestments also ensure that the government need not bear the costs of the loss-making entities anymore.
- The proceeds from disinvestments can also be used to invest back in the economy, fund social sector and developmental programmes, and pay the government debt.

Trends in disinvestment in India

- As soon as the NDA government assumed power in 2014, a push for disinvestment was expected as the government had announced, “no business to be in business”.
- Since 2014, the NDA government has met its disinvestment targets twice.
 - It is to be noted that various governments over the past 30 years have been able to meet annual disinvestment targets only six times in India.
 - In 2017-18, the government earned disinvestment receipts of over ₹1 lakh crores as compared to the set target of ₹72,500 crores
 - Further in 2018-19, the government earned ₹94,700 crores as compared to the set target of ₹80,000 crores through disinvestment.
- However, PRS Legislative Research has highlighted the instances in recent years wherein the government disinvested over 51% of its shares in certain Central Public Sector Enterprises (CPSEs), along with a transfer of management control which was sold to another public sector enterprise.
 - For instance, when the government exceeded its target in 2017-18, about ₹36,915 crores were earned by selling Hindustan Petroleum Corporation Limited (HPCL) to the state-owned Oil and Natural Gas Corporation (ONGC).
 - Similarly, in 2018-19, the government raised ₹14,500 crores by selling REC Limited to Power Finance Corporation Limited which is another state-owned entity.
- In 2021-22, despite the disinvestment of Air India which was handed over to the Tata group, the Centre missed its target of ₹1.75 lakh crores by a significant margin, raising only about ₹13,534 crores through disinvestment proceeds.
- Additionally, even in FY 2022-23, about 33.33% of the budget estimate has been realised through the delayed LIC IPO, which should have taken place in the previous year if not for market volatility.
 - The government has only realised ₹31,106 crores through disinvestment proceeds to date and with less than two months

remaining in the current fiscal, the government is likely to miss its target.

- **Recent trends in disinvestment:**
 - Disinvestment of the 52.8% stake in Bharat Petroleum (BPCL) was also deferred in mid-2022 as most of the bidders withdrew.
 - The strategic sale of Central Electronics was also called off because of the lapses in the bidding process.
 - The disinvestment of Pawan Hans has also been deferred.
 - The selling of Neelachal Ispat Nigam Ltd. (NINL) to a steel entity of the Tata group did not translate into any sale proceeds to the government's exchequer as it held no equity in the company.

Path ahead

- As per the new disinvestment policy announced in 2021, the government intends to maintain a minimum presence in strategic sectors such as atomic energy, defence, etc., and exit the non-strategic sectors.
- Officials of DIPAM have also said that the government has decided to stick to the already-announced and planned privatisation of state-owned companies.
- However, the government is not expected to add any new companies to the list of Central Public Sector Enterprises (CPSEs) which would be divested in 2023-24.
- Further, the aspirational divestments of two public sector banks and one general insurance firm which were announced in the Budget 2021, might also not be a part of disinvestment plans.

20. Union Budget 2023-24 on Fiscal Consolidation

The 2023-24 Budget's attempt to address the aspirations of different segments of society is a good effort in a difficult situation and the main focus is on fiscal consolidation.

Why is fiscal consolidation important for an emerging economy?

- Fiscal consolidation means ways of narrowing fiscal deficit which is the amount spent by the government beyond its income and is measured as a percentage of the GDP.
- Government was financing its deficit
 - By creating money
 - Through unlimited recourse to the Reserve Bank

- By issuing adhoc treasury bills which weakened the RBI's ability to direct effective money policy
- Increased government borrowing will crowd out the private sector in the debt market, leading to higher interest rates which will hurt economic growth.
- Speeding of economic growth depends on limiting the fiscal deficit by shifting the government expenditure from revenue to capital, according to the original FRBM Act, 2003.

FRBM Act

- The Fiscal Responsibility and Budget Management (FRBM) Act was enacted in 2003.
- It led to the framing of FRBM Rules in 2004 that sets targets for the Central government to ensure fiscal discipline.
- **Amendment** - In 2018, the Centre is mandated to take appropriate steps to limit its fiscal deficit to **3% of GDP** by March 31, 2021 although this is an operational target.
- The mandated target pertains to the Centre's debt-GDP ratio which is to be brought down to **40%**.

Key facts of budget 2023-24

- **New tax regime** - Those earning up to Rs 7 lakh a year need not pay any income tax under the new tax regime, giving a push for the regime which disallows all exemptions on investments.
- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme** - Union Budget allocated only Rs 60,000 crore that is 18% lower than the previous year allocation.
- **Allocation for health** - There is a 6.87% decrease in the allocation Department of Health Research this year, noting that it is due to lower utilisation of funds.
- **Food Subsidies** - The Centre has allocated a little above Rs 2 lakh crore for the food subsidy under the National Food Security Act (NFSA).
- **Ayushman Bharat-PMJAY** - The budget for the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY) – the national public health insurance fund, saw an increase of about 12%.
- **Prime Minister's Kisan Samman Nidhi (PM-KISAN)** - the biggest scheme of Ministry of Agriculture and Farmers Welfare has received the lowest in five years and remained the same as the revised estimates for the current year.

- **Development of Scheduled Tribes and Scheduled Castes:** A fund of Rs 15,000 crore is allocated for the welfare of Particularly Vulnerable Tribal Groups (PVTGs).

How far do the Budget go to meet the goals of growth and stability?

- **Private Investment** – For raising growth in the medium term, augmentation of private investment relative to GDP needs to be ensured.
- **Tax Adjustments** – Growth may be stimulated indirectly due to tax slab adjustments which is applicable to the new income tax regime.
- **Increase in State Capital Expenditure** – Increase in central grants and also the facility of 50 years of interest-free loans for creating capital assets in 2023-24.

21. Primary Agricultural Credit Societies

Recently, the **Union Budget 2023** has announced Rs 2,516 crore for digitization of 63,000 **Primary Agricultural Credit Societies (PACS)** over the next five years.

Aim of Digitizing PACS

- It aims at bringing greater **transparency and accountability in their operations** and enabling them to diversify their business and undertake more activities.
- It aims to help PACS become a **nodal centre for providing various services such as Direct Benefit Transfer (DBT), Interest Subvention Scheme (ISS), Crop Insurance Scheme (PMFBY), and inputs like fertilizers and seeds.**

Primary Agricultural Credit Societies

- **About:**
 - PACS are village level **cooperative credit societies** that serve as the last link in a three-tier cooperative credit structure headed by the **State Cooperative Banks (SCB) at the state level.**
 - Credit from the SCBs is **transferred to the District Central Cooperative Banks (DCCBs)**, that operate at the district level. The DCCBs work with PACS, which deal directly with farmers.
 - PACSs provide **short-term, and medium-term agricultural loans** to the farmers for the various agricultural and farming activities.
 - The first PACS was formed in 1904.
- **Status:**

- A report published by the Reserve Bank of India on December 27, 2022 put the number of PACS at 1.02 lakh. At the end of March 2021, only 47,297 of them were in profit.

Significance of PACS

- **Access to Credit:**
 - PACS provide small farmers with access to credit, which they can use to purchase seeds, fertilizers, and other inputs for their farms. This helps them **to improve their production and increase their income.**
- **Financial Inclusion:**
 - PACS help to increase **financial inclusion in rural areas**, where access to formal financial services is limited. They provide basic banking services, such as savings and loan accounts, to farmers who may not have access to formal banking services.
- **Convenient Services:**
 - PACS are often located in rural areas, which makes it convenient for farmers to access their services. This is important because many farmers are unable to travel to banks in urban areas to access financial services.
 - PACS have the capacity **to extend credit with minimal paperwork within a short time.**
- **Promoting Savings Culture:**
 - PACS encourage farmers to save money, which can be **used to improve their livelihoods and invest in their farms.**
- **Enhancing Credit Discipline:**
 - PACS promote credit discipline among farmers by requiring them to repay their loans on time. This helps **to reduce the risk of default, which can be a major challenge in the rural financial sector.**

Issues with the PACS

- **Inadequate Coverage:**
 - Though geographically active PACS cover **about 90% of 5.8 villages**, there are parts of the country, especially **in the north-east, where this coverage is very low.**
 - Further, the rural population covered as members is only 50% of all the rural households.
- **Inadequate Resources:**
 - The resources of the PACS are **much too inadequate in relation to the short-and medium-term credit** needs of the rural economy.

- The bulk of even these inadequate funds come from higher financing agencies and not through owned funds of societies or deposit mobilization by them.
- **Overdues and NPAs:**
 - Large over-dues have become a big problem for the PACS.
 - As per the RBI report, PACS had reported **lending worth Rs 1,43,044 crore and NPAs of Rs 72,550 crore**. Maharashtra has 20,897 PACS of which 11,326 are in losses
 - They curb the circulation of loanable funds, reduce the **borrowing as well as lending power of societies**, and give them the bad image of the societies of defaulting debtors are willful.

Way Forward

- These more than a century-old institutions deserve another policy push and can occupy a prominent space in the vision of **Atmanirbhar Bharat as well as Vocal for Local of the Government of India**, as they have the potential to be the building blocks of an Atmanirbhar village economy.
- PACS have played a crucial role in the rural financial sector and have **the potential to play an even greater role in the future**.
- To achieve this, PACS must **be made more efficient, financially sustainable, and accessible to farmers**.
- At the same time, the regulatory framework must be **strengthened to ensure that PACS are effectively governed and able to serve the needs of farmers**.

22. Free Trade Agreements to Lift Textile Exports

India's modest export performance of India's textiles sector can be negated when import duties in developed countries become zero through free trade agreements (FTAs).

Free Trade Agreement (FTA)

- A **free trade agreement** is a pact between two or more nations to reduce barriers to imports and exports among them.
- Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.
- FTAs also cover other areas such as intellectual property rights (IPRs), investment, government procurement, competition policy, etc.

- India is **negotiating FTAs** with countries such as the European Union, Canada, the U.K., and Israel.

Types of FTA

1. PTA (Preferential Trade Agreement)
2. CECA (Comprehensive Economic Cooperation Agreement)
3. CEPA (Comprehensive Economic Partnership Agreement)
4. Customs Union Common Market and Economic Union

Significance of FTAs

- **Market access** - By eliminating tariffs and some non-tariff barriers, FTA partners get easier market access into one another's markets.
- **Preferential treatment** - Exporters prefer FTAs to multilateral trade liberalization because they get preferential treatment over non-FTA competitors.
- **Protection of local exporters** - FTAs protect local exporters from losing out to foreign companies that might receive preferential treatment under other FTAs.
- **Increased foreign investment** - There is also possibility of increased foreign investment from outside the FTA.

The duty in the EU and the UK on most garments imported from India is 12%.

Status of India's textile sector

- India has a **4% share** of the global trade in textiles and apparel.
- India's textile and apparel exports stood at \$ 44.4 billion in FY22, a 41% increase YoY.
- **The US** is the single largest market for India's textile and apparel exports.
- India is the world's largest producer of **cotton**.
- India's textiles industry has around 4.5 crore employed workers across the country.

What can be done to boost exports to developed countries post FTA?

- **Engagement** - Indian CEOs must start discussing with counterparts on how FTA-led duty elimination will allow them to offer better terms.
- **Setting up design** - Studios in partner countries will enable a direct interface with buyers like Japan
- **Investment in high-fashion branded apparel** - The share of clothing bought by developed countries in Indian exports is less than 40%.

- **Not incentivisation of export of fibre/yarn** - The RoDTEP (Remission of Duties and Taxes on Exported Products) allow firms to export at a price lower than domestic which reduces the availability of inputs for high-value-added apparel exports.
- **Negotiations on non-tariff barriers** - There is a need to negotiate on possible non-tariff barriers as well.
- **Strengthen the weaving and processing segments** - Only large units with the latest technology can meet the quality requirements.
- **Liberalise labour laws** - This will free the sector to invest in large units with 1,000 workers or more under one roof.

23. Nuclear power in India

Recently, the Cabinet approved 10 indigenous bulk reactors under the Atmanirbhar Bharat package in 2017 with an outlay of Rupees One Lakh Five Thousand Crores.

Facts about nuclear power in India:

- In the year **2021-22** the annual nuclear power generation stood at **47,112 million units**, which is nearly a **30 to 40 per cent increase** within eight and a half years.
- World's first thorium-based nuclear plant "**Bhavni**" using Uranium-233 is being set up at **Kalpakkam in Tamil Nadu**.
- The **Atomic Energy Act of 1948** created the Indian Atomic Energy Commission to provide for the development and control of atomic energy and purposes connected therewith.
- India now has **23 operable nuclear reactors** and **seven nuclear reactors** under construction.
- Nuclear power is **the fifth-largest source of electricity** in the country after coal, gas, hydroelectricity and wind power.
- **The Department of Atomic Energy (DAE), under the Prime Minister's Office**, is responsible for nuclear technology and research.
- **Nuclear Power Corporation of India Limited -NPCIL** based in Mumbai is a government-owned corporation of India that is responsible for the generation of electricity through nuclear power.
- **First nuclear power station in India:** Tarapur Atomic Power Station, Tarapur, Maharashtra.
- **Largest nuclear power station in India:** Kudankulam Nuclear Power Plant, Tamil Nadu
- **Homi Jehangir Bhabha** is known As the Father of Atomic Energy in India.
 - also known as '**father of the Indian nuclear program**'.

- India's and Asia's first nuclear reactor: **Apsara**.

24. Budgetary Allocation for Health Sector

The health sector has been allocated Rs 89,155 crore in the Union Budget 2023-24, a hike of around 13% compared to 2022-23, yet it is negligible for various concerns.

Current situation of public healthcare system in India?

- Covid has highlighted the need for adequate infrastructure and health care workforce, especially doctors and nurses
- Providing technical access to care
- Import of medical devices and equipment
- High out-of-pocket expenditure on health
- While the Pradhan Mantri Jan Arogya Yojna covers 500 million population, around 400 million is still uncovered
- Threat of resurgence of Covid can prevent foreigners coming to India
- Among children aged below five years, 35.5% were stunted and 32.1% were underweight.

In the Economic Survey of 2022, India's public expenditure on healthcare stood at 2.1% of GDP.

Budgetary allocation for health sector

- Out of the total allocation of Rs 89,155 crore for the health sector, Rs 86,175 crore has been allocated to the Department of Health and Family Welfare and Rs 2,980 crore to the Department of Health Research.

Major allocations

- **Pradhan Mantri Swasthya Suraksha Yojana** - It aims at correcting the imbalances in the availability of affordable healthcare facilities by setting up AIIMS like institutions across different parts of the country.
- **National Health Mission** - It envisages achievement of universal access to equitable, affordable & quality health care services that are accountable and responsive to people's needs.
- **Pradhan Mantri Jan Arogya Yojna (PM-JAY)** - It is the health assurance scheme, aims at providing a health cover of Rs. 5 lakhs per family per year for secondary and tertiary care hospitalization to poor and vulnerable families.
- **National Digital Health Mission** - It envisages creating a national health ID for every Indian.

- **National Tele Mental Health Programme** – To acknowledge the mental health crisis in wake of the COVID-19 pandemic and to establish a digital mental health network.
- The Indian Council for Medical Research (ICMR) has been allocated Rs 2,359.58 crore.
- Yet, it is not adequate for the health sector to tackle the inequalities and health problems because of the communicable and non-communicable disease burden in India.

HEALTH RELATED ANNOUNCEMENTS IN BUDGET 2023

157
nursing colleges
will be established in
co-location with the existing
157 medical colleges
established since 2014

**Mission to eliminate
sickle cell anemia by 2047**
through awareness creation,
universal screening of seven
crore people in the age group of
0-40 years in affected tribal
areas, and counselling

**Facilities in select ICMR
Labs will be made
available for research**
by public and private
medical college faculty and
private sector R&D

**Multidisciplinary
courses for medical
devices** through existing
institutions to ensure
availability of skilled
manpower

A new programme
to promote **research
and innovation in
pharmaceuticals**
through centres of
excellence

What needs to be done?

- **New health infra initiatives** - Other than the creation of a digital health system and tele-mental health infrastructure
- **Medical device parks** and the shortcomings in resolving the country's high dependency on the import of medical devices to establish a robust and cost-effective ecosystem.
- **Need to increase the healthcare expenditure** to at least 2.5-3% of the GDP to address, amongst others, the crisis of comorbidities.
- **Concessions in Manufacturing of APIs** (Application Programming Interface)
- **Graded increase of Customs Duty** (of medical devices) to 10-15% from the current 0-7.5%, and reduced GST in respect of the same.

- **Tax Breaks and Incentives** for private healthcare infrastructure creation in tier 3, tier 4 towns and villages.

25. Why has SEBI proposed tightening the responsibilities of mutual funds trustees?

Recently, The Securities and Exchange Board of India (SEBI) proposed to review the role and accountability of trustees of mutual funds with an aim to protect unitholders' interests.

Current Role of trustees

- Mutual funds in India have a **three-tiered structure**: mutual fund, the trustees and the **asset management companies (AMC)**.
- The Board of trustees or trustee company holds the property of the mutual fund in trust for the benefit of the unit holders.
- They **appoint an AMC** to float schemes for the mutual fund and manage the funds mobilised under various schemes.
- They are expected to **exercise supervisory oversight over AMC** and its activities so as to ensure that AMC acts in the interest of the unitholders.

Recommendation by SEBI

- Trustees will be **responsible for taking steps** so that there are system-level checks in place to prevent fraudulent transactions.
- To ensure that they focus on their core responsibilities trustees should take the **help of audits, legal firms and merchant bankers** for carrying out due diligence on their behalf.
- Amending certain regulations for AMC by Including additional clauses to enhance the role, responsibility and accountability of the board of AMC.
- Constitution of a '**Unit Holder Protection Committee**' (UHPC) by the board of AMC.
 - This will help in an independent review mechanism for the decisions of AMC from the perspective of the unit holders' interest, across all products and services.
- All the existing trustees with the board of trustee's structure should convert into a trustee company in the next year.

After implementing new recommendations

Addition in Role of trustees

- They will ensure that the AMCs act in a manner which is not skewed in favour of AMC's stakeholders.
- Their focus will be **fairness of fees** and **expenses charged by the AMC** and **misconduct** including market abuse/ misuse of information by the AMC or AMC employees or distributors.
- They will ensure that there is **no mis-selling of mutual fund schemes** to increase asset under management (AUM) and valuation of the AMC.

26. Hill or city, urban planning cannot be an afterthought

Background Details:

- A tunnel boring machine in Joshimath (Uttarakhand) accidentally hit an aquifer. As a result, 800 litres of water per second was lost. Such a huge amount of water is sufficient to sustain the daily needs of almost 30 lakh people.
- Gradually, groundwater sources in the region began drying up even as the water flow never stopped. Moreover, Joshimath does not have a robust system to manage water resources and large-scale use of the soak-pit mechanism further increases the chances of land sinking.
- It is argued that the ongoing infrastructure projects (the Tapovan Vishnugad dam and the Helang-Marwari bypass road) would further worsen the situation.

Issues in hilly urban regions:

- The frequency of incidents of land subsidence in hilly urban regions of India is increasing.
- It is estimated that around 12.6% of the land area in the country is prone to landslides, particularly in Sikkim, West Bengal, and Uttarakhand.
- As per the National Institute of Disaster Management and the National Landslide Risk Management Strategy (2019), urban policy is making the situation worse.
- Construction activity in the Himalayas and the Western Ghats bypassing the local geological and environmental factors adds to slope instability. Additionally, tunnel construction further weakens the rock formation.
- Consequently, landslide vulnerability increases exponentially.

Measures for hilly urban regions:

- The first step in improving urban resilience is acquiring credible data.
 - In this regard, the Geological Survey of India has conducted a national mapping exercise with each centimetre denoting 0.5 km.

- The landslide risk should be mapped at the granular level. The urban policymakers should complement it with additional local details.
- Large infrastructure should not be expanded in areas of high landslide risk, the carrying capacity of the region should be adhered to and human interventions should be reduced.
- Any construction activity should be assessed in terms of soil and slope suitability by geologists.

Floods:

- There is a rising risk of floods in many regions of the country due to the increasing intensity of seasonal rainfall. Some of the examples of floods in the past few years are Dombivali, Maharashtra (August 2019); Panjim Flood, Goa (July 2021); etc.
- Poor urban planning, lack of concern for natural hazards, and the climate change impact are the major factors behind increasing incidents of urban flooding.
- The UN Intergovernmental Panel on Climate Change (IPCC) report of March 2022 highlighted the risk faced by Kolkata due to the rise in sea levels. In Delhi, 9350 household lives in Yamuna floodplains and are vulnerable to floods.

Measures to deal with floods:

- Indian cities should be flood-proofed. Urban planners should avoid filling up water bodies, canals, and drains.
- Sewerage and stormwater drain networks should be improved. Moreover, existing sewerage networks should be reworked and expanded to enable wastewater drainage in low-lying urban geographies.
- Overflowing rivers should be de-silted.
- Expenditure on flood-resilient architecture like river embankments, flood shelters, and flood warning systems should be increased.
- “Blue infra” areas should be protected.
 - “Blue infra” are places that act as natural sponges for absorbing surface runoff, allowing groundwater to be recharged.
- Urban authorities should invest in identifying flooding hotspots and flood risk maps.

Way Ahead:

- Cities should involve environmental planning and expand natural open spaces.

- Urban planning should incorporate the impact of climate change and extreme weather. It should periodically assess and update disaster risk and preparedness.
- A multi-generational process with a disaster management framework in place should be in place in each and every city of the country.

27. QR Code-based Coin Vending Machines (QCVM)

Reserve Bank of India (RBI) has recently announced to launch QR code based Coin Vending Machines as a pilot project.

QR code-based coin vending machine

- At present, a person will have to approach the bank branch to withdraw coins.
- QR code-based coin vending machine (QCVM) is intended to dispense coins similar to the manner in which currency notes can be withdrawn from ATMs.
- Coins can be withdrawn using the **Unified Payments Interface (UPI) QR code** in designated vending machines.
- Coins of denomination of Rs 1 - Rs 20 will be made available in QCVM.
- RBI plans to launch the product in 19 locations across 12 cities.
- Since the implementation would begin through a pilot launch, only select banks may be involved in the initial stages.

UPI is a system that powers multiple bank accounts into a single mobile application, merging several banking features, seamless fund routing & merchant payments into one hood.

What are the pros and cons of this move?

Pros of QCVM

- The main intention is to enhance the **last mile availability of cash** across segments including the mass market.
- Since the interface here is UPI which is linked to the bank account of the person, the value of coins withdrawn is **directly debited from the bank account**.
- It removes the requirement of tending notes in exchange of coins which **saves time** for the bank branches and the customer.
- It will enhance **ease of access** to coins.
- With cash sales still being an important component at petty shops, QCVM could **benefit vendors** when coins tend to be in short supply.

Cons of QCVM

- As banks have to keep replenishing these vending machines through third part agents, it could imply **additional costs for banks**.
- The average cost of minting a coin is Rs 1.11. If we add another layer for setting up and distributing coins through vending machines, it appears unattractive from a **cost perspective**.
- Since the intent of the government is on increasing the popularity and reach of **digital payments**, QCVM could be counterproductive.
- QCVM seems to be defying the **purpose of e-Rupee's retail** that aims to reduce the minting/printing cost of currency and gradually replace physical currencies with digital currencies.

e-Rupee, an electronic version of cash in the form of a digital token is the Central Bank Digital Currency (CBDC) issued by the Reserve Bank of India (RBI).

28. Climate Risk Efforts of the Banks

On the heels of its monetary policy statement, the Reserve Bank of India has said that it would issue a set of guidelines regarding climate finance.

What is the RBI announcement about?

- The Reserve Bank recognises that climate change can translate into climate-related financial risks for Regulated Entities which can have broader financial stability implications.
- The Reserve Bank of India's guidelines would be on three areas of climate finance
 - A broad framework for the acceptance of green deposits
 - A disclosure framework on climate related financial risks
 - A similar framework for climate scenario analysis
- It was based on the feedback received on a Discussion Paper (DP) on Climate Risk and Sustainable Finance.

A green deposit is a fixed-term deposit for investors looking to invest their surplus cash reserves in environmentally friendly projects.

In 2021, HDFC had launched green deposits directed towards financing of green and sustainable housing credit solutions and services.

Why green or ESG funding has been in the limelight in recent years?

- ESG funds are those funds whose asset allocation mostly includes shares and bonds of companies that are evaluated based on the environmental, social, and governance factors.
- **Climate concerns** - The multilateral funds are not showing up the terrible climate scenario, thereby placing the onus on market solutions such as raising money through equities, bonds and deposits.
- India ranked 104th out of 192 countries in an **index of climate readiness** which measures a country's ability to leverage investments toward adapting to higher temperatures and extreme weather.
- **Non-tariff barrier** - ESG norms in the West could become a non-tariff barrier for Indian exports, creating knock-on effects for banks.
- Hence, banks need to be prepared to bake ESG/climate risk into their appraisals of projects.

What lies ahead for banks?

- **Need of the hour** - Green deposits can power desirable projects by delivering credit at low cost, provided investors are convinced that funds are put to good use.
- The banks need to develop expertise in three areas so that climate debt instruments attract funds even at lower tenures.
 - Climate assessment of regular projects
 - Appraising ESG projects
 - Creating confidence among investors
- **Challenges** - In order to create investor confidence, ESG should shrug off its global tag of being hijacked by the 'greenwashing'.
- Green bonds accounted for 1.7% of the \$100 trillion bond market in 2020.
- However, a fifth of the over 600 bonds assessed between January 2021 and September 2022 were not truly green.

29. Green Debt Swaps

With many developing nations facing a triple whammy of rising debt loads, climate change and nature loss, conservationists say the answer could lie with the debt-for-environment swaps.

Green debt swaps

The first debt-for-nature swaps were agreed in the mid-1980s, mostly in Latin America, with rich nations the main creditors.

- **Debt for Climate (DFC) swaps** - Debt swap in which the debtor nation, instead of continuing to make external debt payments in a foreign currency,

makes payments in local currency to finance climate projects domestically on agreed upon terms.

- **Need** - Developing nations are pushing for these swaps as they are struggling to pay back creditors and are at the risk of defaulting.
- According to the World Bank, the world's poorest countries owe \$62 billion in annual debt service, a year-on-year increase of 35%.
- Even as debt burdens grow, there is now an urgent need for countries to invest more in climate and biodiversity protection to meet their international and national commitments.

What are the advantages?

- **For creditors** - Debt swaps can reduce their risk through additional guarantees and ensure that at least part of a loan is eventually repaid.
- **For debtors** - DFC swaps can
 - Reduce external sovereign debt
 - Free up fiscal resources to be spent on green investments
 - Boost economy recovery

Deals - A 2015 deal with the Seychelles saw the government commit to protect 30% of its waters in exchange for \$22 million of debt restructuring.

Egypt presented a swap with Germany as a model for others seeking to raise money for clean energy projects when it hosted the U.N. climate summit 2022.

How can green debt swaps be encouraged?

- Arranging debt-for-environment swaps (DFES) is not an easy task as it requires the concerted efforts of the whole government and very thorough preparations, including
 - Robust pre-feasibility studies
 - Strong fiscal capacity
 - Commitment to transparency
 - International credibility of the domestic spending
- A **global framework or standard** that sets the rules for green debt swaps would enable more creditors to join such initiatives and help increase the size of deals.
- A **public campaign** could also encourage green debt swaps.

30. Taxing windfall profits of oil companies

The Central government has slashed the windfall profit tax levied on domestically-produced crude oil and on the export of diesel and aviation turbine fuel (ATF) after increasing it on February 3rd, 2023.

Details

- The government has now slashed the windfall tax to ₹4,350 per tonne from ₹5,050 per tonne in line with rising international oil prices.
- The government has further slashed tax on the export of diesel to ₹2.50 per litre from ₹7.50 per litre, and excise duty on ATF to ₹1.50 per litre from ₹6 per litre.
- Petrol however continues to have zero windfall tax.

What are windfall profit taxes?

- Windfall profit refers to an unanticipated increase in the profit or earnings of a company due to an extrinsic or unforeseen event and not because of a business decision.
 - According to the U.S. Congressional Research Service (CRS), a windfall is an “unearned, unanticipated gain in income through no additional effort or expense”.
 - Windfall profits cannot be attributed to something that the entity is actively involved in such as investment strategy or expansion of business.
- Windfall profit taxes are those that are designed to tax the profits (windfall profits) of a company from external or unprecedented events such as the energy price rise due to the Russia-Ukraine war.
- Usually, the governments levy windfall taxes as a one-off tax retrospectively over and above the normal rates of tax.
- Windfall taxes are reviewed on a fortnightly basis and depend on various factors such as international oil prices, exchange rates and quantity of exports.
- A report on the Financial Position of Oil Companies by **B.K. Chaturvedi committee** in 2008 noted that imposing windfall profit taxes was seen as a prerogative of governments in order to meet their fiscal needs and to pursue redistributive justice.
- The windfall tax or Special Additional Excise Duty (SAED) was first imposed by India in July 2022.

- The collection of SAED in India for the FY 2022-23 is expected to be around ₹25,000 crores from the production of crude oil and export of petrol, diesel and ATF.
- Through the levy of windfall taxes, governments across the world aim:
 - To capitalise on the heavy profits made by the companies and use them for specific domestic purposes
 - To redistribute the unexpected profits when high prices benefit producers at the expense of consumers
 - To fund social welfare schemes
 - To ensure an alternative revenue for the government which would come in handy during unforeseen geopolitical events

Reasons for windfall profits

- The Russia-Ukraine war is one of the major reasons for the volatility in the oil market across the world.
- Russia being one of the largest producers is a key player in the global oil market.
- However, several Western countries undertook measures to stop or curtail their energy imports from Russia as a retaliatory move against Russia's actions in Ukraine which led to a sharp rise in the prices of fossil fuel as countries now looked towards other suppliers to meet their energy demands.
- The sudden rise in the prices of fossil fuels resulted in profits for major oil companies.
- As per Reuters, all "Big Oil" companies such as BP, Chevron, Shell, Total Energies, etc. doubled their profits in 2022.
- This sudden increase in their earnings has influenced oil companies to prioritise their investments in conventional sources to provide for energy security instead of undertaking measures towards cleaner energy.

Path ahead for oil prices

- After close to one year since the start of the geopolitical conflict, the International Energy Agency (IEA) currently feels that the global oil market is relatively calm.
- All the oil prices except that of diesel are back to pre-war levels and Russian oil production and exports have also held up relatively well despite sanctions.
- The IEA expects the global oil demand to increase by 2 mb/d in 2023 to 101.9 mb/d and the supply side also was steady in January 2023 at 100.8 mb/d.

31. Indo-US exercise includes drill against nuke, bio terror attacks for the first time

Recently held Indo-US joint exercise- TARKASH, has first time included “Chemical, Biological, Radiological and Nuclear (CBRN) terror response” in its drill.

Exercise TARKASH:

- It is a **joint** exercise by the **National Security Guard (NSG)** and **US Special Operations Forces (SOF)**.
- The **drill** for **CBRN terror** response includes **small team** insertion by **IAF helicopters** to the **target** area, **neutralise** the **terrorists**, **rescue** the **hostages** safely and **deactivate** the **chemical weapons** carried by the **terrorists**.

What are CBRN weapons?

- It can create **mass casualties** and **disruption** thus classified as **weapons of mass destruction**.
- **Chemical weapons** include mustard gas, nerve agents, pulmonary agents and cyanides.
 - **Mustard gas** damages the respiratory tract, skin, and eyes.
 - **Nerve agents** in which **victims** rapidly become **unconscious**, causes **breathing difficulties**, and **death**.
 - **Pulmonary agents** cause choking or damages lung.
 - **Cyanides** (also known as **blood agents**) causes headache, dizziness, fast heart rate, and shortness of breath.
- **Biological agents** are classified as **live agents** such as bacteria and **toxic chemical agents** of biological origin.
 - **Example: anthrax, botulinum toxin and plague.**
 - **Anthrax** causes fever, malaise, cough, shock and even death within 36 hours.
 - **Botulinum toxin** causes **paralysis of respiratory muscles**.
- **Radiological weapons** classified by the type of **ionising radiations** used such as **alpha, beta, gamma/X-ray** and **neutrons**.
- **Nuclear material** includes weaponised **radioactive waste, dirty bombs** and nuclear weapons.

History of CBRN weapons:

- It was **first** used in World War I, when **French forces** deployed **tear-gas grenades** that were developed in **1912** for **police use**.
- In **October 1914**, **Germany** has fired **shells** containing **dianisidine chlorosulfate** at the **British** army at **Neuve-Chapelle** in France.
 - **Dianisidine chlorosulfate** is a lung irritant.

- After **World War I**, countries together signed **Geneva Protocol**, on June 17, 1925.
 - It prohibits the use of asphyxiating/poisonous gases or analogous liquids, materials or devices and bacteriological Methods of Warfare in war.
 - It came into force on February 8, 1928.

Examples of the violation of the Geneva Protocol:

- **Italy** used **mustard-gas bombs** in **Ethiopia** to destroy Emperor **Haile Selassie's** army in **1936**.
- During **World War II**, **Nazi Germany** used poisonous gases to kill **prisoners** in concentration camps.
- The **US** used **napalm** and the **herbicide Agent Orange** during the **Vietnam War**.
- In the **1980s**, **Iraq** used **chemical weapons** against **Iran** and **Iraq's Kurdish minority** during the **Iran-Iraq war**.
- A **sarin gas** attack was carried out by the **Syrian army** in **2013** against **civilians** during the **Syrian Civil War**.

32. India's Balance of Payments (BOP)

Data released by the government shows that India's exports and imports declined by 6.59% and 3.63% respectively in January 2023.

Balance of Payments (BOP)

- The BoP record the **transactions in goods, services and assets** between residents of a country with the rest of the world for a specified time period typically a year.
- BoP follows the Double Entry System to record transactions with the rest of the world and has two sides – Credit side and Debit side
- Accounts in the BoP includes
 1. Current account
 2. Capital account

Current Account

- It is the record of trade in goods and services and transfer payments.
- It records all the transactions that relate to the actual receipts and payments of the visible items, invisible items, and unilateral transfers during a specific period of time.

- Components of Current Account includes
 1. **Trade in goods (Visible Trade or Merchandise Transactions)** – It includes exports and imports of goods.
 2. **Trade in services (Invisible Trade)** – It includes factor income and non-factor income transactions.
 - **Factor income** - Includes net international earnings on factors of production (like labour, land and capital).
 - **Non-factor income** - It is net sale of service products like shipping, banking, tourism, software services, etc.
 3. **Transfer payments** – They are the receipts which the residents get for free without having to provide any goods or services in return. They consist of gifts, remittances and grants.
 4. **Income receipts and payments to and from abroad** - It involves investment income in the form of rent, profits, and interest.

A surplus current account - The nation is a lender to other countries

A deficit current account - The nation is a borrower from other countries

- **Components of Current Account includes**
 1. Balance of Trade
 2. Balance on Invisibles
- **Balance of Trade (BOT)** – It is the difference between the value of exports and value of imports of goods of a country in a given period of time.
- It is also known as Trade Balance.

Net Invisibles – It is the difference between the value of exports and value of imports of invisibles of a country in a given period of time.

- Invisibles include services, transfers and flows of income that take place between different countries.
- Services trade includes both factor and non-factor income.

Capital Account

- It includes those transactions, which cause a change in the assets or liabilities of a country's residents or its government.
- Components of Capital Account includes
 1. **Borrowings and Lendings to and from abroad** – Includes all the transactions related to borrowings from abroad by the government, private sector, etc.
 2. **Investments to and from abroad** – Includes all the investments by the rest of the world in shares of Indian companies, real estate, etc. The investments to and from abroad are:

- **Foreign Direct Investment** - FDI consists of the purchase of an asset, which gives direct control to the buyer over the asset. For example, purchase of land, building, etc.
 - **Portfolio Investment** - It is the cross-border transactions and positions involving equity or debt securities, other than direct investment or reserve assets. Ex - FII (Foreign Institutional Investment).
3. **Change in Foreign Exchange Reserves** - The financial assets of the government held in the central bank are Foreign Exchange Reserves.

A country could use its forex reserves to balance its balance of payments deficit.

The reserve bank sells foreign exchange when there is a deficit. This is called official reserve sale.

The decrease (increase) in official reserves is called the overall balance of payments deficit (surplus).

What is the case with India?

- According to the RBI, the Current Account Deficit (CAD for the first half of 2022-23 stood at 3.3% of GDP.
- It is expected to moderate in the second half of 2022-23 and remain eminently manageable within the parameters of viability.
- In January 2023, trade deficit narrowed to \$17.7 billion, led by a sharp fall in non-oil imports. Also,
 - FPI outflows have come down
 - Workers' remittances went up
 - Gold imports have declined

How will moderating CAD impact the market?

- The reduction in CAD due to services exports, is a positive sign.
- The rising CAD raises concerns among investors as it hurts the currency and thereby the inflow of funds into the markets.
- The value of an economy depends a lot on the value of its currency and thereby, it also supports the equity markets by keeping the fund flow intact.

33. Global Labour Resilience Index 2023

The White Shield is a policy advisory firm. The company released the Global Labour Resilience Index during World Government Summit. The index measures the capacity of the economy to withstand employment fluctuations and the ability

to fight back. The index is the first of its kind. White Shield ranked 136 countries based on parameters such as technological disruptions, pandemics, green economy transition, etc.

Key Findings

- Denmark was ranked first in the index followed by Switzerland, Germany, Netherlands, Singapore, and Sweden in second, third, fourth, fifth, and sixth places respectively.
- India ranked 65th. All the other countries in South Asia ranked below 80. Pakistan secured 97th
- Resilience is stalling
- More than one-third of countries are facing difficulties in labour resilience after COVID
- The USA has the highest adaptive capabilities to any kind of market changes

Regional positions

North America secured the top rank in the world followed by Europe at the second position, East Asia and Pacific in the third position, Central Asia in the fourth position, and the Middle East and North Africa in the fifth position. Latin America and the Caribbean were in the sixth position. South Asia was in the seventh position and Sub-Saharan Africa was in the eighth position.

Developed Economies

The USA was in position 15 and Canada at 16. Japan secured 19th place. Russia was on 45. Israel at 20

34. Analysis of Budget 2023

The Budget 2023 did give more cash in hand to the middle class, but at the same time, stuck to the path of fiscal prudence.

State of Indian economy

- **Wholesale inflation** - It moderated to reach a level below 5% in December 2022 and January 2023.
- **Net profit- to-sales ratio** - Corporate profitability was strong with net profit-to-sales ratio at 7.3%.
- **Gross capital formation to GDP ratio** - The ratio of gross capital formation to GDP has also shown an improvement post pandemic.
- **Incremental capital-output ratio (ICOR)** - Higher inflation and GDP deflator have brought ICOR to its decadal low of 1.6 in 2021-22 and 2.1 in 2022-23.

- Institution wise, the lowest ICOR is for the household sector and highest is for the non-financial public sector.
- **Capital expenditure** - Capital expenditure of Government (CE), including assistance to the States for capital formation, has shown a consistent increase in the post-pandemic period.
- It is slated to reach 4.54% to GDP in 2023-24.
- **Fiscal deficit** - The fiscal deficit has declined from its peak during the pandemic.
- During 2020-21, the incremental borrowings of Government were nearly 79.4% of the available household savings.
- **Private final consumption expenditure (PFCE)** - After two years of stillness, PFCE is showing a buoyancy greater than one, indicating revival of consumer spending.
- However, sluggish growth in rural areas were noted.
- **Employment** - Between 2017-18 and 2020-21, total employment increased by 18.5%, nearly three fourths of which was in self-employment (PLFS data).
- The ratio of persons placed out of persons trained is still around 20%.

The **net profit ratio** compares after-tax profits to net sales. It reveals the remaining profit after all costs have been deducted from sales.

Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories.

ICOR basically refers to the additional unit of capital required to generate additional unit of output.

What are the weak spots in the Budget?

- **MSMEs** - The Budget does not seem sufficiently equipped to handle the plight of MSMEs, which died out during the pandemic, raising manufacturing share in GDP and dealing with unemployment.
- The Budget has announced certain measures such as extending the Credit Guarantee Scheme for MSMEs, but with more than 11 crore persons employed in this sector, it is insufficient.
- **Manufacturing** - How are we going to increase the share of manufacturing in GVA to 25% is not clear from the Budget.
- **Private sector investment** - The reason why private sector is not investing despite having resources has not been analysed.
- The measures that are required to be taken to generate confidence with stable policies and transparent regulations have not yet been addressed appropriately.

- **Unemployment and Private consumption** - Unemployment and inadequate consumption of the people at lower part of the pyramid are serious issues that lacked proper focus.
- Though capital expenditure is enhanced, it is with an emphasis on Railways which is not the real employment generator although its multiplier effect on growth is very high.
- **GDP growth** - GDP growth and tax buoyancy may appear achievable with some difficulty.
- However, whether we have laid sufficient foundation for the economy to reach \$5 trillion by 2024-25 is not clear.

35. Boosting the Tax Base

Growing work force should also result in increase in income tax revenue but that is not happening and the income tax base remains narrow.

Status of India's workforce

- According to the UN Population Report, India accounts for about **17.5% of the world's population** with a population of 1.4 billion.
- India's young population (15-64 years) accounts for **67%** of the whole.
- At 253 million, India is also home to the **world's largest adolescent population** (10-19 years).
- India has the prospects to reap the demographic dividend as the median age of an Indian this year was **28.7 years** against a global value of 30.3 years.
- According to UNFPA, India will have one of the youngest populations in the world **till 2030** and the demographic window of opportunity will last **till 2025**.
- Share of elderly population is among the lowest and fertility rates are high.

Why is the income tax base so narrow?

A tax base is a total amount of assets or income that can be taxed by a taxing authority, usually by the government.

- **Income less than Rs 5 lakh** - The Finance Ministry had revealed that the number of people who filed income tax returns stood at 6.8 crore in 2020-21.
- This means that only 4.8% of the total population filed IT returns in 2021.
- Since 65% of the taxpayers earned less than Rs 5 lakh, only 1.2% of the population pays income tax as of now.
- **Unorganised sector** - A large portion of workforce employed in the unorganised or informal sector is one of the reasons why fewer people are filing tax returns.

- **Working age vs employed** - According to World Bank, only 95 crore people were in the working age group of 18 to 64 years in 2021 because not all those in the working age are employed.
- The worker population ratio in India is 44.5%, which means that only 42 crore people could be employed in some way or the other in India.
- **Tax exemptions** - A dominant portion of India's workforce is employed in agriculture and agri income is exempt under income tax.

As per Indian Union Budget estimates for financial year 2023, direct taxes accounted for 51.5% and indirect taxes accounted for 48.5% of total central tax collection in India.

How to harness the increasing working age population?

- **Formalisation of the economy** - Of the total workforce in 2017-18, 90.7% was employed by the informal sector.
- Bringing such services in to the formal sector could help direct tax collections.
- This can be done with some help from the GST system.
- **Tax at source** - Collecting tax at source for purchase of certain goods and services is another way to identify those who earn a tidy sum every year but are not paying any taxes.
- As of now, TCS is collected for high value goods such as expensive motor vehicles, gold jewellery or overseas remittances.
- The ambit of TCS can be expanded to consumer durables, domestic luxury travel, stays in expensive hotels etc.

36. Indian Air Force's revised doctrine adopts a holistic approach to the country's security imperatives

Recently, the third iteration of the Indian Air Force doctrine was released.

- The first two were introduced in **2012 and 1995**.

Need of the doctrine

- **Political leadership has not utilised** its potential in most of the **wars**, except perhaps in the **1971 India-Pakistan war**.
- Other Services do not sufficiently comprehend **the role that the IAF** can play in national security.

About IAF's revised doctrine:

- **Vision:** To be an agile and adaptable air force that provides decisive aerospace power in furtherance of our national interests.
- It underlines **modern conflicts** can be decisively influenced only by each component of military power operating in synergy with each other and optimally exploiting the unique attributes of its **medium of operation (air, land and sea)** to achieve national objectives.
- It has the potential to accommodate **major changes in wartime strategy** that allow for the use of future precepts in the employment of aerospace power in the Indian security context.
- It focuses on the **criticality of controlling the skies**.
- It spoke about shaping operations through air diplomacy, **air force-to-air force engagements for training and cooperation**, and demonstration of aerospace power capabilities in the NWNP environment.

Network centric warfare

- Doctrine is weighted with **liberal use of American buzzwords** such as network-centric warfare and multi-domain warfare.

Airpower to Aerospace power

- The Air Force called for a **National Space Strategy** as “**concurrent vulnerabilities of India to hostile action**” are increasing while also anticipating rise in use of space for economic and developmental purposes.
- In the 1965 war, **Peshawar airbase was considered safe** as it was a depth airfield, it was still **attacked by IAF Canberras launched from Agra**.
- Aircraft such as **SU-30 and Rafale** can project firepower onto **Malacca and Sunda straits**, the **C-17s and C-130s** can reach **most parts of the globe**.

No war-no peace situation (NWNP)

- The new doctrine lays out the **capabilities of the air force** in times of peace, in war and in **no war-no peace situations** like India-China.
- **Aim:** To bring to the public and policy makers the possibilities that exist with air power.

Lessons from Russia-Ukraine Conflict

- The failure of Russian Air Force in the war against Ukraine was because it saw air power as a support arm to the ground forces while ignoring its standalone capabilities.

Issues with new doctrine:

- The military can't produce a document without invoking Prime Minister Narendra Modi.
 - Doctrine suggests his recognition of the importance of aerospace power in the national security matrix.
- **It is silent on the avoidance of damage to civilian lives and property.**
 - It is required because the reality of the West's use of air power in Iraq and Afghanistan.

37. Residence by Investment

High net worth individuals are making a beeline for residence-through-investment programmes in the U.S., Portugal, Australia, Malta, and Greece.

What is the picture of citizenship renouncement in India?

- According to the Ministry of External Affairs (MEA) data, in 2022, over 2.25 lakh Indians renounced Indian citizenship, the highest ever since 2011.
- **Reasons** - High net worth individuals (HNIs) are moving westward with new passports, in search of
 - Better business opportunities
 - Healthcare
 - Quality of life
 - Education
 - Security
 - Tax Management

HNIs are those who have wealth of over \$1 million or Rs 8.2 crore.

According to the Henley Global Citizens Report, India ranks third in terms of HNI movements, coming only after Russia and China.

What about residence by investment programs?

- **Residency by investment** - Residence by investment schemes offer people the chance to get a residency permit for a country by purchasing a house there or making a large investment or donation.
- It is otherwise known as **golden visa programs**.
- It give HNIs the option of physically relocating and becoming residents of a state with full legal rights, including the right to live, work, study, and receive healthcare in that country.

Residence by investment programs

- U.S. EB-5 visa
- Portugal Golden Visa
- Australian Global Talent Independent Visa
- Malta Permanent Residency Programme
- Greece Residence by Investment Program

What is Permanent residency (PR) ?

- It is a visa status that allows the bearer of the PR card to legally reside in the host country without being a citizen of that country.
- Permanent residents are entitled to live, work, go to school and access health care in the host country.
- In order to be eligible to apply for permanent residency status in any given country, individuals usually have to meet certain requirements, such as
 - Having work experience in the country
 - Having studied in the country
 - Speaking the language, etc.
- PR status can also lead to citizenship by naturalization provided the resident has lived in the country for a certain number of years.

What is the issue?

- In 2022, the **European Commission** called on EU governments to stop selling citizenship to investors as part of a move to crack down on this combined multi-billion euro industry.
- **Portugal** decided to end its Golden Visa program because of an uproar over the surge in house prices that left many struggle to find adequate accommodation.
- In 2022, the **UK government** scrapped its golden visa scheme that allowed wealthy foreign nationals to settle in the country in exchange for bringing part of their wealth with them.

What lies ahead?

- While the demise of these programmes signals a change in the way international travel and residency is handled, it doesn't mean the practice will completely end.
- While Europe may be making it tougher for wealthy Indians to obtain the golden visa, certain countries in the Caribbean are conducting comprehensive reviews of their programmes, aiming to reduce costs and processing times.

38. Underwater noise emissions pose threat to Indian Marine species: Study

Central idea: The rising man-made (anthropogenic) underwater noise emissions (UNE) from ships in the Indian waters are posing a threat to the life of marine mammals like Bottlenose Dolphin, Manatees, Pilot Whale, Seal, and Sperm Whale.

Underwater Noise Emissions (UNE)

- Underwater noise emissions (UNE) refer to sounds that are produced underwater as a result of various human activities such as shipping, oil and gas exploration, military sonar, and construction.
- UNE can have a significant impact on marine life, as many marine animals rely on sound for communication, navigation, and foraging.
- Excessive underwater noise can interfere with these activities, and can even cause physical harm to marine animals in some cases.
- As a result, there is growing concern about the potential impact of UNE on marine ecosystems, and efforts are being made to better understand and mitigate these impacts.
- There are Acute and Chronic noise categories in the UNE emissions.

How does UNE impact marine lifestyle?

- The main form of energy for multiple behavioural activities of marine mammals, which include mating, communal interaction, feeding, cluster cohesion and foraging, is based on sound.
- However, the sound that radiates from ships on a long-term basis affects them and results in internal injuries, loss of hearing ability, change in behavioural responses, masking, and stress.

Key findings about Indian waters

- Continuous shipping movement is identified to be a major contributor to the increase in the global ocean noise level.
- The UNE or underwater sound pressure levels in the Indian waters are 102-115 decibels, relative to one microPascal (dB re 1 μ Pa).
- The East Coast level is slightly higher than that of the West, where there is an increase by a significant value of about 20 dB re 1 μ Pa.
- “The frequencies of ships’ underwater self-noise and machinery vibration levels are overlapping the marine species’ communication frequencies in the low-frequency range of less than 500 Hz.
- This is called masking, which could have led to a change in the migration route of the marine species to the shallow regions and also making it difficult for them to go back to the deeper water.

How the underwater ambient noise levels were measured?

- The measurement of the ambient noise levels was carried out by deploying a hydrophone autonomous system around 30 nautical miles from the Goa coastline.
- The depth of deployment of the sensor was 11 metres in a water depth of 22 metres.
- The single-channel hydrophone was deployed at different locations with an in-water depth of 18 metres with a deployment depth of 3 and 5 metres off Visakhapatnam port.

39. E-Waste Issue in India

The extraction from the discarded e-wastes which is usually performed by children, is a crude and hazardous process that goes unregulated in India.

e-waste

- **E-waste-** E-waste (electronic waste) is used to describe old, end-of-life or discarded electric and electronic appliances.
- This e-waste is comprised of 21 types of electrical and electronic equipment (EEE) notified Under the **E-Waste (Management) Rules, 2016**.
- E-waste includes components, consumables, parts and spares of
 1. Information technology and communication equipment
 2. Consumer electrical and electronics
- It releases toxic elements such as Lead, Mercury, Cadmium, Chromium, Polybrominated biphenyls and Polybrominated diphenyl.
- Many children suffer from serious skin diseases and chronic lung infections due to continuous exposure to chemical-laden toxins found in the metals.

What is the picture of e-waste production?

India is the third largest generator of e-wastes in the world after China and the USA

- According to the **Global E-waste Monitor 2020**, the world dumped 53.6 million metric tons of e-waste in 2019.
- India produced 3.2 million metric tons of e-waste, much of which is dumped for dismantling and recycling with no regulations.
- Only 22.7% of the e-waste generated in 2019-20 in India was collected, dismantled, and recycled or disposed off.

What efforts were taken in this regard?

E-Waste (Management) Rules, 2016

- **EPR** - The Rules extend the responsibility to producers to manage a system of e-waste collection, storage, transportation, and environmentally sound dismantling and recycling through Extended Producer Responsibility (EPR).
- **E-waste collection** - The rules also promote and encourage the establishment of an efficient e-waste collection mechanism.
- **Dismantling and recycling**- The dismantlers and recyclers have to obtain authorisation from concerned State Pollution Control Boards (SPCBs) or Pollution Control Committees (PCCs).
- They grant authorisation after ensuring that the dismantlers and recyclers have the facilities as per the guidelines of the Central Pollution Control Board (CPCB).

Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS)

- The amended SPECS provides a financial incentive of 25% on capital expenditure for setting up modern recycling facilities for the extraction of precious metals from e-waste.
- A policy paper on circular economy (CE) in the EEE sector says e-waste mining offers an opportunity to secure the supply of resources needed for manufacturing EEE products.

What is the need of the hour?

- The lack of a dedicated and robust e-waste collection chain in India is a major bottleneck.
- There is a need for investments in e-waste management systems to promote environment-friendly and sustainable metal recovery processes.
- Beyond its economic value, recycling can shield living beings and the environment from toxic substances.
- As e-waste recycling with primitive methods can damage the environment, the recycling infrastructure should be improved and manufacturers encouraged to set up e-waste drop points.
- Consumers should also get incentives for disposing of their devices properly.

40. India plans to export Solar Power

Central idea: The article states that the Ministry for New and Renewable Energy is working towards increasing the production of solar modules in the country, with the goal of making India a net exporter of solar modules by 2026.

How can India be a net exporter of solar energy?

- **Increased manufacturing of PV modules:** By 2026, Indian industry will be able to manufacture solar modules worth 100 gigawatts (GW) annually, and help the country be a net exporter of solar power.
- **Increased installation capacity:** This would significantly aid India's target of installing 500 GW of electricity capacity from non-fossil sources by 2030.

Issues with solar power sector

Ans. Reduced capacity

- **Slow pace:** India had planned to install 175 GW of renewable energy by December 2022, including 100 GW of solar power, but has only achieved 122 GW, with solar power accounting for only 62 GW.
- **Huge cost:** A key bottleneck has been the cost of solar modules (or panels).
- **Regressive import duties:** While India has traditionally relied on China-made components such as poly-silicon wafers, necessary to make modules, higher customs duty on them has shrunk supply. This was done to make equivalent India-manufactured components more competitive.

Motive behind export promotion

- **Surplus generation:** India need about 30-40 GW for our domestic purposes annually and the rest can be used for export.
- **Manufacturing boost:** PLI scheme for polysilicone manufacturing is in place are designed to encourage the manufacturers of ingots and wafers in India.

What obstructs solar power growth in India?

Ans. Land crunch

- Apart from module prices, land acquisition has been a major challenge for solar power manufacturers.
- Despite the Centre commissioning 57 large solar parks worth 40 GW in recent years, only 10 GW have been operationalized.

- Installing a megawatt of solar power requires on average four acres of land. So various developers face challenges in acquiring it and that's one reason for the delay.

Various initiatives for solar energy in India

- **International Solar Alliance (ISA):** India, along with France, launched the ISA in 2015, a global platform to promote the use of solar energy.
- **Solar Parks:** The government has set up Solar Parks to provide land and infrastructure to developers for the installation of solar power projects.
- **Rooftop Solar Program:** The government has launched a rooftop solar program to promote the installation of solar panels on rooftops of residential and commercial buildings.
- **Incentives and subsidies:** The government has provided various incentives and subsidies to promote the adoption of solar energy, including tax exemptions, accelerated depreciation, and subsidies for capital costs.

Way forward

India has significant potential to become a major exporter of solar power. Here are some steps that can be taken to promote solar power export by India:

- **Increase domestic production:** To promote solar power export, India needs to increase domestic production of solar panels and equipment. This can be achieved by providing incentives and subsidies to domestic manufacturers, reducing import duties on raw materials, and investing in research and development.
- **Focus on quality:** Indian manufacturers need to focus on producing high-quality solar panels and equipment that can compete with products from other countries. The government can establish quality standards and certification programs to ensure that Indian-made products meet international quality standards.
- **Develop infrastructure:** India needs to develop a robust infrastructure to support the export of solar power, including transportation, storage, and transmission facilities. The government can provide support for the development of this infrastructure, such as funding and regulatory support.
- **Partner with other countries:** India can partner with other countries to promote the export of solar power. The International Solar Alliance, of which India is a founding member, can play a key role in this regard.
- **Expand market access:** India needs to expand market access for its solar power products by signing trade agreements with other countries and participating in international exhibitions and events. The government can

also provide support for Indian companies to participate in trade fairs and exhibitions abroad.

By implementing these measures, India can promote the export of solar power and become a key player in the global solar energy market.

