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1. Polity and Governance

1.1 Ayushman Arogya Mandir

- The government has decided to rename the Ayushman Bharat-Health and Wellness Centres (AB-HWC) in India as "Ayushman Arogya Mandir."
- "Arogyam Parmam Dhanam" will be the new tagline for the rebranding centers. The goal of the action is to better identify and promote these medical facilities across the nation.

About AB-HWC:

- With the launch of the Ayushman Bharat Program in 2018, there are presently over 1.6 lakh centers throughout India. These facilities provide more than just maternity and pediatric healthcare; they also provide non-communicable diseases, mental health services, first-level trauma and emergency care, oral, eye, and ENT care, and palliative and rehabilitative care. They also provide free diagnostic services and critical medications.

1.2 Governor

- The Supreme Court recently made it clear that a bill does not automatically get vetoed when a governor rejects it in a 27-page ruling.

Context:

- According to the court, the Governor is given three choices under Article 200 of the Constitution: he or she can agree to the proposed law, refuse to assent, or hold off on signing the bill until the President considers it.

About the Governor:

- Article 153 of the Constitution stipulates that every State must have a governor.
- Articles 155 and 156: A governor is chosen by the president and serves "during the pleasure of the President," according to Articles 155 and 156 of the Constitution.
- The Governor must resign if this pleasure is revoked before the end of the five-year tenure.
- The Governor is effectively subject to appointment and removal by the federal government, as the President acts with the assistance and counsel of the Prime Minister and the Council of Ministers.
- Article 163 states that, with the exception of duties requiring his discretion, the Governor will typically receive assistance and advice from the Council of Ministers.

The Governor's constitutional authority concerning State Bills:

- The Indian Constitution's Article 200 addresses the governor's authority to sign legislation passed by the state legislature as well as other duties including holding up a measure for the president to review.
- With regard to "Bills Reserved for Consideration," Article 201 gives governors the following veto power: total, suspense, and no pocket (except on money bills).
- Absolute Veto: This describes the Governor's ability to decline to sign an Assembly-passed law.
- Suspensive Veto: The Governor may use a suspensive veto to send a bill back to the State Assembly for more review.
- The Governor must approve the law without exercising his veto power if the Assembly resends it to him, unchanged or amended.
- Regarding the Money Bill, the Governor may not exercise his suspensive veto power.
- The President's power of a pocket veto keeps a law waiting forever.

1.3 India Internet Governance Forum 2023

The India Internet Governance Forum 2023 was held recently.

About India Internet Governance Forum 2023:-
- Time: December 5, 2023.
- Location: New Delhi.(Internet Governance Forum (IIGF) in India)
- The forum is a multi-stakeholder platform that brings together representatives from different groups to talk about Internet-related public policy concerns.
- Theme: Adapting Bharat's Digital Agenda to Move Forward.
- The purpose of the event is to have a conversation about topics including bridging divides, adjusting Bharat's digital agenda, enabling innovation for India's developmental goals, and creating a safe, reliable, and resilient cyberspace for the country.
- A project connected to the UN Internet Governance Forum is the India Internet Governance Forum.
- Shri Rajeev Chandrasekhar, Minister of State for Electronics and Information Technology and Skill Development and Entrepreneurship, would be present to grace the session.
- Shri S Krishnan, Secretary, Ministry of Electronics & Information Technology (MeitY), will give a special address, while Shri Sushil Pal, Joint Secretary, MeitY, will give the welcoming speech.
- The UN Internet Governance Forum (UN IGF) and the India Internet Governance Forum are complementary.
- The year it was founded was 2021.
- A 14-member multi-stakeholder committee that includes representatives from the government, civil society, industry, technical community, think tanks, and industry associations supports the IIGF's Indian branch.

Significance:-
- It provides an essential forum for promoting a shared knowledge of how to take full use of online opportunities while managing the dangers and difficulties that come with them.

1.4 Gram Manchitra application

- The "Gram Manchitra" app was recently released by the Panchayati Raj Ministry.

Context:
- The Union Minister of State for Panchayati Raj, Shri Kapil Moreshwar Patil, provided this information about the "Gram Manchitra" app in a written response to the Lok Sabha.

About Gram Manchitra application:
- October 2019 was the launch date.
- Ministry: Panchayati Raj Ministry
- Goals: to support Gram Panchayat-led spatial planning.

Key Elements:
- Using geographic information technology, the Geographic Information System (GIS) application "Gram Manchitra" helps and encourages Gram Panchayats to carry out planning at the Gram Panchayat level.
- An online platform that evaluates and presents data with a geographic context is known as a geographic information system (GIS).
- It makes use of information linked to a certain place.
- To better comprehend the numerous developmental projects that need to be undertaken across the various sectors, Gram Manchitra offers a single, unified geospatial platform. It also acts as a decision support system for the Gram Panchayat Development Plan (GPDP).

- In addition to "Gram Manchitra," the Ministry has unveiled "mActionSoft," a smartphone app that enables users to take pictures with GPS locations integrated into Geo-Tags. (Project Bharat Net)
- This feature makes it easier to geotag assets at three important points in time: before work starts, during work, and after work is finished.
- The resulting knowledge library covers a wide range of industries, including agriculture, check dams, irrigation channels, water harvesting, sanitation, and natural resource management.
- The "mActionSoft" application's geotagged assets smoothly integrate with "Gram Manchitra," providing an improved display of Gram Panchayat development projects.
- The information about assets developed using finance commission funding is made accessible and transparent thanks to this connection.
- Additionally, this application is connected to Mission Antyodaya and the Socio-Economic Caste Census (SECC) report.
- Because all of this data is in one window, the Gram Panchayat user would be able to see the works during planning more clearly.
- It is simple to track the status of development work implementation and the advancement of different schemes' execution in real-time.

Advantages:
- To assist Gram Panchayat officials in creating development plans that are both feasible and realistic, Gram Manchitra offers a number of planning tools that make use of GIS technology.
- These tools, which include those for locating possible project locations, monitoring assets, project cost estimation, and effect assessment, offer a decision support system for creating development plans.
- It would support the creation of attainable and realistic development plans by Gram Panchayat authorities.

1.5 Electoral bonds

- Compared to the last polls in these states in 2018, political funding using anonymous electoral bonds increased by more than 400% during the most recent Assembly elections in Telangana, Rajasthan, Madhya Pradesh, Chhattisgarh, and Mizoram.

Context:
- Hyderabad, the capital of Telangana, had the highest sales of Rs 359 crore during the most recent (29th) tranche of the electoral bond scheme. Mumbai came in second with Rs 259.30 crore, and Delhi came in third with Rs 182.75 crore.

About Electoral bonds:

- An individual who is an Indian citizen, or who has been incorporated or created in India, may purchase an Electoral Bond, which is similar to a promissory note.
- Individuals may purchase Electoral Bonds alone or in combination with other people.
- Similar to banknotes, the bonds have no interest and are due to the bearer upon demand.

Historical Context:
- A Finance bill was used to implement the electoral bonds system in 2017.
- 2018 saw its implementation.

Salient Features:-
- With the help of electoral bonds, people and organizations can donate to recognized political parties without revealing their identity.
- Bonds in the denominations of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore are issued by State Bank of India (SBI).
- It is interest-free and payable on demand to the bearer.
- Either Indian nationals or companies with headquarters in India buy it.
- It can be purchased separately or in conjunction with other people.
- After the date of issuance, it is valid for fifteen calendar days.
- The authorized issuer is State Bank of India (SBI).
- Bonds for elections are issued by specific SBI branches.
- You can buy Electoral Bonds using checks or digitally.
- Encashment only via a political party-approved bank account.

Eligibility:-
- The only political parties eligible to receive electoral bonds are those that are registered under Section 29A of the Representation of the People Act (RPA), 1951, and that have at least 1% of the votes cast in the most recent general election for the State's Legislative Assembly or House of the People.

Advantages of Electoral Bonds:-
Maintains Accountability
- Only the party bank account listed with the ECI will receive credit for donations made through Electoral Bonds.
- Discourage Cash: Only a select group of banks will be notified, and even then, only digital and check payments will be accepted for the purchase.
- Increased Transparency: It facilitates more open communication between political parties and the public, regulatory agencies, and the electoral commission.
- Preserves Anonymity: Donations made through electoral bonds can be made by individuals, groups of individuals, non-governmental organizations, religious institutions, and other trusts without revealing their personal information. As a result, the donor's identity is kept secret.

Disadvantages of Electoral Bonds:-
- Voters' Right to Know Will Be Hindered: They won't know which person, business, or organization has supported which party and how much. Prior to the implementation of electoral bonds, political parties were required to provide information about any individual who had donated more than Rs 20,000.
- The alteration violates the public's "Right to Know" and increases the political elite's lack of accountability.
- Unauthorized Donations: Section 29B of the RPA, 1951 forbids political parties from accepting donations from government enterprises and foreign sources. In the event that a contribution made through electoral bonds is not reported, it is impossible to determine whether the political party has accepted any donations in violation of this clause.
- Leads to Crony-Capitalism: It might develop into a handy avenue for companies to transfer their cash held in tax havens to political parties in exchange for a favor or an advantage.
- Funding from anonymous sources could bring in a flood of black money.

1.6 Ethics Committee

- Mahua Moitra, a member of parliament for the Trinamool Congress, is thought to have been nominated for expulsion from the Lok Sabha due to her "unethical conduct" and "breach of privileges" by the ethics committee of the legislature.

Context:
- The Ethics Committee is responsible for monitoring lawmakers' moral behavior.

About the ethics committee: -
- In 2000, the ethics committee was established.
- The goal is to monitor members' moral and ethical behavior and investigate reports of "unethical conduct."
- The Committee reviews complaints made by other members of the House, by third parties via a member, or on the Speaker's recommendation.
- Prior to considering a complaint for examination, the Committee conducts a prima facie investigation.
- The Speaker receives its report and brings it up for discussion in the House.
- There is no defining definition for "unethical."
- The Committee has the last say over whether an act qualifies as unethical or not.

Privileges Committees: -
- The Privileges Committee, also known as the Special Inquiry Committee, deals with more serious charges made against a member, whilst the Ethics Committee deals with allegations of unethical behavior.
- These committees have a history; in 1951, a special committee found a member guilty of using his position to advance a business interest in exchange for money.

About Parliamentary Committees:
- Standing Committees and Ad Hoc Committees are the two main categories of parliamentary committees.
- Ad Hoc committees are short-lived and dissolve after their assigned tasks are finished, but standing committees are perpetual and run continuously.
- Committees to Enquire, Committees to Scrutinize and Control, Committees Relating to the Day-to-Day Business of the House, Departmental Standing Committees, Financial Committees, and House-Keeping Committees are among them.
- Advisory Committees and Inquiry Committees are the two divisions of Ad Hoc Committees.
- The constitution gives the parliamentary committees their authority.
- Article 105: Authority, Prerogatives, and Other Rights of the Houses of Parliament and Their Members and Committees.
- Article 118: Subject to the requirements of this constitution, its procedure, and the way it conducts business, each House of Parliament may establish rules for regulations.

The Parliamentary Committees' duties include:
- Reviewing and examining the government's activities.
- Authority to call in authorities and ministers.
- Legislative committees are essential to the legislative process because they scrutinize and evaluate bills prior to their enactment.
- They can guarantee that the bill complies with both the national laws and the Constitution by offering suggestions for revisions.

Signification of Parliamentary Committees-
- Legislative decision-making relies heavily on parliamentary committees, which provide MPs with in-depth understanding of particular subjects.

- These committees, which function as mini-parliaments, are made up of proportionally elected MPs from different parties.
- They function as tools for rigorous inspection, closely analyzing legislation, and requesting feedback from outside parties, such as the general public.

1.7 Zonal Councils

The 26th Eastern Zonal Council Meeting was recently presided over in Patna by Union Home Minister Amit Shah.

Context:
- Speaking to the delegates from West Bengal, Odisha, Jharkhand, and Bihar, Mr. Shah urged all of the participants to collaborate in the spirit of cooperative federalism for comprehensive development.

About Zonal Council:-
- The bodies that are statutory, as opposed to constitutional, are zonal councils.
- The States Reorganization Act of 1956, an Act of Parliament, is what founded them.

Historical Background:-
- Pandit Jawahar Lal Nehru, the first prime minister of India, first proposed the idea of creating zonal councils in 1956.
- In accordance with States Reorganization Act of 1956, Part III, five zonal councils were established: north, south, east, west, and center.
- The Zonal Councils do not include the following states: (i) Assam; (ii) Arunachal Pradesh; (iii) Manipur; (iv) Tripura; (v) Mizoram; (vi) Meghalaya; and (vii) Nagaland.
- The North Eastern Council, established by the North Eastern Council Act of 1972, handles its unique issues.
- The North Eastern Council (Amendment) Act of 2002 also added the State of Sikkim to the North Eastern Council.

Objectives:-
- The goal of zonal councils is to encourage cooperation and coordination between the Union, UTs, and states.
- They talk about a variety of subjects and offer advice.
- They are bodies that are only consultative and deliberative.
- These statutory entities were created by the States Reorganization Act of 1956. The Act separated the nation into five zones:The states of Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, the National Capital Territory of Delhi, the Union Territory of Chandigarh, and Ladakh make up the Northern Zonal Council.
- Central Zone Council, with its headquarters in New Delhi, is made up of the states of Madhya Pradesh, Uttarakhand, Uttar Pradesh, and Chhattisgarh.
- Headquarters: Allahabad
- The states of Bihar, Jharkhand, Orissa, Sikkim, and West Bengal make up the Eastern Zonal Council.
- Principal Office: Kolkata
- The states of Goa, Gujarat, and Maharashtra as well as the union territories of Daman & Diu and Dadra & Nagar Haveli make up the Western Zonal Council.
- Head Office: Mumbai
- The states of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and the Union Territory of Puducherry make up the Southern Zonal Council.
- Headquarters: Chennai

Structure:-
- Chairman: The head of each of these councils is the Union Home Minister.

- Vice Chairman: The Chief Ministers of the States that are part of each zone alternately serve as Vice-Chairmen of the Zonal Council for that zone, each serving for a year at a time.
- Members: the Chief Minister, two additional Ministers chosen by the Governor of each State, and two representatives from Union Territories that are part of the zone.

Functions:-
- As an advisory body, each Zonal Council can advise the government on any issue on which the states share a common interest.
- A Zonal Council may specifically discuss and offer recommendations on any topic of shared interest in the area of social and economic planning; border disputes; linguistic minorities; interstate transportation; and any topic related to or resulting from the reorganization of the States under the State's Reorganization Act.

1.8 Foreigners' Tribunals

Assamese Foreigners Tribunals (FTs) have declared 32,381 persons to be foreign nationals since 1966.

Foreigners Tribunals in Assam
Need for Foreigners Tribunals
- Legal Procedure for Foreigners: In certain areas, individuals who are detained for an unauthorized stay are prosecuted under the Passport Act of 1920 or the Foreigners Act of 1946, which include jail time and possible deportation as punishments.
- Detention Facilities: Following their sentencing, the accused are housed in detention facilities until their home country grants them permission to return.

Current Changes and What They Mean
- Constitutional changes for Tribunals: Originally, the 1964 ruling only permitted the Central Government to send cases to the Tribunals. District Collectors, District Magistrates, State Governments, and UT administrations are now able to do so thanks to the change.
- Empowerment of Individuals: The modified Foreigners (Tribunal) Order, 2019 removed the previous restriction that only the State could challenge a suspect and allowed anybody to seek Tribunals.
- Context of NRC: This amendment seeks to give individuals not on the list proper opportunities with the final NRC publication.
- Steps for Non-Listed Individuals: Those who are not included in the final NRC may file an application with the Tribunals. District Magistrates may also forward cases involving people who have not yet submitted a claim challenging their NRC exclusion.
- Issuance of New Summons: In order to establish their citizenship, these people will be sent new summonses.

1.9 INDIAN FOREST AND WOOD CERTIFICATION SCHEME

POLITY
The Indian Forest & Wood Certification Scheme was recently introduced.

Context:
- The Ministry of Environment, Forests, and Climate Change introduced it.
- The goal of this national forest certification program is to support agroforestry and sustainable forest management in the nation by providing voluntary third-party certification.

About INDIAN FOREST AND WOOD CERTIFICATION SCHEME:-
- 2023 is the launch year.

- Promoting agroforestry and sustainable forest management is the goal (Forest Conservation (FC) Act, 1980).
- Ministry: Ministry of Climate Change, Forests, and Environment.
- The program includes accreditation for chain of custody, tree outside forest management, and forest management.
- Various organizations who use ethical forest management and agroforestry methods in their operations may be eligible for market incentives under the Indian Forest and Wood Certification Scheme.
- State forest departments, private farmers, Farmer Producer Organizations involved in agricultural forestry and agroforestry, and other wood-based businesses along the value chain are examples of this.
- The Indian Forest Management Standard, which consists of 8 criteria, 69 indicators, and 254 verifiers and is a crucial component of the National Working Plan Code 2023, which was introduced earlier this year, serves as the foundation for the Forest Management certification.
- The recently announced Indian Forest & Wood Certification Scheme has a separate Trees Outside Forests Standard.
- Monitoring: As a multistakeholder advisory organization, the Indian Forest and Wood Certification Council will monitor the Indian Forest and Wood Certification Scheme.
- Implementation: The Indian Institute of Forest Management, Bhopal will oversee the general administration of the Indian Forest and Wood Certification Scheme and serve as the scheme's operating agency.
- Accreditation: The certification bodies that conduct independent audits and evaluate the compliance of different entities with the standards outlined in the program are accredited by the National Accreditation Board for Certification Bodies, which is a division of the Quality Council of India.

1.10 National Crime Records Bureau (NCRB)

According to recent data from the National Crime Records Bureau (NCRB), Delhi has the highest number of First Information Reports (FIRs) for crimes against women in 2022.

Context:
- In 2022, Delhi had the nation's highest percentage of filed police reports (FIRs) related to crimes against women.

About the NCRB, the National Crime Records Bureau:-
- Founded in 1986.
- Headquarters: Delhi.
- Ministry: Home Affairs Ministry.
- Goal: To serve as a clearinghouse for data on crimes and offenders in order to help detectives connect the dots between crimes and their perpetrators.
- In order to help detectives connect the dots between crimes and their perpetrators, NCRB was established to serve as a storehouse for data on crimes and offenders.
- The Tandon Committee, the MHA Task Force (1985), and the National Police Commission (1977–1981) all recommended it.
- The task of overseeing, organizing, and carrying out the Crime and Criminal Tracking Network & Systems (CCTNS) project has been given to NCRB. (Identification of Criminal Procedure Act, 2022)

Notable NCRB publications include:
- In India, Accidental Deaths and Suicides.
- India's Prison Statistics.
- Fingerprints in India.
- Report on India's missing women and children.

1.11 One person, one vote, one value
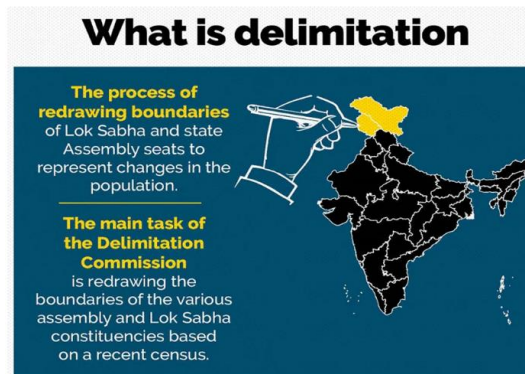
Key Highlights:
- Liberal democracies uphold political equality by guaranteeing that every citizen's vote is equally valued, in addition to providing equal opportunities for participation.
- Dilution Types: When disparities in population between constituencies lead to unequal representation, quantitative dilution is evident. On the other hand, gerrymandering results in qualitative dilution, which affects minority representation opportunities.
- Constitutional Protections: The Constitution's Articles 81, 170, 327, 330, and 332 provide protections for ensuring political equality. They give Parliament the authority to pass delimitation-related legislation and deal with issues of both qualitative and quantitative dilution.
- Function of Delimitation Commissions: By modifying constituency borders, delimitation commissions—which are constituted on a regular basis—play a vital part in preserving the equity of population representation.

Key Challenges:
- Population Growth Disparities: It is problematic when states have different rates of population growth because it might cause quantitative dilution, which affects how much weight each vote has.
- Effects of Gerrymandering: In particular, it can have a negative impact on minority representation by qualitatively reducing the value of votes. Election boundary manipulation strategies include packing, stacking, and cracking.
- Problems with Variation Allowance and Freezing: Unbalances have resulted from the freezing of population data and the 10% variance allowed, permitting departures from the optimal population-representation ratio.

Critical Analysis:
- Dangers to Democracy: The democratic process is seriously threatened by both quantitative and qualitative dilution, which compromises the idea of equal political representation.
- Difficulties with Freezing and Variation Allowance: The current delimitation framework needs to be critically examined because freezing population estimates and allowing for variation could lead to ongoing imbalances.
- Impact on Minority Representation: In order to overcome these discrepancies, a nuanced approach to delimitation is necessary due to the significant qualitative dilution of votes.

Way Forward:
- Urgent Delimitation: In order to promptly address population-representation deviations and maintain the principles of equal representation, urgent delimitation is required.
- Thorough Delimitation: In order to attain equitable representation, future delimitation procedures must take into account both quantitative and qualitative factors.
- Protecting State Interests: In order to balance the requirement for representation across areas, special consideration must be given to safeguard the interests of states with slower rates of population increase.

- Constant Monitoring and Modifications: To ensure the survival of a strong and inclusive democratic system, delimitation procedures must be regularly monitored and modified. Ongoing adjustments to accommodate changing demographics will aid in resolving changing representational issues.

1.12 Securities Appellate Tribunal (SAT)

- The Securities and Exchange Board of India's (Sebi) Rs 7 crore fine against the National Stock Exchange (NSE) in the dark fiber case has been overturned by the Securities Appellate Tribunal (SAT).
- The investigation concentrated on possible infractions of circulars and laws pertaining to unfair and deceptive business practices.

About Dark Fiber:
- Unlit or dark fiber refers to fiber-optic cable and infrastructure that is not in use. Network service companies provide it for sale or rental.
- Internet access, private networking, and internet infrastructure networking are all done with dark fiber. Usually, network communications and telecom use it.
- "Lit fiber," which describes cables that are in use, is not the same as dark fiber. Since no information is carried over dark fiber, no light pulse is transmitted, making it inactive.

1.13 Ex-Parte Decree

The Supreme Court ruled recently that an application filed to set aside an ex-parte order under Order IX Rule 13 of the CPC is dismissable and that a Civil Revision Petition under Section 115 of the Code of Civil Procedure, 1908 (CPC) is not maintainable against that decision.

Context:
- The Court made it clear that cases attempting to set aside ex-parte decrees cannot be dismissed on the grounds that Section 115 cannot be used.
- Section 115 addresses the High Court's ability to review decisions made by subordinate courts.

About Ex-Parte Decree:-
- Ex-parte decrees are court decisions that are made in urgent cases where one party alleges irreversible harm or injustice, usually without the opposing party's involvement.
- These decrees are only temporary, and both parties may challenge them at a later hearing.
- The applicant's arguments will be evaluated by the court, which may also look into the events that gave rise to the ex-parte order.
- The ex-parte order may be set aside or maintained, depending on the court's judgment and the sufficiency of the grounds provided.
- When annulling the order, the court may also impose terms and conditions, including payment and consideration of other considerations.

1.14 Good Governance Day

Good Governance Day was recently celebrated.

Context:
- India has a long history of excellent government, with many examples.

Concerning Good Governance Day:
- Date of origin: 2014.

- Today is Good Governance Day, observed on the anniversary of the birth of the former prime minister, Atal Bihari Vajpayee.
- Every year on December 25, the day is observed.
- The aim is to raise national consciousness on accountability in governance and government.
- The way that power is used to manage a nation's social and economic resources for growth is known as good governance.
- The idea has to do with how governments and other governing organizations are supposed to provide for the needs of the general populace.

Components of effective leadership:
- Participation: Individuals ought to have the right to express their own views through reputable direct organizations or representatives.
- Consensus-driven Oriented: Balances conflicting interests in order to get a general agreement on what is in the best interests of the community. Example: the states, the GST council, and the center.
- Equity and Inclusivity: Everyone should be able to maintain or enhance their level of well-being. Affirmative action programs for women, kids, and underprivileged groups are one example.
- Effectiveness and Efficiency: Institutions and processes should be able to maximize their resources while producing outcomes that satisfy community demands.
- Accountability: The general public and institutional stakeholders should hold governmental entities, the commercial sector, and civil society organizations responsible. Elections are one example.
- Transparency: Data must be easily comprehensible, monitored, and available to the general public. Example: RTI; publicizing draft legislation to solicit comments.
- Response: All parties involved should be served by institutions and procedures, and their complaints should be addressed.

Importance:
- Raise Knowledge of Governance
- Equitable Handling of Citizens
- Advocate for e-governance

1.15 Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN)

Recently, the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN) IEC Campaign was launched by the Ministry of Tribal Affairs.

Context:
- An Information, Education, and Communication (IEC) campaign for the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN) has been launched by the Union Ministry of Tribal Affairs with the objective of reaching out to 22000 Particularly Vulnerable Tribal Groups (PVTG) majority tribal habitations and PVTG families in 200 districts nationwide.

Regarding the PM-JANMAN (Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan):
- Start date: December 2023.
- Ministry: Eight other ministries and the Ministry of Tribal Affairs.
- The aim is to increase awareness and guarantee that all government schemes are fully utilized in tribal habitations that are inhabited by PVTG.
- Known as Particularly Vulnerable Tribal Groups (PVTGs), these 75 groups are dispersed among 18 states as well as the Union Territory of Andaman and Nicobar Islands.
- Eleven crucial interventions are included in the focus areas, which cover a range of industries including housing, infrastructure, healthcare, education, and connection.
- The mission will run for the ensuing three years.

Key Elements:
- The all-encompassing IEC campaign began in 100 districts at first, encompassing roughly 500 blocks and 15,000 PVTG habitations spread over 18 states as well as the Union Territory of the Andaman and Nicobar Islands.
- Phase II will encompass the residual districts.
- By educating these tribal people about their rights, the program hopes to provide individual entitlements to PVTG families and basic amenities to their homes.
- Aadhar cards, Community certificates, and Jan Dhan accounts will be given out throughout the campaign period since these are prerequisites for other programs like the issuance of Ayushman cards, PM Kisan Samman Nidhi, Kisan credit cards, etc.
- Every PVTG household that has gone unreachable due to distance, a lack of roads, or a lack of internet connectivity will be covered by this project.
- It will provide amenities right to their door. The NCST, or National Commission for Scheduled Tribes,
- These activities will be organised by venues such as Vandhan Vikas Kendras, Krishi Vigyan Kendras, Haat Bazar, CSC, Gram panchayat, Anganwadi, Multipurpose Centre, and so on.

1.16 Telecommunications Bill, 2023

Recently, the Telecommunications Bill, 2023, was approved by Parliament.

Context:
- The Bill would supersede three outdated laws—the Telegraph Act of 1885, the Indian Wireless Telegraphy Act of 1933, and the Telegraph Wires (Unlawful Possession) Act of 1950—once the President signs it into law.

Regarding the 2023 Telecommunications Bill:
- It attempts to streamline the application procedure for licenses and permits for telecom operators and unify the law for Internet service providers and cellular networks.
- The Bill establishes the procedures for exercising the right of way to install telecom equipment, such as cables, on both public and private property. It also covers the authorization of telecommunication networks and services, auctions, and administrative spectrum allotment.
- It specifies that in order to create, run, maintain, or grow telecom networks, as well as to own radio equipment, prior approval from the central government would be required.
- The current licenses are still in effect for the duration of the grant, or five years if it isn't stated.
- It also outlines emergency actions that the government may take to protect the public's safety and national security, including message interceptions, service interruptions, and temporary government takeovers of any communications network or service.
- Except for certain uses including national security, defense, disaster management, weather forecasting, transportation, satellite services (DTH and satellite telephony), BSNL, MTNL, and public broadcasting, it specifies that spectrum will only be allocated by auction.
- The Bill also says that regulations would be drafted to safeguard customers, including the creation of a "Do Not Disturb" register to guarantee that they don't get a certain category of communications without first giving their permission.
- In an effort to reduce fraud, entities are also required to provide biometric authentication for their consumers.
- The Bill gives the government the authority to restrict the import of telecom equipment from countries that might be enemies.
- The measure stipulates that unapproved access to networks or data or the offering of telecom services might result in jail time, fines, or both.
- For civil offenses, an adjudicating officer (rank of joint secretary and higher) will be appointed by the central government.

- Appeals to the Telecom Disputes Settlement and Appellate Tribunal (TDSAT) and the Designated Appeals Committee.

Significance:–
- Supplants antiquated laws.
- Gives satellite broadband services more clarity.
- Offers technology-driven governance solutions.

1.17 Lakhpati Didi Scheme

Recently, Smt. Droupadi Murmu, the President of India, graced the Lakhpati Didi Sammelan in Jaisalmer, Rajasthan.

Context:
- In her remarks, the President expressed her pleasure at being invited to speak at this conference and noted that self-help organizations play a vital role in empowering marginalized and underprivileged groups in society—women in particular—to become self-sufficient.

About Lakhpati Didi Scheme:-
- 2023 is the launch year.
- On August 15, 2023, the Prime Minister made the announcement during his Independence Day speech.
- The goal is to empower women in rural regions by assisting them in establishing microbusinesses and achieving financial independence.
- The Lakhpati Didi Scheme is an innovative platform that encourages and assists women in starting and running microbusinesses.
- Through skill development programs, the program aims to empower two crore women living in remote areas and take them on a transformative journey.
- Women will receive skill training under this programme, enabling them to make over Rs 1 lakh annually.
- Among the skills addressed were drone operation and repair, LED bulb manufacturing, and plumbing.
- The objective of this effort is to empower women in rural communities and use technology to revolutionize the agricultural environment.
- There will be training provided to over 15,000 women's SHGs on how to use and maintain drones.

Benefits:-
In addition to opening up new revenue streams, this training will give women access to cutting-edge skills.

2. International Relations

INTERNATIONAL RELATIONS
- Finland has declared that, because of migratory concerns, it will block its final road border with Russia.

Context:
- According to Finnish Prime Minister Petteri Orpo, the nation will seal its final road border with Russia because of migration-related worries after accusing Moscow of jeopardizing Finland's security.

About Finland:-

- Helsinki is the capital.
- Finland is a northern European nation.
- Finland is one of the northernest and most distant countries on Earth.
- It experiences harsh weather conditions.
- The northern border of Finland, which separates Eastern and Western Europe, is symbolic.

Bilateral relations:-
- Finland and India enjoy great diplomatic ties.
- India attained independence in 1947, and Finland established diplomatic ties with it in 1949.
- An growth in cooperative projects and the active exchange of delegates are recent indicators of the countries' political and economic cooperation solidifying.

Economic and trade relations:
- Finland exports paper, machinery, equipment, and industry services to India, which is the main source of trade and economic links between the two countries.
- Consequently, pharmaceutical, chemical, and textile items account up the majority of India's exports to Finland.
- Services play a big part in Indian exports to Finland, especially in the ICT and digital solutions sectors.

2.2 India re-elected to International Maritime Organisation

International relations
- India received the most votes and was re-elected to the IMO Council for the 2024–2025 biennial assembly of the International Maritime Organization (IMO).
- Along with Australia, Brazil, Canada, France, Germany, the Netherlands, Spain, Sweden, and the United Arab Emirates, India is one of the ten states with the greatest interest in international seaborne trade.
- The executive arm of the organization, the IMO Council, to which India has been re-elected, is in charge of overseeing its operations.
- India intends to strengthen its presence at the IMO through the nomination of candidates for the Junior Professional Officer (JPO) Program and the appointment of permanent representatives under the Maritime India Vision 2030 (MIV 2030).

2.3 Bridge this deficit between India and Sri Lanka

In order to promote regional economic integration, President Ranil Wickremesinghe of Sri Lanka suggested land link with India.
The concept began in 2003 when a bridge between Talaimanar, Sri Lanka, and Rameswaram, India, was suggested. Despite resistance, the idea endured and was brought up in a joint statement by Prime Minister Modi and Wickremesinghe in 2023.
The goal of land connectivity is to supply southwest and southeast India by using the ports of Trincomalee and Columbo.

Challenges:
- Historically, resistance from organizations advocating for Sinhalese Buddhists has impeded advancement.
- Despite a memorandum of understanding, the power grid project, which was started in 1970, has been delayed and no electricity has been transported.
- Implementation of the 1998 India-Sri Lanka Free Trade Agreement is moving slowly.
- sluggishness in the two countries' economic relations, even though India is Sri Lanka's main import supplier.

Key Facts and Data:
- India-Sri Lanka bilateral trade in 2021: $5.45 billion.
- Bangladesh-India bilateral trade in 2021: $18.14 billion.

Critical Analysis:
- Despite past setbacks, Sri Lanka ought to take advantage of recent improvements.
- The Bangladeshi comparison highlights the possibility of profitable business partnerships.
- Recognizes the necessity of maintaining momentum in business relationships.

Way Forward:
- Overcome the obstacles of the past and concentrate on profitable business partnerships.
- Give top priority to implementing the suggested projects, such as the power grid and land connectivity.
- To strengthen economic relations, build on recent successes.
- Engage in inclusive communication and discourse to overcome objections.
- Hasten the feasibility analysis for joint initiatives such as land connection.

2.4 Global Partnership on Artificial Intelligence (GPAI) Summit

- The Prime Minister officially opened the Global Partnership on Artificial Intelligence (GPAI) Summit on December 12 in New Delhi.
- India is attempting to come to an agreement with the other 28 members on a proclamation that will center on democratizing AI, defining its boundaries, and ensuring that it is used responsibly.

India and GPAI
- Founding Member: With the goal of bridging the gap between AI theory and practice, India became a founding member of GPAI in June 2020.
- International Cooperation: The program promotes cooperation between scientists, businesspeople, government officials, members of civil society, and institutions of higher learning worldwide.
- Past Summits: Montreal, Paris, and Tokyo hosted previous GPAI summits.
- India's Position: Building on the Digital Public Infrastructure (DPI) strategy employed in the Aadhaar and UPI systems, the IT Minister emphasized India's emphasis on collaborative AI and sustainable agriculture.

Content of the Proposed Declaration
- Themes and Focus: It is anticipated that the declaration will address the use of AI to climate action, resilient society development, healthcare, and sustainable agriculture.
- Regulatory Aspects: It will conform to international consensus and previous agreements about AI regulation.
- India's Contribution: India is focusing on encouraging collaborative AI and assessing AI in sustainable agriculture.

Global Discussion on AI Regulation
- The European Union enacted the AI Act, which established procedures for reporting infractions and provided protections and guidelines for the application of AI, particularly in law enforcement. It places severe limitations on AI's ability to control human behavior and facial recognition.
- Major nations came to an agreement at the UK's AI Safety Summit on a worldwide action plan to address the risks associated with AI, including the perils of misuse, cybersecurity concerns, biotechnology, and disinformation issues.
- US Executive Order: To protect against AI risks and manage safety standards for generative AI bots such as ChatGPT and Google Bard, the Biden Administration issued an order.

2.5 Why only 5 countries have Veto Power in UNSC?

- A recent UN resolution vote highlights the power of a few countries in world affairs, with 153 voting in favor and 10 voting against, including the USA's backing for Israel.
- The vote pattern highlights the veto rights that have been in place inside the UN Security Council (UNSC) for more than 70 years.

What does the UNSC's Veto Power mean?
- Exclusive Membership: Ten non-permanent members and the United States, United Kingdom, France, Russia, and China make up the UNSC's five permanent members (P5).
- Resolution Power: UNSC resolutions have legal force behind them, in contrast to General Assembly resolutions.
- Veto Mechanism: A resolution can be vetoed by any P5 member, preventing its passage even if it has the necessary majority of votes.

The justification for Veto Power for Permanent Members
- Post-World War II Context: In acknowledgment of their contribution to the UN's formation, the P5 were given exceptional rights, including the ability to veto legislation.
- Strategic Necessity: It was thought that the veto was essential to securing these powerful nations' involvement in international peacekeeping missions.

Creation, Development, and Veto Power of the United Nations
- Foundational Discussions: At significant gatherings like the Yalta and Dumbarton Oaks Conferences, the framework for veto power was established.
- Franklin D. Roosevelt's Influence: At the center of the UN's post-war peacekeeping mission were the "Four Policemen"—the United States, the Soviet Union, the United Kingdom, and China.
- USA's Diplomatic Efforts: To obtain veto power in the UN Charter, the US used a variety of tactics, including information gathering.

Debate and Criticism of the Veto Power
- Worldwide Dissatisfaction: A number of nations have taken issue with the veto power's exclusive character.
- Opposition to Change: The permanent members' strong interests have made attempts to alter veto rights

or increase the P5 mainly fruitless.
- Recognizing Changes: In 1965, the number of non-permanent UNSC members increased in recognition of the evolving global landscape.
- Agenda for reforms: There are plans to impose term limits and lobbying, make all 15 seats transitory with five-year mandates, and promote open competition for seats.

Conclusion
- Sustained Conversations: Because of the complexity of world politics, the use of veto power in the UNSC is still a sensitive topic.
- Getting Used to the New Era: There might be increasing demand to change the UNSC's veto procedure and structure in order to better conform to the present international order as the political climate around the world changes.

2.6 From 'rule taker' to 'rule shaper', the evolution of India in international negotiations

Key Highlights:
- India's Growing Prominence: With Prime Minister Modi's strategic plans for low-carbon development at COP26, the article emphasizes India's growing importance on the international scene.
- Ignored Discourse: In the current debates over trade policy in India, the author highlights the often ignored role of diplomacy and foreign policy.

Key Challenges:
- Trade Policy Oversight: Despite India's substantial trade-to-GDP ratio, there is a disregard for the intricacies of the global trading system.
- Complex Negotiations: The difficulty of developing a stance during negotiations that is in line with India's wide range of stakeholders.

Critical Analysis:
- Neglected Aspect: Pointing out how little thought is given to diplomacy and foreign policy in talks about India's trade policy.
- Examining how India strikes a balance between internal limitations and geopolitical influences in order to further its interests in international trade discussions is known as the "Balancing Act."

Way Forward:
- Reviving the global Trading System: The expectation that the WTO-based global trading system will resurrect in order to forward a trade agenda centered on development.
- A more cautious approach to trade talks to weigh the benefits and hazards should be taken into consideration when making policy adjustments, particularly where preferential trading regimes are involved.

2.7 India- Israel Relations

The low-intensity blast that happened lately close to the Israel Embassy is the subject of a more thorough investigation by the Delhi Police.

Context:
Security guards have been stationed in the vicinity of Delhi's Jewish businesses and the Israel embassy.

About Relations between Israel and India:

- India has rejected the idea of two countries based solely on religious principles in 1947 when it voted against the partition of Palestine at the UN.
- Diplomatic relations were established between India and Israel after India formally recognized Israel in 1950.
- India and Israel formally established diplomatic ties in 1992.
- The first Indian minister to visit Israel was L K Advani in 2000.
- Ariel Sharon made history as the first Israeli prime minister to visit India in 2003.
- Being the first Indian prime minister to visit Israel, Prime Minister Narendra Modi did so in 2017.
- Since then, the two nations' relationship has grown to the level of a strategic partnership.

Trade and Economic Relations:
- With defense excluded, bilateral merchandise trade increased from USD 200 million in 1992 to USD 6.35 billion by 2022.
- India is now Israel's seventh-largest trading partner worldwide and its third-largest trade partner in Asia, with trade extending into IT, communications, medicines, and homeland security.

Defense Relations:
- Israel is a supplier of vital defensive technologies to India.
- India makes use of Israeli defensive systems, including the Barak anti-missile defense system, Heron drones, and Phalcon AWACS.

Relationships in Agriculture:
- In order to improve agricultural cooperation, a three-year collaborative work program was agreed in 2021 with an emphasis on value chains, Centers of Excellence, and private investment.
- India has benefited from Israel's knowledge and technologies in the areas of dairy farming, irrigation, and horticulture.

Science and Technology Relationships:
- The 1993-founded Joint Committee on Science and Technology.
- Cooperative industrial projects in particular industries are supported by the India-Israel Industrial R&D and Technological Innovation Fund (I4F).
- India and Israel inked a cooperative pact in 2002 to foster space cooperation.
- India has effectively launched Israel's TecSAR and RISAT-2 radar imaging satellites from the ISRO PSLV.

I2U2 Grouping:-
- It represents the US, the UAE, Israel, and India.

- Its objectives are to fortify business alliances, pinpoint areas of collaboration, and promote cooperative investments in six essential areas: water, energy, transportation, space, health, and food security.

Challenges in the relations:-
- The two nations have been discussing a free-trade agreement for products and services since 2010.
- Expanding the kinds of economic partnerships and boosting bilateral commerce are necessary to realize the unrealized potential.
- India has traditionally found it difficult to officially collaborate with Israel due to its deep ties to the Arab countries.
- India's support for the Palestinians has not changed, as evidenced by the "two-state solution," the fact that it signed on to BRICS declarations "opposing the continuous Israeli settlement activities in the Occupied Territories," and the fact that it voted in favor of the resolution to raise the Palestinian flag at the UN. Palestine, Israel, and India
- China is Israel's largest commercial partner in Asia, and the two nations have close ties in both science and business, despite India's concerns about China's ascent.

3. Economy

3.1 Halal Certification Ban in Uttar Pradesh: A Comprehensive Overview

- A state-wide ban on the "production, storing, distribution, and sale of halal certified edible items" was enforced by the Uttar Pradesh government on November 18.

Understanding Halal and Halal Food Definition of Halal:
- The Arabic word "halal" translates to "permissible" in English.
- FAO Guidelines on Halal Food: According to the Food and Agriculture Organization, halal food is defined as that which complies with Islamic law, including certain techniques of slaughter.
- Halal and Vegetarian Foods: Vegetarian cuisine is typically considered halal unless it contains ingredients that are forbidden, such as alcohol.
- Product Labeling: Items that are advertised as halal must clearly state this on their labels.

Halal-Certified Products
- The goal of certification is to guarantee that food preparation complies with Islamic law and is uncontaminated.
- Indian Certification Bodies: Halal certification is provided by a number of private Indian businesses, including Jamiat Ulama-i-Hind Halal Trust and Halal India Pvt Ltd. While some are acknowledged by the government, others are not.

Controversy Surrounding Halal-Certified Products
- Legality: The main points of contention are the claims that certain religious communities are being targeted by certificate-issuing institutions and their legitimacy.
- Parallel Authority issue: FSSAI certification is the norm for edible products; halal certification is not required by the Indian government.
- International Trade and Halal Certification: According to the USDA 2022 report, export or import trade permits do not require halal certification.
- Religious transgressions: A lawsuit was brought against organizations in Lucknow for allegedly using halal certification to boost sales by taking advantage of people's religious feelings.

Aspects of Halal Certification in Law
- Complaints Against Certification: Businesses have been accused of issuing falsified halal certificates in order to profit financially.
- Allegations of Illegal Certification: It is alleged that these businesses do not have the necessary formal recognition to grant halal certifications.

India's Halal Certification System
- Agencies that Certify: A number of organizations certify Indian businesses, goods, and restaurants as halal.
- Government Accreditation: These Halal Certification Bodies are accredited by the Quality Council of India's National Accreditation Board for Certification Bodies.
- Benefits of Certification: Companies gain from certification from accredited organizations in both home and foreign markets.

DGFT Guidelines:
- Only establishments having a valid certification from recognized agencies are permitted to export "halal certified" meat and meat products, according to a directive from the Directorate General of Foreign Trade.
- The India Conformity Assessment Scheme (i-CAS) was created by the government to control the halal certification procedure.

Implications of the Ban Quality confusions:
- The prohibition seeks to comply with the Food Safety and requirements Act and clear up any ambiguity about food quality requirements.
- Reducing counterfeit certification: Organizations that provide falsified certification are charged with inciting social disturbance and violating public confidence.
- Economic Impact: Concerns have been raised over a possible plot to sabotage the sales of products without halal certification.
- Financial Misuse: It has been claimed that the money made from these ventures may be used to fund terrorist groups and anti-national endeavors.

This restriction is a reflection of the intricate interactions that exist between commercial dynamics, religious rituals, and food safety rules. It emphasizes the necessity of taking a balanced approach to dealing with problems with so many facets.

3.2 Cabinet clears terms of reference for 16th Finance Commission

Fresh formulation

The 16th Finance Commission will have time until Oct. 31 2025, to recommend the tax sharing math between Centre and States

- Panel will also prescribe measures to augment Consolidated Fund of a State to supplement resources of panchayats, local bodies
- An Advance Cell was set up in the Finance Ministry last November to oversee preliminary work
- Panel may review existing arrangements on financing Disaster Management initiatives

- The terms of reference (ToR) for the Sixteenth Finance Commission were approved by the Union Cabinet.
- A model for revenue sharing between the Center and the States for the term beginning on April 1, 2026, will be developed by the Commission.

About Finance Commission
- Establishment: In accordance with Article 280 of the Indian Constitution, the President of India founded the Finance Commission (FC) in 1951.
- Its principal function is to establish and oversee the financial agreements between the federal government and the several state governments.
- Legislative Framework: The Finance Commission (Miscellaneous Provisions) Act, 1951, provides more details about the Finance Commission's eligibility, term, qualifications, and disqualifications.
- The FC is made up of four members and a chairman who are appointed every five years.
- Evolution: Since the First FC, the macroeconomic conditions in India have undergone substantial changes that have impacted the Commission's recommendations.

Constitutional Provisions
- Article 268: Allows the States to collect and retain the duties levied by the Center.
- Article 280: Defines the FC's membership requirements, composition, and scope of work. It requires the FC to make recommendations about the sharing of net tax proceeds among the States and the Union. It also discusses the devolution of unplanned revenue streams and the financial relationship between the Union and the States.

Key Functions of the Finance Commission
- Tax Devolution: Proposes a division of net tax revenues between the federal government and the states.
- Grants-in-Aid: Establishes the guidelines for these State grants.
- Enhancing State Funds: Provides advice on how to improve the States' Consolidated Funds to assist local government units and panchayats, in accordance with the recommendations of State Finance Commissions.
- Additional Financial Purposes: handles any further financial issues that the President may have referred.

Members of the Finance Commission
- Structure and Standards: For the FC, the Finance Commission (Miscellaneous Provisions) Act, 1951 established global standards and a structured format.
- Capabilities and Authority: outlines the requirements, disqualification, term, appointment, eligibility, and powers of members.
- Composition: The Chairman is a public affairs veteran who was selected for the job. The other members are chosen based on their background in law, their understanding of public finance, their proficiency in administration and finance, or their expertise in special economics.

The 16th Finance Commission's challenges
- Overlap with GST Council: Living beside the permanent constitutional body known as the GST Council poses a new set of difficulties.
- Conflict of Interest: The FC's revenue-sharing estimates may be impacted by decisions made by the GST Council about tax rates.
- Practicality of Recommendations: Although the Center frequently implements the FC's tax devolution and budgetary target recommendations, other recommendations could go unnoticed.

Major Outstanding Recommendations
- Creation of the Fiscal Council: The government has demonstrated resistance to the 15th FC's proposal for a Fiscal Council to oversee collective macro-fiscal management.

Non-Lapsable Fund for Internal Security: Although the Center approved the creation of this fund "in principle," more information is needed to determine how it would be implemented.

3.3 Global Biodiversity Framework Fund (GBFF)

- The international community has had difficulty obtaining sufficient funds for biodiversity conservation since the Rio Earth Summit in 1992.
- But a big step was made on August 27, 2023, when nations formed the Global Biodiversity Framework Fund (GBFF).

About GBFF:
- Origin: On August 27, 2023, during the 7th Assembly of the Global Environment Facility (GEF) in Vancouver, Canada, the GBFF was formally founded.
- KMGBF Integration: The main goal of the GBFF is to assist nations in accomplishing the twenty-three aims listed in the Kunming-Montreal Global Biodiversity Framework (KMGBF), which was approved at the UN Convention on Biological Diversity's fifteenth Conference of the Parties (COP15).
- Funding Requirements: COP15 concluded that, until 2030, global biodiversity protection initiatives must be funded with at least $200 billion annually.

Why is GBFF different?
- Diverse Funding Sources: The GBFF will obtain funding from government, private, and charitable investments, in contrast to the GEF, which was dependent on a small number of contributors.
- The Function of GEF: The GBFF will be overseen by the GEF, which will strengthen and expand its capacity

as a funding source.
- Budget Allocation: Of the $5.25 billion total budget for the GBFF for 2022–2026–36% is earmarked for biodiversity. The projects that deal with pollution, climate change, and the health of the land and seas receive the remaining monies.
- Enhanced Impact: GEF Chairperson Carlos Manuel Rodríguez highlights the necessity for intelligent use of funds in addition to increasing funding in order to maximize impact.
- Potential Multilateral Fund: The GBFF may receive contributions from a proposed multilateral fund that might bring in over $15 billion a year from fees associated with digital genomic sequence information.

Challenges Ahead
- Funding Gap Continues: In spite of the creation of the GBFF, there is still a large funding need for the conservation of biodiversity. Global funding for biodiversity protection fell well short of the anticipated demand in 2019.
- Battles for Domestic Financing: It has proven difficult to rely solely on domestic resources, particularly for developing nations.
- Long-Term Funding Issues: By 2050, it is estimated that the world will lack $4.1 trillion in funding for biodiversity, highlighting the need for long-term funding sources.

Importance of Domestic Funding
- Diverse alternatives: To raise domestic capital, KMGBF's Target 19 proposes a number of nature-based alternatives, including benefit-sharing schemes, green bonds, and payments for ecosystem services.
- Blended finance's challenges: Implementing blended financing, which uses public resources to stimulate private investment, is a process that may not be perfect right now.
- Biodiversity Credits: Biodiversity credits, also known as biocredits, have grown in popularity, much like carbon credits. They could be able to produce the money required to reach KMGBF goals.
- Challenges with Biocredits: Since biocredits are still in their infancy, there is still debate over how best to implement them in terms of regulations, certification programs, and regulatory frameworks.

Way forward
- Inclusion in KMGBF Targets: Local communities and indigenous peoples are essential to conservation efforts. KMGBF makes it clear that in order to meet goals, it is imperative that their rights be respected.
- Funding Allocation: To assist indigenous communities in their conservation efforts, the GEF Assembly has set aside up to 20% of donor money.
- Capacity Building: Significant funding must be allocated to enhancing the ability of indigenous communities in order to prevent breaches of human rights.
- Tight Rules: Tighter rules should make sure that regions rich in biodiversity aren't taken over for other uses, such plantations, which can't take the place of old-growth forests.

3.4 Exchange rate

The Indian rupee finished at 83 rupees and 36 paise versus the US dollar, according to the most recent currency rate.

Context:
- In intraday trading, the dollar index, which measures the strength of the US dollar relative to a basket of six other major currencies, increased by 0.15 percent to settle at 103.42.

About Exchange rate:-
- The rate at which one country's currency can be exchanged for another is known as the exchange rate.
- Devaluation and revaluation are recognized adjustments to a nation's currency's value in relation to other currencies within a fixed exchange rate regime.

- Devaluation occurs when a fixed exchange rate regime officially lowers the value of the currency.
- Revaluation is the process of raising the value of a currency within a system with fixed exchange rates.
- Changes in the value of the currency, referred to as currency depreciation or appreciation, are the result of market forces operating under a floating exchange rate system.
- The increase in one currency's value in relation to another in the forex markets is referred to as currency appreciation.
- A decline in a currency's value under a floating exchange rate regime is known as currency depreciation.

3.5 India set to become 3rd largest economy by 2030

- According to S&P Global's prediction, India's nominal GDP is expected to increase from $3.5 trillion in 2022 to $7.3 trillion in 2030, making it the third-largest economy in the world.
- Right now, China, Japan, Germany, and the United States are in front of India, which is in fifth place.
- S&P Global underscores the significance of India emerging as a global manufacturing powerhouse and stresses the necessity of a strong logistical infrastructure, worker upskilling, and greater female workforce participation.
- The agency also anticipates increase in the automotive industry and growth in India's high-growth startup ecosystem, particularly in consumer and financial technologies.

3.6 Sovereign Green Bonds

- The government recently collected Rs. 16,000 crores in Sovereign Green Bonds to finance renewable energy projects in 2022–2023.

About Sovereign Green Bonds:-
- A financial instrument issued by a firm, alliance, intergovernmental organization, or sovereign entity is known as a sovereign green bond.
- Companies, nations, and international organizations issue green bonds to only finance initiatives that help the environment or the climate and give investors fixed-income payments.
- The projects that are categorized as ecologically sustainable are funded by the profits of the sovereign green bond.
- These have a longer maturity term when they are issued.
- The European Investment Bank, the EU's lending arm, released the first green bond in 2007.
- The World Bank followed this a year later.

Importance:
- It will stimulate the growth of the home market and provide institutional investors a boost.
- It will serve to support the development of a local market by offering benchmark pricing, liquidity, and a demonstration effect for local issuers.

Challenges associated with Sovereign Green Bonds:-
- Monitoring difficulty: It would be difficult to keep track of this green grading's performance. This will be difficult unless the evaluation system is streamlined because it is difficult to identify departures from the norm.
- The main challenge here is pricing: Should they be higher or lower than the standard bond? It should ideally be higher because investors should be compensated for their decision to support ESG objectives.
- However, it might be countered that because investors prefer to reward environmentally friendly enterprises, the rates may be lower than usual.
- International launch: The drawback is that credit rating will become crucial as soon as the government goes global as all bonds issued everywhere must have a rating.

- After one is graded by them, domestic policies are constantly inspected. This is irrelevant at the moment because India's government does not borrow money from foreign markets.

3.7 Financial Stability Board (FSB)

In their most recent study, the Financial Stability Board (FSB) evaluated the risks related to multi-function crypto-asset intermediaries (MCIs).

Context:
In its most recent report on crypto-asset intermediaries, the Financial Stability Board (FSB) recommended actions to improve local authorities' cross-border collaboration and information exchange.

About Financial Stability Board (FSB):-
- 2009 was the establishment year.
- Headquarters are in Basel, Switzerland.
- It was created as the Financial Stability Forum's replacement in April 2009 following the G20 Summit in London.
- Among the biggest economies of the G20 is the board.
- An international organization called the Financial Stability Board (FSB) keeps an eye on the world financial system and offers suggestions.
- Members: There are 68 member institutions that make up the FSB.
- Six Regional Consultative Groups (RCGs), ten international organizations, several central banks, and ministries of finance and supervisory and regulatory agencies from twenty-five jurisdictions are all included.
- As an active member of the FSB, India is represented by the Secretary of the Department of Economic Affairs, the Deputy Governor of the Reserve Bank of India, and the Chairman of SEBI in its Plenary.
- The members of the FSB are not legally bound by its decisions.

Objectives:-
- Evaluate vulnerabilities impacting the global financial system and, from a macroprudential standpoint, promptly identify and evaluate the regulatory, supervisory, and related measures required to address these vulnerabilities and their consequences.
- Encourage cooperation and information sharing between the agencies in charge of financial stability
- Keep an eye on market trends and provide guidance on how they affect regulatory policy.
- Keep an eye on and offer advice on the best ways to adhere to regulatory standards.
- Conduct collaborative strategic evaluations of the worldwide standard-setting organizations and synchronize their individual policy formulation endeavors to guarantee prompt, well-coordinated, priority-driven, and gap-filled activity.
- Provide instructions for creating and assisting supervising colleges.

Functions:-
- By bringing together national financial authorities and international standard-setting organizations in their pursuit of robust regulatory, supervisory, and other financial sector policies, it advances global financial stability.
- By promoting the consistent application of these policies across industries and jurisdictions, it creates a level playing field.
- By means of its members, the FSB endeavors to fortify the global financial system.

About Multifunction crypto-asset intermediaries (MCIs):-
- Multifunction crypto-asset intermediaries, or MCIs for short, are companies or networks of related companies that offer a wide range of services, goods, and functions related to cryptoassets, usually with a

focus on trading platform operations. (Cryptocurrency) MCIs generally bundle a variety of services, such as asset management, custody, clearing, dealing, exchange, brokerage, and market-making; they can also issue, market-make, and distribute cryptoassets, such as so-called stablecoins.
- Furthermore, some MCIs perform significant proprietary trading and investment activities; some of these are done for the MCI's own account, and others are done as part of providing some of the aforementioned services.

Organization:
- An international website that acts as the main point of access for services is usually used by MCIs to run their platforms. In certain locations, certain MCIs have opted to develop localized versions of their platforms that are particular to a given nation and ostensibly have distinct legal frameworks from their primary business activities.
- Furthermore, some MCIs create local subsidiaries, sometimes by purchasing a licensed local business, that can be granted regulatory authorization to offer domestic citizens crypto-asset services while remaining connected to the global network.

Governance: -
- Although MCIs don't usually reveal their internal governance, there are clear signs that their risk management processes aren't robust or independent.

MCI vulnerabilities include:
- Leverage: MCIs that use their own trading platforms for market-making or proprietary trading may increase the amount of leverage.
- Mismatch in liquidity: MCI investing initiatives, such as yield/earn and staking-as-a-service, lead to mismatch in liquidity.
- Vulnerabilities related to technology and operations: MCIs are vulnerable to a number of technical and operational issues. Cyberattacks have been directed on MCIs, and several of them have experienced financial theft from hackers in the past.

3.8 Foreign portfolio investors (FPIs)

In the first six trading sessions of December, foreign portfolio investors (FPIs) recently invested ₹26,505 crore in the Indian equities markets.

Context:
- FidelFolio Investments' founder, Kislay Upadhyay, credited the FPI inflows to the results of significant State elections that suggested future political stability.

About FPIs, or foreign portfolio investors:
- Those that invest money in marketplaces outside of their own country are known as foreign portfolio investors.
- Typically, they invest in mutual funds, stocks, and bonds.
- The investor is not granted direct ownership of financial assets through it.
- It is somewhat liquid, based on how volatile the market is.
- Global Depositary Receipts (GDRs), American Depositary Receipts (ADRs), exchange-traded funds, equities, bonds, mutual funds, and exchange-traded funds are a few examples of FPIs.
- FPI is displayed on a nation's Balance of Payments (BOP) and is a component of its capital account.

Benefits:
- Exchange rate discrepancies can be quite profitable for investors.
- Aids businesses in raising large sums of money without racking up enormous costs.

- FPIs contribute to portfolio diversification, which in turn increases investor confidence.
- FPIs will always gravitate toward more expansive markets with less rivalry. For any investor, this combination is pretty appealing.

Cons:
- Any investment made through the FPI route could be negatively impacted by political and economic unrest.
- Even though FPIs are flexible, losses can accumulate if money is not taken out right away.

FPIs vs FDIs:-
- By definition, foreign direct investment (FDI) creates a real, direct commercial interest in the target nation.
- That kind of direct business is not what an FPI involves. This type of investing is passive.
- An FPI does not need any IP, technology, or know-how transfer, in contrast to FDIs. Forming a joint venture with a partner company is not necessary.
- Compared to portfolio investors, FDI often consists of much bigger funds, and any partnerships or operations typically endure longer.
- Major industry participants, venture capital ecosystems, and the investment divisions of internationally renowned financial institutions are typically the owners of foreign direct investments (FDIs). Smaller players who invest in foreign equities and assets in hopes of making quick money make up the majority of FPIs.

3.9 3 reasons why the RBI has held interest rates steady

Concerns about ongoing food inflation and signs of rising interest rates from other central banks across the world prompted the RBI to adopt a cautious monetary policy stance in its latest decision. Notwithstanding the favorable economic outlook, obstacles encompass inadequate dissemination of previous rate increases and possible hazards stemming from the interdependence of banks and non-banks.

Key Highlights:
- The Reserve Bank of India (RBI) persisted in its withdrawal-of-accommodation posture and monetary policy standstill.
- The decision was made because, notwithstanding a recent decline, there are still worries about inflation, especially with regard to essential food goods.
- India's monetary policy is influenced by the US Federal Reserve and the European Central Bank, two systemically significant central banks.

Key Challenges:
- Persistent concerns from food inflation caused by unpredictability in the world's food supply and an inconsistent rainfall.
- effects on India's economy of increased interest rates as indicated by central banks such as the US Federal Reserve and the European Central Bank.
- The RBI has difficulties due to the partial transfer of previous rate increases into lending rates.

Critical Analysis:
- highlights persistent worries about inflation, especially with regard to essential food goods.
- draws attention to how India's monetary policy is affected by the policies of international central banks.
- increases the difficulty of rate increases not being fully reflected in lending rates.

Way Forward:
- Keep an eye on and manage risks associated with the dynamics of global interest rates and food inflation.
- For financial stability, keep implementing strategies like macroprudential instruments and liquidity

control.

- Examine and handle any possible issues brought on by the connection between banks and non-banks.
- Recognize and prepare for the effects of growing interest rates on the Indian economy.

3.10 Surrender value

Following the Insurance Regulatory and Development Authority of India's (IRDAI) proposal in a consultation document for a larger surrender value and reduced costs for life insurance companies, insurance stocks saw a recent decrease in trade of up to 5%.

Context:
- The insurance regulator proposed a large rise in the surrender value, particularly for non-participating insurance products, in an exposure draft that was made public.
- Additionally, several changes to the surrender charge computation have been proposed.

About Surrender value:-
- The term "surrender" in insurance plans refers to the policyholder's voluntary termination of a life insurance policy before the policy's maturity or the insured event.
- It is exclusive to term insurance plans that offer a surrender incentive.
- Typically, the surrender value is expressed as a percentage of the total premiums paid, less any relevant fees or charges.
- Anyone with a term plan may cancel their insurance policy, according to IRDAI regulations. (Financial Inclusion in Digital India)
- However, the policyholder won't receive the surrender value payout until the insurance has been in force for three years.
- As long as two complete years' worth of premiums have been paid, a policy can be relinquished at any point throughout the policy term, according to current regulations.
- On the other hand, the regulator now suggests providing the policyholder with Adjusted Surrender Value within the first year.

About the Insurance Regulatory Development Authority of India (IRDAI):-
- Ministry of Finance is the Nodal Ministry.
- Head Office: Founded by the IRDA Act of 1999, it is a statutory, independent organization.
- It is the highest authority that oversees and controls the insurance industry in India.
- Goals: To safeguard policyholders' interests, control, encourage, and guarantee the insurance sector's orderly expansion in India.
- IRDAI is made up of ten members.
- It consists of four part-time members, five full-time members, and a chairman.
- The Government of India appoints them.

Functions:
- Ensuring the financial stability of relevant laws and regulations while implementing equitable regulation of the insurance sector.
- Licensing and overseeing insurance providers.
- Keeping the interests of policyholders safe.
- Granting insurance intermediaries licenses and setting standards for them.

3.11 Direct Tax

The current Financial Year's gross direct tax revenues saw a surge of more than 17% recently.

Context:
- According to the Ministry of Finance, net receipts from Direct Tax for the current fiscal year, as of December 17th, totaled 13 lakh 70 thousand crore rupees, indicating a 20.66 percent rise. (A Rise in Revenue from Direct Taxes)

About Direct Tax:-
- A tax that is imposed directly on the taxpayer is known as a direct tax.
- Those who are subject to it pay it directly to the government.
- In addition to establishing further direct tax policies, the Central Board of Direct Taxes is in charge of levying and collecting direct taxes.
- Tax-to-GDP ratio: Income tax, corporation tax, capital gain tax, minimum alternative tax, etc. are a few examples of direct taxes.

Advantages of Direct Tax:-
- Economic Balance: The tax rate is determined by taking into account the state of the nation's economy.
- Promotes equality by requiring higher taxes to be paid by people and companies with higher profits.
- Provides Confidence: Because both the government and the taxpayers are aware of the exact amount of tax that needs to be paid and collected, direct taxation gives both parties a sense of assurance.
- The government increases taxes in times of high inflation to curb demand for goods and services, which lowers inflation.
- It guarantees that the government will be held responsible.

Disadvantages of Direct Tax:-
- It is simple to avoid.
- If taxes are progressive, the Finance Minister sets them at random.
- Excessive taxation deters individuals from investing and saving, which hurts the economy of the nation.
- Direct tax payment is a rather inconvenient process.

3.12 Logistics Ease Across Different States (LEADS) Report, 2023

- The government has published the 2023 LEADS (Logistics Ease across Different States) report, which evaluates the performance of logistics in Union Territories (UTs) and Indian States.
- Eleven States and two UTs—landlocked, coastal, and northeastern States—are included in the report.

About LEADS Report
- In 2018, Deloitte and the Ministry of Commerce and Industry introduced the LEADS index.
- It was influenced by the World Bank's Logistics Performance Index (LPI) and changed over time.
- States are ranked according to the effectiveness and quality of their logistical services, which are indicators of economic progress.
- States are graded according to the operational simplicity of logistics and the caliber and capacity of vital infrastructure, including transportation, rail, and warehousing.

Key Highlights of the 2023 Report
- The states that fall under the "Achievers" category are Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu, Haryana, Punjab, Telangana, Uttar Pradesh, Assam, Sikkim, Tripura, and the Union Territories of Chandigarh and Delhi.
- Changes in Category: Odisha went from "Achievers" to "Aspirers," while Maharashtra went from "Achievers" to "Fast Movers."
- "Fast Movers" include the coastal states of Kerala and Maharashtra, the landlocked states of Madhya Pradesh, Rajasthan, and Uttarakhand, and the northeastern states of Arunachal Pradesh and Nagaland.

- "Aspirers" include the following states: Daman & Diu/Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh; Goa, Odisha, West Bengal, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Manipur, Meghalaya, Mizoram.

Policy perspectives
- Digital Initiatives: India's increased global position is being driven by digital reforms such as PM GatiShakti, Logistics Data Bank, ULIP, and GST.
- India's Raised LPI Rank: As a result of these efforts, India's LPI rank increased by six spots to 38th place in 2023.
- Vision for the Logistics Sector: By 2047, the Indian economy's logistics sector is expected to have grown from $3.5 trillion to $35 trillion.

3.13 India Tops Global Remittance Inflows in 2023: World Bank Report

Countries expected to receive the most inward remittance in 2022 — Inward remittance ($ million)

Country	Inward remittance ($ million)
India	1,00,000
Mexico	60,300
China	51,000
Philippines	38,000
Egypt	32,337

Source: World Bank
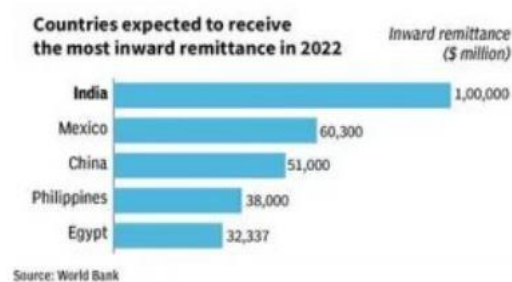
- India saw the largest remittance inflows ever in 2023, totaling USD 125 billion.
- A number of factors, notably India's currency arrangement with the UAE, contributed to the spike.

World Bank Report on Growth in Remittances
- Results of the Report: According to the World Bank, remittance growth in India would decrease to 12.4% in 2023 from 24.4% in 2022.
- Increased percentage in South Asia: From 63% in 2022 to 66% in 2023, India is predicted to receive a larger percentage of remittances from South Asia.

Global Remittance Scenario
- Other Leading Nations: Mexico (USD 67 billion), China (USD 50 billion), the Philippines (USD 40 billion), and Egypt (USD 24 billion) are the top nations receiving remittances after India.
- GDP Significance: Remittances make up a considerable portion of the GDP in countries like Tajikistan, Tonga, Samoa, Lebanon, and Nicaragua, demonstrating their vital importance in the economy.

India's Contributing Factors
- Principal Motivators: Remittances rose as a result of strong job markets and declining inflation in high-income nations.
- Principal Sources: Remittances from the GCC, especially the UAE, as well as the US, UK, and Singapore were significant contributors.
- UAE's Role: With 18% of all remittances going to India, the UAE is the country's second-largest source.

Impact of the India-UAE Currency Agreement
- Agreement from February 2023: Remittances have increased as a result of the agreement to encourage the use of local currency in cross-border transactions and interlink payment systems.
- Usage of Dirhams and Rupees: It is anticipated that using dirhams and rupees in transactions will direct more remittances through official channels.

Trends in Global Remittances
- Growth in Low- and Middle-Income Countries: In 2023, remittances to these nations are projected to have grown by 3.8%.
- Future Concerns: Because of the low growth expectations and worldwide inflation, migrants may see a fall in real income in 2024.

3.14 India's ethanol conundrum

Key Highlights:
- Renewable Energy Pledge: At COP28 in Dubai, more than 100 nations pledged to triple the world's renewable energy capacity by 2030.
- India's ethanol blended gasoline (EBP) increased from 1.6% in 2013–14 to 11.8% in 2022–23, with a 20% target by 2025.
- Obstacles in the Ethanol Target: India's goal of blending 20% ethanol by 2025 faces obstacles due to low sugar reserves and a possible deficit in sugarcane production.
- Change to Grains-based Ethanol: The government investigates a change to grains-based ethanol, with a focus on obtaining maize for ethanol distilleries.
- National Agricultural Cooperative Involvement: The approval of NAFED and NCCF to purchase maize indicates a focus on a well-organized supply chain for ethanol derived from maize feed.

Key Challenges:
- Low Sugar supplies: The manufacture of ethanol from sugarcane is now impacted by low sugar supplies, which forces a switch to alternate feedstocks like maize.
- The impending shortage of sugarcane will make it difficult to satisfy the objectives for ethanol blending.
- Food-Fuel Equivalency Concerns about removing grains from food production and how this would affect food costs are raised by the switch to ethanol based on grains.
- Global food costs can be impacted by market volatility caused by the relationship between ethanol, crude oil, and corn prices.

Critical Analysis:
- India's ethanol blending targets present a critical evaluation of the trade-offs and obstacles involved, taking into account the effects on food prices and market dynamics.
- It raises concerns about the possible drawbacks of switching to ethanol made from grains and highlights the necessity of a well-rounded strategy to prevent food inflation.

Way Forward:
- To reduce contradictions, reevaluating and staggered the ethanol mixing objective is recommended.
- advocates for replacing ethanol dependency with more funding for renewable energy sources like solar power, public infrastructure, and urban planning.

3.15 Call for Reform in Sovereign Credit Rating Process

- V Anantha Nageswaran, India's Chief Economic Advisor, highlights the necessity of reforming the sovereign credit rating system.
- Reducing finance costs and accurately reflecting the default risk of developing countries are the goals.

Sovereign Credit Ratings: What Are They?
- A nation's creditworthiness, or capacity to pay its debts, is indicated by its sovereign credit rating.
- It is an evaluation of the credit risk connected to bonds or other financial instruments issued by a nation.
- Credit rating companies like Standard & Poor's, Moody's, and Fitch Ratings provide ratings.

- India is rated "BBB-" by S&P and Fitch and "Baa3" by Moody's, which are all indicative of the lowest attainable investment grade with a stable outlook.

India's Pursuit of a Credit Rating Upgrade
- India is now rated at the lowest possible investment grade, but because of improved economic indicators following the pandemic, it is hoping to be upgraded.
- Government Involvement: In order to strengthen the rating, ongoing efforts are undertaken to interact with international credit rating organizations.

Challenges in the Current Rating Methodology
- Impact and Opacity: The CEA draws attention to the challenges associated with measuring the influence of qualitative criteria as well as the opaqueness of grading systems.
- Bandwagon Effects and Biases: There are cognitive biases and doubts regarding the reliability of evaluations as a result of the substantial presence of qualitative elements.

India's Engagement with Rating Agencies
- Meetings with Top Agencies: Fitch Ratings, Moody's Investors Service, and S&P Global Ratings personnel have met with officials from the finance ministry.
- Present Ratings: India is rated at BBB by S&P and Fitch, however it is rated at Baa3 by Moody's with a stable outlook.

Parameters and Issues in Sovereign Rating
- Typical Parameters: Inflation, growth rate, government debt, and political stability are among the variables that agencies take into account.
- Qualitative Component: More than half of the scores are based on qualitative elements, which are frequently opaque and subjective.
- Dominance in Ratings: For developing economies, institutional quality—which is frequently assessed using the World Bank's Worldwide Governance Indicators, or WGIs—is a key factor.
- Problems with WGIs: They are perception-based, opaque, and might not accurately reflect a sovereign's willingness to pay.

CEA's Recommendations
- Transparency is required; rating agencies should do the same by outlining their procedures and refraining from making irrational conclusions.
- Potential Advantages: Increased openness may result in a greater reliance on hard facts and the possibility of credit rating increases for numerous sovereigns.
- Access to Private finance: Higher ratings may facilitate developing nations' ability to obtain private finance, which is essential for tackling global issues like climate change.
- Targets for India's Exports: With programs like Made in India and production-linked incentives, India hopes to reach its $2 trillion export goal by 2030.

3.16 Forex reserves

Forex reserves increased by $2.816 billion to $606.859 billion recently.

Context:
- The Reserve Bank of India (RBI) said on December 15 that during the week ending December 8, India's foreign exchange reserves increased by $2.816 billion to $606.859 billion.

About Forex reserves:-
- Assets kept in foreign currencies on deposit by a central bank are known as foreign exchange reserves.

- Treasury bills, bonds, and other government instruments may fall under this category.
- Since the US dollar serves as the international currency for this purpose, reserves are stated and denominated in US dollars.
- The Indian foreign exchange reserves are in the custody of the RBI.

Exchange-traded funds (FCA)
- Assets valued in a currency other than the nation's official currency.
- It makes up the majority of the FX reserve.
- reserves of gold

Particular Drawing Rights
- Assets valued in a currency other than the nation's official currency.
- It makes up the majority of the FX reserve.
- The International Monetary Fund's (IMF) reserve position
- It makes up the majority of the FX reserve.

Importance:
- They are employed to establish monetary policy, support the exchange rate, and back liabilities with their own issued currency.
- It acts as a safety net in the case of an economic Balance of Payment (BoP) crisis.
- To guarantee that the RBI has reserves in case their national currency rapidly depreciates or runs out of money.
- In order to monitor the depreciation of the Indian currency, the RBI sells dollars on the Indian money market if the value of the Rupee declines as a result of a rise in demand for foreign exchange.
- Reserves give investors and markets some assurance that a nation can fulfill its international commitments.
- A strong foreign exchange reserve enhances one's standing with trading partners and aids in luring in overseas trade.

3.17 Pension Fund Regulatory and Development Authority (PFRDA)

The Unified Payments Interface (UPI) QR code now makes it convenient for members of the National Pension System (NPS) to deposit their payments, according to a recent announcement from the Pension Fund Regulatory and Development Authority (PFRDA).

Background:-
- The goal of this development is to streamline the contribution procedure and increase its use and accessibility for NPS members.
- A significant and groundbreaking move toward increasing the accessibility, effectiveness, and flexibility of NPS contributions is the introduction of QR code – UPI for D-Remit. Through this PFRDA program, NPS users can take charge of their retirement funds and reap the rewards of methodical investment planning.

About Pension Fund Regulatory and Development Authority (PFRDA):-
- Founded in 2003.
- Headquarters: Delhi.
- Finance Ministry is the ministry.
- The aim is to supervise the National Pension System (NPS) and govern the pension industry in India.
- With the passing of the Pension Fund Regulatory Development Authority (PFRDA) Act, 2013, the interim PFRDA became the PFRDA.
- The National Pension Scheme's pension regulator is the PFRDA.
- It works to advance the growth and development of pension plans.

- The CAB, or Central Autonomous Body.
- It is made up of a chairperson and a maximum of six members, three of whom must be full-time employees and will be chosen by the central government.

Functions:-
- Encouraging pension plans to meet retired people's financial needs in old life.
- Regulating the atal pension yojana and nps pension plans, which are covered by the pfrda act.
- Defending the rights of subscribers to pension funds.
- Managing and overseeing the nps's tier-1 and tier-2 accounts.
- Registering and overseeing intermediaries such as pension fund managers and the central record-keeping agency (cra).
- Educating and acquainting the public with the significance of pension funds through intermediary training.
- Educating the public and stakeholders on the advantages of pfrda nps.
- Approving plans and creating policies for corpus management of pension funds.
- Putting in place a grievance resolution process.

3.18 SEBI's Proposal for T+0 Instant Settlement Cycles

In addition to the current T+1 cycle, the Securities and Exchange Board of India (SEBI) has suggested implementing T+0 (same day) and instant settlement cycles in the equities cash segment.

Current Settlement Cycle
- Evolution: In 2002, SEBI reduced the settlement cycle from T+5 to T+3, and in 2003, to T+2. Introduced in 2021, the T+1 cycle was completed by January 2023.
- T+1 Cycle: Funds and securities are currently settled the day following the trade.

About T+0 Settlement Cycle
- Phased Implementation: T+0 Settlement for Phase 1 and Instant Settlement for Phase 2 will be the two stages in which SEBI introduces the shorter cycle.
- T+0 Settlement Information: Trades placed till 1:30 PM in Phase 1 will be settled by 4:30 PM that same day.
- Mechanisms for Instant Settlement: In phase two, trades will be settled immediately deal by trade and will run until 3:30 PM.

Scope and Implementation
- Focus at First: The T+0 settlement will be applied in three tranches to the top 500 listed equity shares based on market capitalization.
- Observational Techniques: The T+0 cycle will be subject to the same surveillance mechanisms as are in place for the T+1 cycle. Securities used for trade settlements won't qualify for T+0.

Rationale behind Introducing a Shorter Settlement Cycle
- Market Growth and Efficiency: SEBI wants to improve market safety and efficiency, particularly for retail investors, in light of the notable increase in market volumes and participants.
- Technological Advancements: The viability of shorter settlement cycles is supported by the development of payment systems like UPI and the sophistication of market infrastructure.
- Attracting Investors: Indian securities are a more attractive asset class because of their faster transactions, dependability, and low costs.

Features of the Proposed T+0 Settlement Mechanism
- Early Pay-In Trend: A significant portion of retail investors already pay in monies and securities early, demonstrating their preparedness for immediate settlement.

- Benefits of Instant Receipt: By facilitating instantaneous receipt of securities and money, the method lowers settlement shortages and improves investor control.
- Investor Protection is strengthened when money and assets are directly credited into investors' accounts, particularly for UPI clients.

Benefits of the New Mechanism
- Flexibility for Clients: The new system gives buyers and sellers more power and flexibility by paying out money and securities more quickly.
- Benefits of the Market Ecosystem: It is anticipated that the quicker settlement cycle will improve the securities market's operating effectiveness, which will benefit the overall ecosystem.

3.19 India's Steel Sector: Advancements, Challenges, and Global Position in 2024

- With the Production Linked Incentive (PLI) plan 2.0, the Indian government is concentrating on the steel industry and making sure that raw materials are available by 2024.
- The encouragement of scrap utilization in steel manufacturing was emphasized by the state minister for steel when highlighting these measures.

Growth and Recovery Post-Pandemic
- Resilience: In the wake of the COVID-19 epidemic in 2020–21, the steel industry has recovered strongly.
- Between April and November of 2023, there was a 14.5% year-over-year rise in crude steel production, totaling 94.01 million tons (MT), and a 14% increase in finished steel consumption, amounting to 86.97 MT.

Targets and Technological Advancements
- India's capacity goal is to increase its existing 161 MT installed steel manufacturing capacity to 300 MT by 2030.
- Innovation: To increase steel output and lower carbon emissions, efforts are being made to use artificial intelligence and innovative technologies.

PLI Scheme and Industry Expansion
- PLI Scheme 1.0: The initial stage added about 25 MT of capacity in order to increase the production of specialty steel.
- Increased Capacity: As a result of the government's facilitation of project clearances and easement of business operations, steel players are increasing their capacity.

Challenges and Concerns
- Growing Imports and Costs: The industry must contend with rising imports, expensive raw material costs, and unstable geopolitical conditions.
- Dependency: Coking coal, a necessary raw resource for the production of steel, is largely imported into India.

Global Steel Industry and India's Role
- India's Growth: The second-largest steel producer in the world, India has had strong growth that has made a major contribution to the global steel sector.
- Comparing with China: India has recently surpassed China in terms of growth rate, even though China is still the greatest manufacturer.

Demand and Import Dynamics
- Sectoral Demand: The demand for steel in India is primarily driven by the construction industry, which is supported by both private and public infrastructure spending.

- Measures for Imports: Anti-dumping duties and other measures have been put in place by the government to combat steel dumping, especially from China and Vietnam.

Price Trends and Future Outlook
- Domestic Prices: The robust demand in India has led to an increase in steel prices; however, future price spikes may be affected by global uncertainties.
- Global Market Influence: Price changes in the US and Europe as well as the global economic recovery may have an impact on domestic pricing trends.

Conclusion
- Strategic Focus: The PLI plan and other efforts by the Indian government are meant to bolster the steel industry's independence and worldwide competitiveness.
- Managing Growth and Challenges: Although the industry is growing, there are still issues that need to be resolved, such as reliance on imported goods and raw material dependence.
- Global Positioning: India has the ability to shape industrial trends and spur economic growth, as seen by its sizeable share of the world steel market.

3.20 India's Economic Outlook for 2024: Challenges and Opportunities
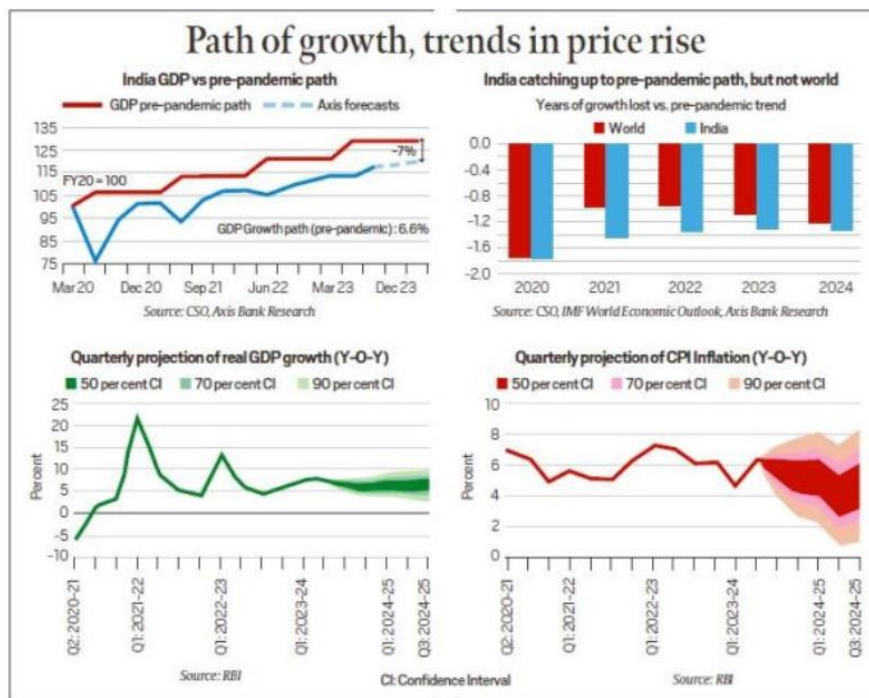
- The world and Indian economies have been affected by unusual occurrences during the last three years, such as wars, pandemics, and economic upheavals.
- 40 nations will hold elections in 2024, including India's Lok Sabha elections, which will likely have an impact on economic policy.

India's Economy: Opportunities Despite Obstacles
- Impact of the Pre-Election Stimulus: Anticipated government expenditure ahead of the elections may momentarily increase consumption, impacting the discussion of economic models and maybe reviving growth.
- Persistent Concerns: It's still difficult to take advantage of the demographic dividend in the technological age, deal with persistent issues like food inflation, and revitalize the rural economy.

Economic Forecasts and Government Expenditure
- Growth Predictions: Pre-election expenditure is projected to fuel a growth boom in early 2024, according to Goldman Sachs, with a pickup in private investment anticipated later in the year.
- Capex and Rural Growth: As elections draw near, economists caution that government capital spending may slow down, which might have an effect on rural consumption and growth.

India's Economic Performance and Key Indicators
- GDP Trends: The FY24 Q2 GDP data revealed encouraging trends, including double-digit growth in mining and electricity, growth in building, and a sharp increase in the investment rate to 30%.
- Market Confidence: Although restricted to formal sector enterprises, the confidence of domestic investors in listed companies and fresh listings indicates a vibrant market.

Global Economic Context and India's Position
- Resilience in the Face of Volatility: India's economy exhibits resilience in the face of global challenges thanks to solid fundamentals and sound bank and corporate balance sheets.
- External Factors: The influence of US fiscal policies on developing countries like India, as well as the volatility of food inflation and the high price of sugar globally, are causes for concern.
- Foreign Portfolio Investors (FPIs) and Economic Stability: Signifying their newfound faith in India's economic stability, FPIs have exhibited renewed interest in the nation.

3.21 Reliance Retail's JioMart partnership with SHGs

- In order to expand the reach of items from Self-Help Groups (SHGs) under the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM), the Ministry of Rural Development (MoRD) and Reliance Retail's JioMart have inked a Memorandum of Understanding (MoU).
- SHGs can now sell on JioMart thanks to the partnership, expanding their market and visibility. This program supports MoRD's SARAS collection while offering SHG merchants advantages and direction for expanding their internet businesses.
- JioMart will help Self-Help Groups (SHGs) establish and manage their accounts, provide training, and provide post-launch support to guarantee company expansion.

What is the SARAS Collection brand?
- Its goal is to highlight and market goods produced by Self-Help Groups (SHGs) in India. Typically, these products are made by rural artisans and business owners and include handlooms, handicrafts, textiles, pantry items, home décor, beauty products, and a variety of other items.
- Use: The case can be used to illustrate how public-private partnerships can increase the revenue opportunities for self-help groups (SHGs) in India in the areas of economics, Indian society, and social justice.

3.22 RoDTEP

- Since sugar exports were not included in the Remission of Duties and Taxes on Export Products (RoDTEP) plan in June 2022, the Indian government is looking into ways to bring back tax remission incentives for these exports.
- To improve domestic availability and avert a price spike, sugar was placed in the "restricted" category as a precaution.
- The sugar business has requested that sugar be reclassified as "free" with specific requirements, like getting export authorization from the Directorate of Sugar.

4. Science & Technology

4.1 Ketamine

Actor Matthew Perry's death was recently linked to the drug ketamine.

Context:
- Ketamine's increasing usage in the treatment of depression and other severe mental health conditions has sparked intense discussion about the drug in recent years.

Concerning Ketamine:-
- According to the US Drug Enforcement Administration, ketamine is a hallucinogen and is used as an anesthesia.
- It comes from the hallucinogenic substance phencyclidine (PCP).
- It works by preventing the brain and spinal cord's NMDA receptor from functioning.
- Glutamate is released more frequently as a result of it.
- It is used to treat mental diseases in patients who are not responding to traditional therapy.
- It's a recreational drug as well.
- Any drug used to induce pleasure or change one's mental state is considered recreational.

Among their varieties are:
- Stimulants: Boost vitality and attentiveness. For instance, methamphetamine, cocaine, and caffeine.
- Depressants: Have a soothing impact. Benzodiazepines, alcohol, and marijuana, for instance.
- Hallucinations are caused by hallucinogens. such as DMT, psilocybin, and LSD.

Uses:
- It falls within the category of psychedelic dissociative anesthetic.
- It is only used for anesthesia under close medical monitoring.
- Additionally used to treat ailments like substance misuse problems, depression, anxiety, PTSD, end-of-life distress, and chronic pain.

Regulatory Status in India:-
- In India, it is categorized as a Schedule X drug.
- The prescribing physician is subject to strict oversight and monitoring based on a case-by-case analysis.
- According to the substances and Cosmetics Act and Regulations, Schedule X substances are classified as "restrictive drugs." The National Fund to Combat Substance Abuse
- Drugs classified as Schedule X indicate a high degree of regulatory oversight and control.

4.2 Fibre optic cables

- Fiber optics have become more and more important in recent years, particularly during the COVID-19 epidemic when internet connections made virtual communication possible.
- Optical fibers are constructed of thin strands of glass that are used to transfer digital information over great distances at almost the speed of light. This information can take the shape of text, images, voices, and movies.
- The origins of fiber optic communication can be found in the work of physicist Charles Kao, who more than 60 years ago suggested glass fibers as an improved communication medium.

Working principle of optical fibres:
- Light is guided through the glass strands by total internal reflection, which enables signals to travel over long distances with little loss of optical power.
- An overview is given of the historical development of fiber optic cables, from the earliest light directing experiments in the 19th century to the innovations in the mid-20th century that paved the way for the creation of long-distance transmission.
- It highlights the current level of fiber optic technology and how important optical fibers are to sensing, medical science, laser technology, and telecommunication.

4.3 Pneumonia

- Recently, the health department of the Karnataka government has put the state's healthcare system on alert because to reports of an increase in pneumonia cases among children in China.

Context:
- The seasonal flu, an infectious disease with a five-to seven-day duration and low rates of morbidity and fatality, is the focus of the advice.

About Pneumonia:-
- An infection known as pneumonia causes inflammation in one or both of the lungs' air sacs.
- The air sacs may fill with fluid or pus (purulent material), which can result in fever, chills, coughing up phlegm or pus, and trouble breathing.
- Pneumonia can be caused by a wide range of organisms, such as fungus, viruses, and bacteria.

Symptoms:-
- chest pain while inhalation or coughing
- Perplexity or shifts in consciousness (in adults 65 years of age and above)
- cough that could result in phlegm
- Weary
- fever, perspiration, and chills that shake
- lower than average body temperature (in persons with weakened immune systems and adults over 65)
- vomiting, diarrhea, or nausea
- Feeling out of breath

Risk factors:-
- Being admitted to the hospital.
- Persistent illness.
- Smoking.
- Immune system suppression or weakened state.

Prevention:-
- Get vaccinated. (System of Disease Surveillance)
- Ensure that kids receive their vaccines.
- Maintain proper hygiene.
- Avoid smoking.

4.4 "Bio-vision" for Bharat

The necessity to develop a "Bio-vision" for India was highlighted at the Biotechnology Research and Innovation Council (BRIC) Society's first meeting.
- BRIC unites 14 elite independent science universities on a single platform to optimize the biotech

- In addition to receiving endowments from non-governmental sources and maintaining separate research missions for each of the 14 absorbed institutes under a single governing body, the BRIC Society seeks to participate in public-private research partnerships.
- Additionally, the "Zero Waste Life on Campus" program was introduced, encouraging BRIC campuses to manage their garbage in a sustainable manner. This project is in line with the Mission LiFE movement and is anticipated to improve inter-institutional cooperation while acting as a prototype for community-wide integrated waste management.

## 4.5 The Global Renewables and Energy Efficiency Pledge

- 118 nations made a commitment to double the global average annual rate of energy efficiency improvements to more than 4% and to quadruple installed renewable energy capacity by 2030, or at least 11,000 gigawatts (GW), during the COP28 climate meeting in Dubai.
- China, Russia, and India did not sign the pledge.
- The commitment is not part of the primary COP-28 negotiating texts and lacks legal legitimacy.
- Although India's stated reasons for not participating were not disclosed, some individuals raised possible concerns about the text's phrasing.
- As part of the commitment, the G20 will work together to develop resilient value chains and technologies, increase financial support for scaling up renewable energy, improve technical assistance and capacity building for developing nations, and quicken cross-border grid interconnections.
- India's refusal to join is explained by its pledge to install 500 GW of power from non-fossil fuel sources by 2030 as part of its nationally determined contributions (NDCs). India acknowledges the importance of coal in its energy mix because of the country's projected large increase in energy consumption over the next 30 years, which may not be satisfied by renewable energy sources alone.

4.6 How does GPS work

- GPS is a constellation of 24 satellites that orbits the Earth and provides location information through a network of ground control stations and user devices. It was established by the US Department of Defense in 1973.

Functioning:
- The GPS system is divided into three primary sections: the space segment, which has 24 satellites spread over six orbits; the control segment, which oversees satellite operations and performance; and the user segment, which uses GPS in a variety of fields, including construction, agricultural, and military operations.
- At particular frequencies (L1 and L2), the satellites send radio signals that carry encoded data about their position and time.
- These signals are picked up by GPS receivers on gadgets, such as cellphones, which employ triangulation to pinpoint the user's exact location in three dimensions of space and one dimension of time.
- GPS is used in conjunction with other global navigation satellite systems (GNSS) such GLONASS, Galileo, and BeiDou.
- India is the developer of the GPS-Aided Geo Augmented Navigation (GAGAN) system, designed for use in civil aviation, and the NavIC system, which consists of seven satellites with rubidium atomic clocks.
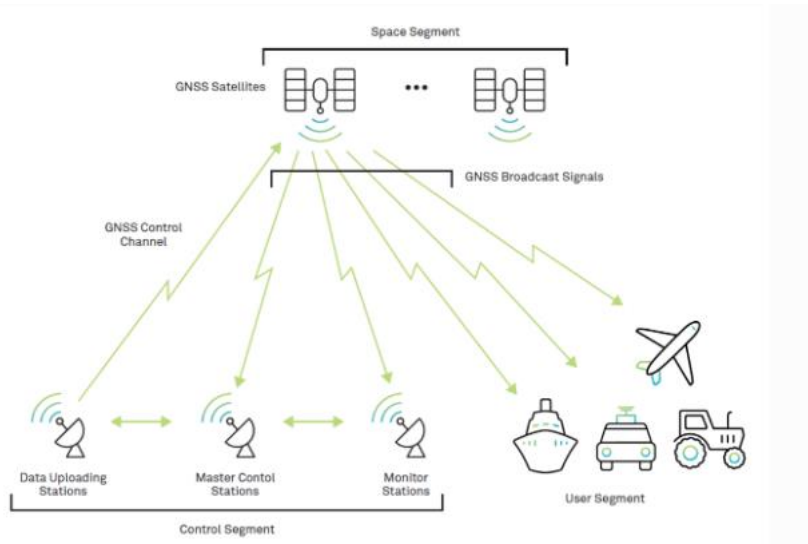
4.7 WHO Global Clinical Trials Forum

- Around 130 professionals from 43 countries gathered for the inaugural WHO worldwide Clinical Trials Forum, which took place on November 20–21, 2023, to talk about and create a worldwide strategy for sustainable clinical research infrastructure.
- Objective: The forum's main goal was to improve clinical trial quality and coordination while strengthening clinical research capacities in line with the World Health Assembly resolution.

Clinical trials: what are they?
- These are studies carried out to assess the efficacy and safety of medications, medical procedures, and therapies on people. By collecting information on the efficacy and possible adverse effects of novel or current treatments, these trials hope to advance the field of evidence-based medicine.
- In June of this year, the government amended the novel pharmaceuticals and Clinical Trial Rules (2023) to allow researchers to assess the safety and efficacy of novel pharmaceuticals using human-relevant and non-animal methods.

4.8 Betelgeuse

- According to recent studies, betelgeuse is expected to almost vanish.

Context:
- Over the past few years, one of the most conspicuous stars in our sky, Betelgeuse, has been acting abnormally.
- The Orion constellation's red supergiant suddenly diminished in 2019, raising questions among scientists about whether it was about to blow up.

About Betelgeuse: -
- In the constellation Orion, there is a red supergiant star called Betelgeuse.
- More than 20 times as massive as the Sun is a supergiant star.
- It's among the biggest that the unaided eye can see.
- In the Orion constellation, it is the second brightest.
- The distance between Earth and the star is about 650 light-years.
- In Indian astronomy, betelgeuse is referred to as "Thiruvathirai" or "Ardra".
- It is a semiregular variable star that is noticeably reddish in color and has an apparent brightness that ranges from +0.0 to +1.6.
- Betelgeuse is the brightest star in the night sky at near-infrared wavelengths.

- Its intermittent dimming and brightening is well-known.
- The carbon-burning phase of large stars like Betelgeuse lasts for only a few hundred years, after which the star "dies" and collapses into a supernova in a matter of months.

Supernova
- An explosion of a big star is called a supernova.
- These are the biggest explosions ever recorded in space.
- A star has two possible methods to go supernova: - Type I supernova: A star gathers material from a neighboring star until an uncontrollable nuclear reaction starts.
- When a star runs out of nuclear fuel, it becomes a type II supernova and collapses due to gravity.

Orion constellation
- Greek mythology's hunter is the inspiration for the name of the constellation Orion.
- One of the most noticeable and well-known constellations in the sky, Orion is seen from all over the world.
- Even though Orion barely makes up 1.4% of the sky, it is home to 10% of the 70 brightest stars in the universe.

4.9 Halley's Comet

Recently, Comet Halley reached its farthest point from the sun.

Context:
- On December 9, 2023, the comet will be at its farthest point from the sun.
- The next closest approach to the sun will occur on July 28, 2061.

About Halley's Comet:-

- The most well-known comet of them all is Comet Halley.
- A comet's tail is created by outgassing, which occurs when an icy comet heats up and begins to release gases that are inside of it as it approaches the sun.
- Water and a variety of gasses, such as carbon dioxide, ammonia, and methane, make up a Halley's comet.

- Since it has an elliptical course and is composed of chilly, rocky ice, as soon as it encounters gases and ice within, it expands and forms a tail that, when viewed from Earth or an observation site, resembles a stunning shooting star.
- Officially, the comet is known as 1P/Halley.
- It was the first comet prophesied to reappear in history.
- It bears Edmond Halley's name, an English astronomer who investigated comet sightings in 1531, 1607, and 1682.
- He came to the conclusion that all three of these comets were really just one comet making repeated appearances, and he projected that it would do again in 1758.
- Since it made its closest approach to the sun in 1986, this comet has been moving away from it.
- It is now nearing the end of its outward trip, and on December 9, 2023, it is scheduled to reach its furthest point from our sun.
- It will then begin its journey back toward the sun, expected to reach our region by 2061.
- Because Helley's orbit lasts barely more than 200 years, it is often referred to as the short-period comet.

4.10 Anthrobots

Anthrobots are contemporary creations of scientists.

Context:
According to a recent study, these microscopic living robots made of human cells can move around in a lab dish and may one day be able to aid in the healing of wounds or damaged tissue.

About Anthrobots:-
- Novel bioengineered robots called anthropobots are made from human tracheal cells.
- These biobots are remarkably capable of self-organizing into a variety of shapes and sizes.

WORKING:-
- The procedure entails growing colonies of human tracheal skin cells to produce anthrobots with paddle-like cilia.
- The anthrobots fuse together to form a "superbot" when placed on injured brain tissue, allowing for complete healing in three days without the need for genetic modifications.

Significance:-
- The researchers envision using customized anthrobots for a range of tasks like drug delivery, mucus disruption, and artery cleaning, illustrating potential applications in the field of regenerative medicine.
- Unlike previous xenobots made from frog cells, anthrobots are made from human tissue and have the ability to self-assemble, providing a potentially useful path toward customized therapy.

4.11 Voyager 1

Recently, as NASA's Voyager 1 began sending strange signals to Earth, scientists began to suspect a serious malfunction.

Context:
- Voyager 1 is having trouble translating data to Earth, and scientists believe there may be a serious breach in the spacecraft.
- Over the course of the last 46 years, NASA's Voyager 1 spacecraft has traveled 24 billion kilometers.

About Voyager 1:-
- Launched on September 5, 1977.

- Titan IIIE-Centaur (TC-6 / Titan no. 23E-6 / Centaur D-1T) is the launch vehicle. Launch Site: Cape Canaveral, Florida / Launch Complex 41.
- Organization: NASA (DART mission of NASA)
- Goal: Jupiter and Saturn hurled it into the air.
- Throughout history, Voyager 1 is the oldest spacecraft built by humans.
- NASA's Voyager 1 spacecraft is the furthest spacecraft to date.
- In August 2012, it entered interstellar space and is still gathering data.
- For over 45 years, Voyager 1 has been studying our solar system.
- The probe is currently in interstellar space, which is the area outside of the Sun's magnetic field and energetic particle bubble known as the heliopause.
- More time has been spent in space than any other spacecraft in history thanks to the missions of Voyager 1 and 2.

Scientific Instruments:-
- The Imaging Science System (ISS)
- UVS, or ultraviolet spectrometer
- IRIS, or Infrared Interferometer Spectrometer
- PRA stands for Planetary Radio Astronomy Experiment.
- PPS, or photopolarimeter
- Triaxial Magnetometer with Fluxgate (MAG)
- Spectrometer for Plasma (PLS)
- Experiment on Low-Energy Charged Particles (LECP)
- The experiment on plasma waves (PWS)
- CRS, or the Cosmic Ray Telescope
- System of Radio Science (RSS)

Journey Timeline:-
- Launched March 5, 1979: Flyby of Jupiter
- 12, 1980: A flyby of Saturn
- 17, 1998: After surpassing NASA's Pioneer 10, it became the farthest distant artificial object.
- Voyager Interstellar Mission (VIM) officially started on January 1, 1990. It reached 100 astronomical units on June 16, 2006. On January 1, 2012, Voyager 1 entered interstellar space.

4.12 watsonx.ai

Watsonx.ai is an Artificial Intelligence (AI) application that NASA and IBM recently announced would be available on the open-source Hugging Space AI platform at COP28.

Context:
- AI will assist users in keeping an eye on Earth from orbit, measuring past environmental changes and forecasting future ones.

About watsonx.ai:-
- AI is a cooperative AI tool that NASA and IBM created.
- The goal is to improve the precision with which hurricanes, droughts, and other extreme weather occurrences can be predicted.
- With the use of reliable data, the platform's AI assistants can help users quickly and efficiently implement artificial intelligence throughout their whole company.
- Watsonx.ai uses datasets provided by NASA and a foundation model developed by IBM to analyze the data.
- Additionally, the model is made to be incredibly easy to use.

- All the user would have to do is choose a location and a date, and the model would take care of the rest, highlighting things like reforestation initiatives and variations in floodwater.
- It is a comprehensive set of tools covering data and AI governance.
- It will assist users in keeping an eye on Earth from space, measuring past environmental changes and forecasting future ones.
- As floods, droughts, and heavy rains spread over the nation, the Indian government is experimenting with artificial intelligence to develop climate models for better weather forecasting.

4.13 Dengue

According to recent research, the El Nino influence may have contributed to a rise in dengue incidence worldwide.

Context:
- A World Health Organization (WHO) analysis shows that between 2000 and 2019, there was a ten-fold increase in dengue cases.

About:-
- Dengue is a disease spread by vectors.
- Dengue virus (DENV) is the cause.
- Transmission: A female Aedes Aegypti mosquito carrying the virus bites humans to spread the infection.
- When a mosquito feeds on the blood of an individual carrying the virus, it becomes infected.
- Dengue is caused by 4 different virus serotypes.
- DEN-1, DEN-2, DEN-3, and DEN-4 are the names of these.
- Direct person-to-person transmission of dengue is not possible.
- In tropical and subtropical regions, it is more prevalent.
- Most of it is found in urban and semi-urban settings.

Symptoms:-
- elevated fever (104°F/40°C)
- intense headache
- ache behind the eyes
- Joint and muscle aches
- emesis
- throwing up
- swollen glands

Treatment:-
- Painkillers can be used at home to treat dengue fever in the majority of patients.

Prevention:-
- Put on safety gear.
- Apply insect repellant.
- Cut down on the habitat of mosquitoes.

DNA Vaccines:-
- Third-generation vaccines are a common term used to describe DNA vaccines.

5. Environment & Ecology

5.1 Fanged Frog Species

The tiniest species of fanged frogs in the world was recently discovered lurking in an Indonesian jungle.

Context:
- Many species of fanged frogs with peculiar reproductive patterns can be found in the lush, volcanic highlands of Sulawesi, Indonesia. Among these is Limnonectes larvaepartus, the only species of frog in the world that is known to give birth to live tadpoles.

About the Types of Fanged Frogs:
- Limnonectes phyllofolia is its scientific name.
- It is a member of the Limnonectes genus, which has about 75 species.
- Unique Qualities: Notable for protrusion of their jaw bone that resemble fangs.
- Asia's East and Southeast regions are covered.
- Of the fanged frog species, it is the smallest.
- Adults have a dark complexion.
- In conflicts over territory and mates, it shows its teeth.
- It uses its fangs to bite through strong shells to get at prey like crabs and gigantic centipedes.
- This genus has many enormous species, some weighing as much as two pounds.
- It got the moniker "leaf-nester" because, rather of laying their eggs in the water, they build their nests on moss-covered stones or tree leaves, with the males watching over the eggs.

5.2 Rat hole mining

- Rat miners were vital to the rescue efforts of the collapsed Silkyara tunnel in Uttarkashi because they finished the drilling process.
- Rat-hole mining is a prevalent manual drilling technique in Meghalaya that entails experienced laborers excavating small pits that are barely wide enough for one person to enter.
- These coal-extraction pits are known as "rat holes." This technique has been criticized for its negative effects on the environment, is dangerous, and is prohibited in many nations due to safety concerns.
- Rat-hole mining has come under fire for its dangerous working conditions, harm to the environment, and incidents that result in fatalities or serious injuries.
- Because of the practice's detrimental effects on the environment and safety, the National Green Tribunal (NGT) outlawed it in 2014 and kept it out in 2015.
- Additional tactics utilized in the rescue operations included auger mining and vertical drilling, underscoring the variety of approaches taken to handle challenging circumstances.
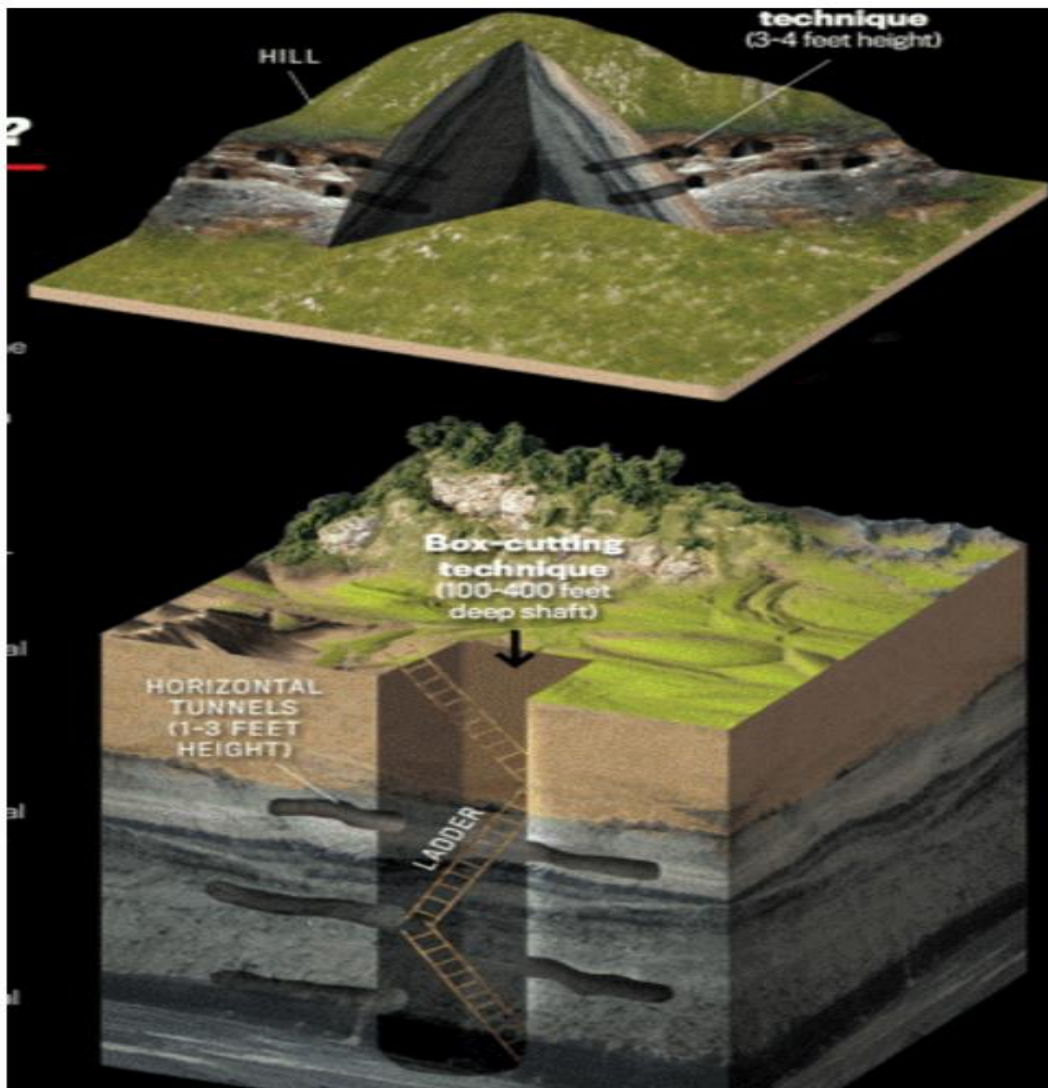
5.3 Cyclone Michaung

- With its strong winds and peculiar timing in December—a month when storms in the North Indian Ocean usually don't get very strong—cyclone Michaung is making its way towards the coast of Andhra.
- The storm, which had winds of 88 to 166 kph, was upgraded from its original classification of "tropical cyclone" to "severe."
- The unusual intensification that occurred in December is linked to above-average heat index readings off the coast of southern Andhra Pradesh.
- Warm ocean temperatures, the Tropical Cyclone Heat Potential (TCHP), atmospheric conditions, wind shear, convection, Rossby waves, and air-sea interaction are some of the elements that affect cyclone intensification.

About Cyclones:
- Large-scale weather phenomena known as cyclones are defined by centers of low pressure, revolving winds, and unstable air. In different parts of the world, they go by different names: typhoons in the northwest Pacific, hurricanes in the Atlantic and eastern Pacific, and tropical cyclones in the southern and Indian oceans.

CROSS SECTION OF TROPICAL CYCLONE

5.4 Nugu Wildlife Sanctuary

The Bandipur Tiger Reserve's neighboring Nugu Wildlife Sanctuary should be designated as a core important tiger habitat, according to a recent recommendation by the National Tiger Conservation Authority (NTCA) to the authorities.

Context:
- This came when Ms. Harini Venugopal, Assistant Inspector General of Forests, NTCA, visited the site. The visit came after environmental activist Giridhar Kulkarni brought up a number of Bandipur-related concerns.

About the Wildlife Sanctuary at Nugu:
- Location: Karnataka, Mysuru district.
- The Nugu Wildlife Sanctuary spans a land area of 30.32 square kilometers. (The Wildlife Sanctuary of Katarniaghat (KWS))
- The Nugu Reservoir lies in the northern portion of Nugu WLS.
- When it comes to confrontations between people and elephants, Nugu is a sensitive location.
- Nugu was designated as a Wildlife Sanctuary in 1974.
- In 2003–2004, it was included in the Nilgiri Biosphere Reserve.
- The majority of the vegetation in the forests is dry, deciduous, and scattered with areas of plantations. The average amount of rainfall in this area is.
- Plants: Terminalia tomentosa, Tectonia grandis, Anogeissus latifolia, etc.
- Fauna includes animals including elephants, sambar deer, barking deer, leopards, jungle cats, and wild pigs.

5.5 Action plan to reduce emissions from the cooling sector

- The goal of the action plan put forth by the United Nations Environment Programme (UNEP) is to increase the sustainability of the global cooling industry by reducing greenhouse gas emissions by 60% by the year 2050.
- Currently, 20% of power is used in the cooling sector, which is essential for preventing increasing temperatures, preserving food quality, and bolstering economies.
- In the absence of any measures, it is predicted that by 2050, the installed capacity of cooling equipment will triple, leading to a twofold increase in power consumption and emissions of 4.4 to 6.1 billion tonnes of carbon dioxide equivalent.
- The proposed actions include an expedited phaseout of climate-warming refrigerants, stricter energy efficiency regulations, and passive cooling.

- The action plan also goes above what is required by the Kigali Amendment to the Montreal Protocol in order to expedite the phasedown of hydrofluorocarbons (HFC).

5.6 UNFCCC COP 28

- Concerns over inadequate funding were voiced by the head of the Adaptation Fund during the UNFCCC COP 28.

Background of the issue:-
- The global organization that provides funding for climate change adaptation programs for vulnerable communities in developing nations is called the Adaptation Fund.
- It was created in accordance with the UN Framework Convention on Climate Change's Kyoto Protocol.
- It provides funding for initiatives and plans that assist vulnerable populations in developing nations in coping with climate change.
- Out of the whole amount of funding required at the ongoing COP28, it has only received about half of that amount.
- The Adaptation Fund Board estimated in March that a minimum of $300 million will be needed, and they anticipate raising that amount during COP28.
- However, just over $165 million has been pledged thus far.
- Developing nations have earlier expressed dissatisfaction during informal meetings about the UNFCCC Standing Committee on Finance's inability to reach a consensus on a baseline for tripling adaptation funding.

About COP28:-
- From November 30 to December 12, 2023 is the date.
- Location: Dubai.
- As the highest decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC), COP stands for Conference of Parties.
- Reviewing and directing the Convention's implementation is its main responsibility, which makes it an essential forum for talking about international climate policy.
- The governments of all countries that have ratified the UN Framework Convention on Climate Change (UNFCCC) are referred to as "parties."
- On March 21, 1994, the UNFCCC came into effect after being ratified by 197 nations.
- It is the governing document of the Paris Agreement of 2015.
- In addition, the 1997 Kyoto Protocol is derived from this accord.
- A different country hosts the COP each year.
- The five United Nations regional groups—Africa, Asia, Latin America and the Caribbean, Central and Eastern Europe, Western Europe, and Others—receive the position of the COP President on a rotating basis.
- Germany hosted "COP1," the inaugural Conference of the Parties, in 1995. (27th COP of UNFCCC): This international congress is in its 28th year.
- Aggressive climate change mitigation is anticipated to be the main focus of COP28, with a focus on shifting to sustainable energy production and reducing dependency on fossil fuels.

Key Issues at COP28:-
- The Global Divide in Climate Responsibility: Developing countries, who believe they are being unfairly burdened with the burden of climate action, and historically responsible affluent countries continue to be sharply divided.
- 5°C is the target. (Variations in Climate)

- Resolving the Deficit in Trust and Resources: The disparity between the resources needed to address climate change and their accessibility is a prime example of a larger lack of trust between wealthy and developing countries.
- The Kyoto Protocol and the Paris Agreement.
- Principles of "Common but Differentiated Responsibilities": Although in distinct contexts, the Paris Agreement and the Kyoto Protocol both acknowledge the concept of "Common but Differentiated Responsibilities."
- The Carbon Border Adjustment Mechanism (CBAM) is a novel idea that aims to reduce carbon leakage and promote cleaner industrial practices by adjusting imports' carbon content to match domestic costs.
- Delivery of $100 billion: Developed nations committed, but have not yet fulfilled, to raise $100 billion a year in climate money starting in 2020.
- Progress: Developed countries are anticipated to assert at COP28 that they have fulfilled this commitment, but it is still insufficient in light of the billions needed for climate action.

5.7 Intergovernmental Negotiating Committee (INC)

- The United Nations Environment Programme's Intergovernmental Negotiating Committee (INC) convened in Nairobi recently.

Key highlights:-
- In order to create an international legally binding tool to stop plastic pollution globally, it convened for its third round of negotiations (INC-3).
- As mandated by UNEA Resolution 5/14, the INC has until 2025 to deliver a global plastics treaty.
- As nations gathered to discuss the "zero draft" document created by the Committee's Secretariat, which included several alternatives for fundamental responsibilities and control mechanisms, INC-3 was a make-or-break moment.
- UNEA endorsed Resolution 5/14, which calls for the creation of a globally enforceable legal framework on plastic pollution, especially that which affects the marine environment.
- A zero draft is an early draft of a document that includes different possibilities for possible clauses or sections.
- The Secretariat's zero draft included compelling proposals for a globally enforceable agreement to stop plastic pollution.
- Because the zero draft addressed goals at all points—strong and binding, moderate and flexible, weak and voluntary—it was an excellent place to start for the negotiations.

About Intergovernmental Negotiating Committee (INC):-
- Establishment: 2022.
- It was created at the United Nations Environment Assembly's 5th session (UNEA-5.2).
- Between 2022 and 2024, the Intergovernmental Negotiating Committee (INC) will work to create a legally binding global instrument on plastic pollution, which will include the maritime environment.
- In addition to promoting the sustainable production and consumption of plastics through environmentally sound waste management policies based on circular economy methods, the instrument must encompass marine, land, and water plastic pollution.
- In order to contribute to the goals of the legally binding agreement, nations are required to create, implement, and update national action plans that reflect nation-driven initiatives.
- They will be required to encourage regional and global cooperation and advance national action plans aimed at preventing, reducing, and eliminating plastic pollution.
- Engaging with stakeholders at all levels of the plastics production value chain—subnational, national, regional, and global—includes manufacturing, use, recycling, and disposal.

- In order to ensure a robust and successful global plastics treaty, the INC benefits from the historical experience of the IUCN in international discussions and activities pertaining to the local, regional, and global implementation of circular economies.

5.8 Indian Bison

The Koya tribe have joined the green movement to support the preservation of the Eastern Ghats' Indian bison population.

Context:
- The native Koya tribe of Andhra Pradesh's Papikonda hill range has made an admirable transition by giving up the use of bison horns to make their traditional flute, Permakore, and switching to an eco-friendly palm leaf instrument instead, all in an effort to protect Indian bison in their forests.

About Indian Bison:-
- Among the largest living cattle are the Indian bison. (India's Wildlife Institute (WII))
- At up to 220 cm in shoulder height, it is one of the largest species of wild cow.
- The solitary Indian gaur inhabits the wilderness.
- They can be found in south- to southeast Asian grasslands and forested hills.
- They can be found in the BR Hills, Masinagudi, Bandipur, and Nagarhole National Parks in India.

Threats:-
- Lack of Food
- Habitat loss as a result of commercial plantings and deforestation is poaching.

Human-Animal Conflict Conservation status:-
- Schedule I of the Wild Life Protection Act of 1972.
- Red List: Vulnerable by the International Union for Conservation of Nature (IUCN).

Concerning the Koya tribe:-
- The states of Telangana, Andhra Pradesh, Chhattisgarh, and Odisha are home to the majority of Koya people.
- They speak a language related to the Dravidian family called Koya.
- They engage in shifting cultivation, or Podu, a method that has long been used by different tribal groups in forest locations as a means of balancing environmental sustainability with economic survival.
- They were granted ST status in Chattisgarh, but not in the states where they relocated, like Telangana.
- The Koyas refer to themselves as Putta Dora (original lords) and Dorala Sattam (Lords group).
- The Godavari and Sabari rivers, which pass through where they live, have a significant impact on the social, cultural, and economic lives of the Koyas.

5.9 Megamouth Shark

The First Pregnant Megamouth Shark Ever washes up on a beach in the Philippines.

Context:
The 18-foot shark, which had seven pups that had been expelled from her body, was found near Aurora, Philippines.

About Megamouth Shark:-
- Megachasma pelagios is the scientific name.
- It was initially found off the coast of Hawaii in 1976.

- Size: The maximum length is 5.5 meters (18 feet).
- Its body is dark grey/black with a white underbelly, and it has a huge mouth, a bulbous skull, and a rubbery lip.
- Diet: Filter feeder; plankton, jellyfish, and tiny fish are consumed.
- With its mouth agape, it filters water to remove plankton and jellyfish. (National Aquatic Animal Disease Surveillance Program)
- It can be identified by its big head and rubbery lips.

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5.12 Viola arvensis

The plant Viola arvensis exhibits evidence of self-pollination, according to recent studies.

Context:
- Scientists have identified a flower growing in Paris, France that is producing smaller blossoms and less nectar to draw in fewer pollinators—the first indication of rapid evolution.
- Additionally, the investigation revealed that the field pansy, or Viola arvensis as it is officially named, is self-pollinating.
- Plant-pollinator interactions are at risk due to the ongoing convergent development of a selfing disease, according to a report published in the journal New Phytologist.

About Viola arvensis:-
- Family: Dispersal: It is indigenous to North Africa, Western Asia, and Europe.
- There is one leaf per node along the stem in an alternating arrangement of leaves.
- The leaf blade's edge is toothed.
- The blossom exhibits bilateral symmetry.
- The flower has five petals, sepals, or tepals.
- Petals and sepals are not merged together; they are distinct.
- There are five stamens.
- When mature, the dry fruit cracks open. The National Bioenergy Program
- The fruit is 5–10 mm long.
- Blue to purple and white to yellow are the colors of flower petals.

5.13 E-waste

More than 500,000 tonnes of e-waste were gathered and treated in 2021–2022, according to recent data.

Context:
- The Union Ministry of Environment, Forests, and Climate Change's minister of state, Ashwini Kumar Choubey, informed the Rajya Sabha that 527,131.57 tonnes of e-waste had been gathered, disassembled, and recycled in the fiscal year 2021–2022.

About E-waste:-
- Electronic waste, or "e-waste," is the abbreviation for outdated, discarded, or end-of-life appliances.
- It consists of their parts, consumables, spares, and components.
- Electronic waste, or e-waste, is the term used to describe a variety of electric and electronic devices that are no longer useful to their owners or fulfill their intended function.
- If e-waste is kept in secure storage, recycled using scientific processes, or moved entirely or in portions within the formal sector, it is not dangerous.

India's E-Waste Situation:
- India produces over 18.5 lakh metric tons (MT) of electronic garbage annually, with Delhi-NCR and Mumbai producing the most of it.
- By 2018, the amount is probably going to get as high as 30 lakh MT annually.
- Other significant cities producing a significant amount of e-waste are Bangalore, Chennai, Kolkata, Ahmadabad, Hyderabad, Pune, Surat, and Nagpur.
- Maharashtra is the top state among the eight that produce the most e-waste, followed by Tamil Nadu (second), Andhra Pradesh (third), Uttar Pradesh (fourth), Delhi (fifth), Gujarat (sixth), Karnataka (seventh), and West Bengal (eighth).

- More than half of the e-waste produced in the developed world is sent to developing nations, mostly China, India, and Pakistan, where recycling processes recover metals including copper, iron, silicon, nickel, and gold.
- In contrast to industrialized nations, which have constructed facilities expressly for the recycling of electronic trash, recycling in underdeveloped nations frequently entails manual labor, exposing workers to hazardous materials included in electronic waste.

5.14 Scheme to Accelerate Exploration of Critical Minerals

- A new plan has been unveiled by the Ministry of Mines to accelerate the exploration of vital and deeply buried minerals.
- The ministry will directly approve exploration projects to Notified Private Exploration Agencies (NPEAs) as part of this program.
- Furthermore, these NPEAs now have the ability to bid on mineral blocks that they have investigated for auction, a privilege that was previously unattainable for them.
- The purpose of this decision is to remove obstacles to project approvals, expedite project implementation, and entice larger corporations and foreign players to participate in NMET-funded exploration projects.

5.15 Iceland volcano

Recently, a volcano erupted in Reykjavik, Iceland, shooting lava fountains high into the sky.

Context:
- Reykjanes Peninsula, the most populous and capital of Iceland, has seen four eruptions in the last two years alone.

Regarding the volcano in Iceland:
- A volcano is a fissure in the crust of the Earth through which gasses, molten rock, and other debris can rise to the surface.
- Plate tectonic motion and volcanism are driven by the movement of molten rock in the mantle, which is brought about by thermal convection currents. These currents are combined with the gravitational effects of changes on the earth's surface, such as erosion, deposition, even impacts from asteroids and patterns of post-glacial rebound.

Volcano types include:
- Volcanoes that are active exhibit some activity and are probably going to erupt once again.
- Volcano in dormancy: A large number of volcanoes are in a state of dormancy, exhibiting no immediate signs of erupting, although they are expected to erupt at some point in the future. Mauna Loa
- An extinct volcano is one that still possesses all of its characteristics but hasn't erupted in recorded history.

Factors that cause volcanism include:
- According to plate tectonics, most volcanoes arise at the meeting point of two lithospheric plates, when one pushes the other aside and forces it into the mantle where it is reabsorbed.
- Ocean floor spreading: Along the axis of the oceanic ridge system, where the plates move apart on both sides of the ridge and magma wells up from the mantle, is a major site of active volcanism.
- Weak Earth Surface: Weak zones along the earth's surface provide a chance for magma and gases to escape quickly as a result of the tremendous pressure in the earth's interior being released through eruptions.
- Faults: An eruption is likely to follow any severe pressure buildup in the mantle along fault lines. For example, the earthquakes may reveal fault zones that allow magma to escape.

- Magma crystallization: When temperatures drop, older magma may solidify and sink to the chamber's bottom, forcing newly formed liquid magma upward and out of the opening. This process is comparable to dropping a block into a pail of water.
- A drop in external pressure has the potential to cause an eruption because it can make the volcano less able to contain itself by raising the pressure inside the magma chamber.
- Plate movement: Over a "hot spot" where magmas can permeate to the surface, plate movement may be the source of volcanism. Hawaii's Islands, for example.

6. Security issues

6.1 VAJRA PRAHAR

- Vajra Prahar, an Indo-US Special Forces exercise, started recently.

Context:
- Tuesday marked the beginning of the joint exercise "Vajra Prahar" between Indian and US special forces at the Joint Training Node in Umroi, Meghalaya.

About VAJRA PRAHAR:-
- From November 21 to December 11, 2023 is the date.
- Time frame: It takes place once a year.
- Location: Umroi cantonment in Meghalaya.
- The Special Forces of India and the United States alternately host the annual exercise known as Vajra Prahar.
- These units of Special Forces are committed to counterterrorism, covert operations, and other specialized military duties.
- In the current global context, it is essential for resolving the security concerns that both countries face.
- VAJRA PRAHAR has developed into a forum for the Special Forces of both India and the United States to share ideas, improve interoperability, and fortify defense cooperation.
- Combat conditioning, tactical-level special missions training exercises, and a validation phase to evaluate and verify the training both contingents acquired are the two components of the exercise.
- Combat air commanding of fixed-wing and rotary-wing aircraft, combat free fall insertion of troops, airborne insertion and sustenance of troops, and precision engagement of targets at long range are among the key tasks.

6.2 The challenge of maritime security in the Global South

Key Highlights:
- Evolution of Maritime concerns: Asymmetrical tactics and grey-zone warfare are two new aspects of hard security concerns. The use of combat drones and ground attack missiles is changing the face of security.
- Changes in the Need for Marine Security escalating demand from states dealing with unorthodox risks including climate change, natural catastrophes, and illegal fishing. The need for a more comprehensive strategy to handle a range of marine issues, going beyond military tactics.
- India's Strategy for Development: Maritime Vision 2030 emphasizes the development of ports, shipping, and inland waterways as means of generating income and fostering economic progress. The Indo-Pacific Oceans Initiative comprises seven pillars, including catastrophe risk reduction, marine ecology, and marine resources.

New Threats in Maritime Domain:
- China's naval militias and Ukraine's asymmetrical tactics are examples of recent events that point to a move toward unplanned measures.
- Combat drones, ground assault missiles, and grey-zone warfare are examples of emerging threats.

Demand for Maritime Security:
- Unconventional hazards like as illegal fishing, natural disasters, and climate change account for the majority of demand in recent times.
- To tackle these obstacles, money, resources, and skilled labor must be committed.

Global South's Perspective:
- Developing countries believe that the competition between big states in the Indo-Pacific region is harmful to their interests.
- There are interrelated goals in national, environmental, economic, and human security that provide challenges.

Challenges in Global South:
- Vulnerability is caused by factors such as rising sea levels, marine pollution, and climate change that disproportionately affect less developed states.
- Joint efforts against marine threats are hampered by unequal law enforcement capabilities and a lack of cooperation in security measures.

Creative Models for Maritime Security:
- Maritime security is about creating prosperity and fulfilling public expectations, not only about deploying force.
- The expansion of ports, shipping, and inland waterways is prioritized for economic growth under India's Maritime Vision 2030.
- The Indo-Pacific Declaration from Dhaka and the Blue Economy idea from Africa complement a developmental strategy.

Fight against Illegal Fishing:
- Significant problem caused by an increase in unreported, unregulated, and illicit fishing across Asia and Africa.
- The problem is exacerbated by bad policies that support harmful practices like seine fishing and bottom trawling.

India's Indo-Pacific Oceans Initiative:
- Consists of seven pillars: capacity building, catastrophe risk reduction, marine ecology, and marine resources.
- Encourages group approaches to common issues, winning the backing of important Indo-Pacific nations.

Challenges in Achieving Consensus:
- There are obstacles in the way of implementing a collaborative plan to improve intelligence sharing, interoperability, and the establishment of a rules-based order in the region.
- Consensus is hampered by the fact that many countries continue to prioritize balancing strategic independence with sovereignty.

Key Challenges:
- Complexity of Unconventional Threats: Specialized personnel, capital, and resources are needed; standard military tactics are insufficient. Illegal fishing, maritime pollution, human trafficking, and climate change are among the difficulties.
- The Coordination Challenges in the Global South: Coastal states' disparate capacities for enforcing the law and their inability to coordinate security measures. reluctance to give collaborative action top priority because of differing security interests and autonomy issues.
- Less Developed States' susceptibility: disproportionately affect less developed states because to climate change, maritime pollution, and rising sea levels. vulnerability resulting from insufficient resources to address security and environmental issues.
- Lack of Consensus and Reluctance: The littoral states' unwillingness to work together and seek tangible answers. The conflict between political and strategic autonomy and collective issues characterizes the non-traditional maritime security paradox.

Way Forward:
- Collaborative Strategies: enhanced intelligence sharing, interoperability, and consensus on a regional rules-based order.
- Prioritizing collaborative Action: For effective marine solutions, developing countries must place a higher priority on collaborative action than sovereignty.
- Prioritize sustainable development objectives in states along the coast, tackling issues like illegal fishing and climate change.

6.3 In cyber-attacks, terror has a found a new face

Key highlights:
- Regrettably, Mumbai is the city targeted by terrorist attacks the most in the whole world.
- The most daring attacks occurred on November 26, 2008 (26/11), and they lasted for three days.
- Although there had intelligence prior to the 26/11 assaults, preventative actions were unsuccessful.
- Significant alterations were made to the security apparatus and police agency following the attack.

Key Challenges:
- The terrain of terror warfare has changed to cyberspace in spite of reforms.
- The wars between Israel and Hamas and Russia and Ukraine show how dangerous cyberwarfare is becoming.
- Between March 2021 and September 2023, state-sponsored cyberattacks on India surged by 278%.

Critical Analysis:
- In a world that is heavily digitalized, cybersecurity is crucial.
- Apple's warning and other recent occurrences emphasize how urgent it is to implement strong cybersecurity safeguards.
- It is imperative that there be a national education and training program on cyber risks.

Way Forward:
- Strong cybersecurity measures must be immediately invested in by the public, commercial, and governmental sectors.
- Comprehensive education initiatives to increase public understanding of cyberthreats should begin in schools.
- Government organizations should receive sufficient funding and training to improve cybersecurity.

6.4 Patriot Air Defence Missile System

- Recently, the United States dispatched its Patriot surface-to-air missile system to the Middle East.

Context:
- In reaction to recent attacks on US forces in the Middle East, the Pentagon recently announced that it will dispatch extra battalions of the Patriot air defense missile system to the region.

About the Patriot Missile Defence System:-
- A surface-to-air guided missile system is called a Patriot.
- It was initially put to use in the 1980s.
- It is called after the radar technology that it uses, the Patriot (Phased Array Tracking Radar to Intercept on Target).
- The U.S. Army's principal High to Medium Air Defense (HIMAD) system and medium tactical air defense system, respectively, were superseded by the Patriot system and the Nike Hercules system, respectively.

- The American aerospace and defense behemoth Raytheon Technologies Corp. originally designed it as a system to intercept high-flying aircraft. In the 1980s, it underwent modifications to fight new threats like ballistic missiles.
- The radar of the Patriot system has a range of more than 150 kilometers.
- More than 50 possible targets can be tracked simultaneously by it.
- Patriot batteries can currently fend against "other threats" in addition to drones, aircraft, ballistic missiles, and cruise missiles.
- It is in use in eighteen nations, including the United States.
- It operates within the NATO alliance.
- Along with the theater ballistic missile defense capacity, it is one of the most extensively used, dependable, and tested air missile defense systems available.

Limitation:-
- It provides no defense against tiny drones flying at low altitude.
- Up to ninety soldiers may be required to maintain and run a Patriot battery.

7. Social issues

7.1 Are Crimes against Women on the Rise?

- According to a National Crime Records Bureau (NCRB) report, there was a 4% increase in crimes against women in 2022, despite a decrease in the overall crime rate.
- Although there was an increase in crimes against women, the crime rate fell to 258.1 per lakh population in 2022 from 268 per lakh in 2021.

Types of Crimes
Major Categories for Women's Rights:
- The most common offenses were: abuse by a spouse or family member (31.4%), kidnapping and abduction (19.2%), assault with the purpose to cause shame (18.7%), and sexual assault (7.1%).
- 13,479 cases were registered under the Dowry Prohibition Act.

Legal and Societal Viewpoints
- Patriarchal Society: Protesters and attorneys blame the growth on ingrained patriarchal mindsets in Indian culture.
- Legal Framework: The Immoral Traffic (Prevention) Act, the Dowry Prohibition Act, the Commission of Sati (Prevention) Act, the Protection of Women from Domestic Violence Act, and other important legislation are crucial for the safety of women.
- Implementation Difficulties: Even with robust legislation, there are still issues with its efficient application.

Analysis of Rising Crime Registration
- Results of the NCRB Report: In 2022, there were over 4.45 lakh recorded cases of crimes against women, which translates to a high rate of 66.4 crimes per lakh people.
- Charge Sheet Filing Rate: In these situations, 75.8% of charge sheets were filed.
- Opinions Regarding Higher Registration: While some experts believe that the growth is a sign that women are becoming more confident when approaching police, others believe that it is a reflection of cultural attitudes and ongoing inequalities.

Regional Differences in the Registration of Crimes
- Delhi's High Crime Rate: Delhi had the highest rate of crimes against women, 144.4 per lakh, with 14,247 instances.
- In comparison to other regions: Police fear is strong and crime registration is low in many sections of India, particularly in rural areas.

Law enforcement and Judiciary Challenges
- Problems with Policing: Insufficient numbers of experienced police officers for investigations result in inadequate charge sheet preparation.
- Judicial Delays: Trial courts take years to resolve cases, and appeals add even more time.
- Even though they exist, fast-track courts for serious offenses proceed just as slowly as conventional courts.

The Status of Women in the Police Force
- Low Proportion: The underrepresentation of women in law enforcement causes disproportionate workloads, delayed charge-sheeting and convictions.
- Statistics from the Ministry of Home Affairs show that as of January 1, 2022, women made up just 11.7% of all state police officers.

Conclusion
- Strong Political Will: To improve women's status and address the underlying causes of gender-based violence, effective policies and initiatives are needed.
- Developing the Judiciary and Law Enforcement: Crucial actions include improving police training, raising the proportion of women in the force, and accelerating legal proceedings.

7.2 PM Vishwakarma Scheme

Recent data indicates that in just 2.5 months after its introduction, the PM Vishwakarma Scheme, initiated by the Center, has garnered over 21 lakh applications.

Context:
- Karnataka (6.28 lakh) submitted the most applications, with West Bengal (4.04 lakh), Assam (1.83 lakh), Uttar Pradesh (1.53 lakh), and Andhra Pradesh (1.21 lakh) following closely behind.

About PM Vishwakarma Scheme:-
- Initiated in September of 2023.
- Ministry: The Ministry of Entrepreneurship and Skill Development (MSDE).
- The scheme is in the Central Sector.

Objectives of PM Vishwakarma scheme:-
- To support and preserve the family-based practice of ancient skills, known as the Guru-Shishya parampara, among artists and craftspeople who use their hands and tools.
- To increase the caliber and marketability of craftsmen's and artisans' goods and services.
- To guarantee the Vishwakarmas' integration into both national and international value chains.

Key aspects of the PM Vishwakarma program include:
- Through the issuance of an ID card and certificate from PM Vishwakarma, the craftsmen and crafters would be recognized.
- Credit Support: A concessional interest rate of 5% will be applied to credit amounts up to Rs. 1 lakh (First Tranche) and Rs. 2 lakh (Second Tranche).
- Learning skills: The Plan will additionally offer Marketing Assistance, Toolkit Incentives, Digital Transaction Incentives, and Skill Upgradation.
- Training: Basic and advanced training are both included in skill development programs.
- Stipend: During their program, participants are eligible to a daily stipend of Rs 500.
- Contemporary items and Equipment: Recipients may receive up to ₹15,000 in financial assistance to purchase contemporary items that will increase their production and efficiency.
- Sectors: Under PM Vishwakarma, the first 18 traditional trades will be covered.
- Carpenter (Suthar), Boat Maker, Armourer, Blacksmith, Hammer and Tool Kit Maker, Locksmith, Goldsmith, Stone Cutter, Sculptor (Moortikar, Stone Carver), Stone Breaker, Cobbler (Charmkar), Shoesmith, Basket/Mat/Broom Maker, Coir Weaver, Doll & Toy Maker (Traditional), Barber (Naai), Garland Maker (Malakaar), Washerman (Dhobi), Tailor (Darzi), and Fishing Net Maker are among these trades.

Benefits of PM Vishwakarma scheme:-
- India's craftsmen and crafters in both rural and urban areas will receive assistance from the program.
- It supports both rural and urban areas, which makes employment easier. The MSME Sustainable (ZED) Certification Scheme provides funding for educational initiatives aimed at improving traditional skills.

8. Miscellaneous

8.1 Infinity Forum 2.0

Prime Minister Narendra Modi will speak at the prestigious Infinity Forum 2.0, the second edition of the financial technology event, shortly.

Context:
- Prominent speakers from the federal and state governments will be present, including Gujarat Chief Minister Bhupendra Patel, Union Commerce and Industry Minister Piyush Goyal, and Minister of Railways, Communications, and IT Ashwini Vaishnaw.

About Infinity Forum 2.0:-
- Gujarat International Finance Tec-City, GIFT City, and the International Financial Services Centres Authority (IFSCA) are the hosts.
- "GIFT-IFSC: The Nerve Center of New Age Global Financial Services" is the theme.
- It is planned as an event leading up to the 2024 Vibrant Gujarat Global Summit.
- The Infinity Forum 2.0 will take place in a hybrid format for its second edition, with an invite-only in-person event planned for GIFT City and virtual participation available to participants worldwide.
- The Infinity Forum is an international forum for thought leadership in financial services where forward-thinking concepts, urgent issues, and cutting-edge technology from around the globe are discovered, discussed, and developed into possibilities and solutions.
- The Forum's inaugural edition took place in December 2021.
- It will also feature participation and thought-provoking conversations from a number of prominent figures in the Indian and global financial sectors.
- An Investors Meet for FinTech businesses recognized by IFSCA or recommended by institutions with an IFSCA Memorandum of Understanding, or accelerators authorized by IFSCA, will take place prior to the event.
- "GIFT-IFSC: Nerve Center for New Age Global Financial Services" is the topic of the second Infinity Forum, and it will be woven throughout the following three tracks:
- Plenary Track: Establishing an International Financial Center of the New Age
- Green Track: Developing a "Green Stack" argument
- Silver Track: GIFT IFSC's Longevity Finance Hub
- A senior industry leader will give an Infinity Talk on each track, followed by a panel of practitioners and industry experts from India's and throughout the world's financial sectors who will explore the topics and offer workable solutions.
- More than 300 CXOs will be present at the forum, with a significant online presence from India and a worldwide audience from more than 20 countries, including the USA, UK, Singapore, South Africa, UAE, Australia, and Germany.
- International embassies and vice-chancellors of international universities will also be present at the event.

8.2 Thanjavur

Hollywood actor Michael Douglas recently posted on social media on his visit to Thanjavur. The prime minister, Shri Narendra Modi, responded.

Context:
The Prime Minister declared in a post on X: "Thanjavur is truly gorgeous! Additionally, there is much more to see in India that will enthrall visitors from all over the world.

About Thanjavur:-
- Southern India's Tamil Nadu region is home to the temple site of Thanjavur, also known as Tanjore or Tanjavur.
- Rajaraja I, the famous Chola (Cola) king, had Thanjavur as his capital.
- He was the one who ordered the construction of the beautiful Brihadishvara temple on the site in the early 11th century CE.
- Over the ages, numerous other temples and shrines were built, making Thanjavur one of the most significant and popular historical places in all of India.
- UNESCO has designated Thanjavur as a World Heritage Site.

Concerning the Brihadishvara Temple:-
- Between around 995 and 1025 CE, the Brihadishvara (or Brhadisvara) temple was built with Chola war plunder and tribute from Sri Lanka.
- The Hindu god Shiva was honored in the temple.
- The entire complex is rectangular, about 140 by 75 meters, with regular internal niches and a wall surrounding it.
- Numerous smaller shrines as well as a colossal double gateway entrance (gopuras) may be found inside the property.
- The towering dadoed-base platform forms the foundation for the two-story Brihadishvara temple.
- Rising in thirteen progressively lower levels above the hallowed garbhagriha (inner shrine), is the granite tower known as the vimana.
- A dome-shaped construction, weighing around 80 tons, sits atop a single 7.7 m square granite block.
- The Dravida architecture of southern India is noted for its padmagarbhamandala design, which was used to precisely plan the temple's 16 x 16 square layout.
- There is a 4-meter-tall Shiva linga (phallus) inside the garbhagriha.
- The inside walls are adorned with murals that, until they were obscured by paintings from the Nayaka period, feature exquisite depictions of Rajaraja I, his guru or spiritual guide, and his three queens.
- Among the other topics are a Nataraja (Shiva as Lord of the Dance), the Chola clan deity (kuladevata).

8.3 Kadalekayi Parishe

Kadalekayi Parishe has just been begun.

Context:
There are attempts to avoid using plastic at the festival.

About Kadalekayi Parishe:-
- In the center of Bengaluru, close to Basavana Gudi, is the ground nut fair known as Kadalekai parishe.
- First crop is being offered to Dodda Basava, also known as Nandi, whose temple is perched on the bugle rock.
- Farmers from different districts of Karnataka come down to participate in the event by bringing the first crop of ground nuts, which is followed by a fair spanning nearly a kilometer.
- Kadalekayi Parishe is happy with the groundnut crop's first output.
- People refer to it as the groundnut festival.
- Every year on the final Monday of Karthika Masa, it takes place.
- Since the holiday is based on the Hindu calendar, the English calendar's precise date is subject to change.
- The dates of the Kadale Kai Parish in Basavanagudi, Bengaluru, are December 9–11, 2023.
- The main event takes place on December 11, 2023.
- Every year, farmers from Karnataka gather at the Bull Temple to ask for blessings for a bountiful crop.
- At costs lower than market rates, tourists purchase groundnuts in large quantities straight from farmers during Kadalekai Parishe.

- At the bull temple, special poojas and prayers are done during Kadalekai Parishe.
- There will be a ton of retail stores, eateries, gaming consoles, and children's toys on decorated streets. The event is anticipated by the locals, who take part in festivities and shopping.

8.4 Kavach system

The Kavach system has been implemented on 1465 route km and 139 locomotives on South Central Railway sections, according to a recent government announcement.

Context:
- The portions are as follows: Manmad-Mudkhed-Dhone-Guntkal section (959 Rkm); Bidar-Parbh section (241 Rkm); and Lingamapalli – Vikarabad – Wadi and Vikarabad – Bidar section (265 Rkm).

About Kavach system:-

- KAVACH is an electronic system for Automatic Train Protection (ATP) that was created to assist the Indian Railways in achieving Zero Accidents.
- The goal is to increase train operating safety throughout Indian Railways.
- Development: It was created by native people.
- In partnership with the Indian industry, the Research Design and Standards Organization (RDSO) developed it.
- The Ministry of Railways oversees the Research Design and Standards Organization (RDSO), a research and development agency.
- Working: The signaling system, the tracks, and the locomotives all have a set of electronic and Radio Frequency Identification (RFID) equipment installed in them.
- To operate the train brakes, these units communicate with one another using extremely high radio frequencies.
- Based only on the reasoning that has been encoded into them, it also warns drivers. (KAVACH)
- It is a technology certified to Safety Integrity Level 4 (SIL-4).
- The term Safety Integrity Level (SIL) is derived from two voluntary standards that plant owners and operators use to measure the level of safety that is required during risky operations.
- SIL is divided into four levels (1-4).
- Both process hazard and protection are increased with a higher SIL Level.
- The most affordable automatic train collision prevention system in the world will be KAVACH.
- The South Central Railway's Gullaguda–Chitgidda Railway stations hosted the first successful experiment in 2022.

Salient features:-
- If the driver is unable to regulate the train's speed, the train's braking mechanism will be activated automatically.
- Preventing a collision between two locomotives that have a working KAVACH system installed.

- Providing regular updates on Movement. (MTRC stands for mobile train radio communication)
- Auto-whistling as you get closer to the level crossing gates
- Sending out SoS messages in times of crisis.
- Train movements are centrally monitored in real time using the Network Monitor System.

8.5 Girsu

Two temples in the ancient Iraqi megacity of Girsu were recently found.

Context:
The two temples, one buried over the other, were discovered by archaeologists.

About Girsu:-
- Where: Iraq.
- Girsu was a city of Sumerian civilization.
- In the nineteenth century, it was found.
- The French archaeologist Ernest de Sarzec conducted the initial excavations in the 1880s.
- It was notable because it was the first time the world was made aware of the existence of the Sumerian civilization.
- It also revealed some of the most significant monuments of Mesopotamian art and architecture.
- One of the oldest civilizations ever recorded, the Sumer Civilization thrived in the historical region of southern Mesopotamia between 4100 and 1750 BCE.
- Writing and time measurement are just two of the many technological innovations attributed to the Sumerians.
- By dividing day and night into 12-hour intervals, hours into 60 minutes, and minutes into 60 seconds, they essentially "invented" time.
- They not only created the earliest known system of law, but they also constructed the first known city.

8.6 National Geoscience Data Repository Portal

To Promote Innovation in Exploration, the Mines Ministry recently launched the National Geoscience Data Repository Portal.

Context:
- In the presence of Shri Raosaheb Patil Danve, Minister of State for Coal, Mines, and Railways, the launch event will be presided over by Union Minister of Coal, Mines, and Parliamentary Affairs, Shri Pralhad Joshi.

About National Geoscience Data Repository Portal:-
- Started on December 19, 2023.
- Ministry of Mines was the launcher.
- There will be a ceremony in New Delhi to launch the National Geoscience Data Repository (NGDR) Portal. (The 2022 National Geoscience Awards)
- Promoting Innovation in Exploration is the goal.
- The nation's largest online platform for geospatial information access, sharing, and analysis is called NGDR.
- The Geological Survey of India (GSI) and the Bhaskarachaya Institute of Space Applications and Geoinformatics (BISAG-N) are leading the NGDR effort.
- It is a major step in democratizing important geoscience data, giving academics and industry stakeholders unparalleled access to priceless resources.

About the Geological Survey of India:-
- 1851 saw its establishment.
- Headquarters: Kolkata.
- Its state unit offices are dispersed throughout nearly every state in the nation, and its six regional offices are situated in Lucknow, Jaipur, Nagpur, Hyderabad, Shillong, and Kolkata.
- The Ministry of Mines' affiliated office is called GSI.
- The main purpose of the Geological Survey of India (GSI) was to locate coal resources for the Indian Railways.
- Its primary responsibilities include the creation and maintenance of national geoscientific databases and the evaluation of mineral resources.

About BISAG-N:-
- Ministry: MeitY, Indian Government. The Bureau of Mines in India
- Currently housed in Gandhinagar, Gujarat, BISAG is a state organization under the Department of Science and Technology of the Government of Gujarat.
- The Societies Registration Act of 1860 allowed the Bhaskaracharya National Institute for Space Applications and Geo-informatics [BISAG (N)] to become an Autonomous Scientific Society.
- The goal is to conduct research and development, technological development and management, capacity building, national and international collaboration, technology transfer, and entrepreneurship development in the field of geospatial technology.
- Nearly every State and key Ministry has had GIS and other geospatial technologies integrated by BISAG.
- In order to achieve this, BISAG has internally integrated the fields of mathematics, science, and geography (including geometry, fluid mechanics, trigonometry, algebra, and photogrammetry), information science, and remote sensing (including GIS, photogrammetry, image processing, GPS, and cell phones), and information science systems (including MIS, database, ERP, project management, web, and artificial intelligence).

8.7 JN.1 variant of COVID

- Concerns about a newly discovered COVID-19 subvariant, JN.1, in Kerala have prompted the Union Ministry of Health to start making preparations.
- The variety, also known as Omicron subvariant BA.2.86 or Pirola, has been spreading throughout China and other nations.
- The JN.1 variety is known for its capacity to evade immunity and spread more quickly.
- Fever, runny nose, sore throat, headache, and moderate gastrointestinal symptoms are among the symptoms.

8.8 Surat Diamond Bourse (SDB)

- The Surat Diamond Bourse (SDB), which will open in Surat, is billed as the "biggest workspace in the world" with 4,200 offices dedicated to trading diamonds—more than the Pentagon can accommodate.
- The SDB wants to move all of the diamond trade operations from Mumbai to Surat. Additionally, it hopes to increase trade, draw in foreign customers, and have a big economic influence on the area.
- The project is a component of the almost 700-acre Diamond Research and Mercantile (DREAM) City greenfield development.
- The center for polishing and cutting diamonds is Surat. With 90% of the diamonds traded globally, it is the largest cutting and polishing center in the world.
- Gujarat, a state in western India, contains Surat, which is situated next to the Tapi River.
- Gujarat, a state in western India, contains Surat, which is situated next to the Tapi River. It was once well-known for its silk weaving and is now a major textile trading hub.
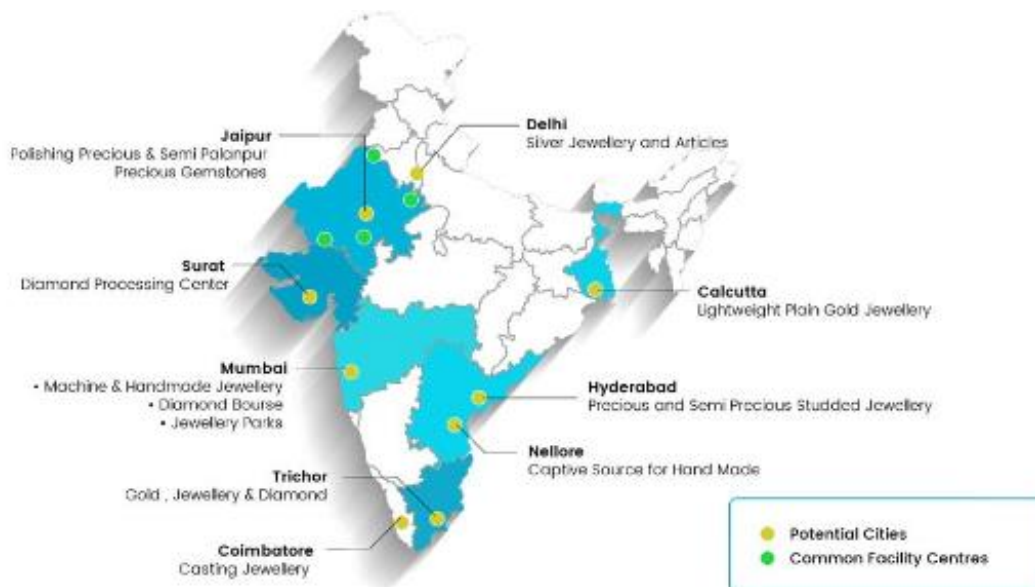
8.9 Rozgar Melas

Recently, Rozgar Melas have been hosted all across the nation.

Context:
- New hires are brought on board by a number of Central Ministries, Departments, Central Public Sector Undertakings (CPSUs), and Autonomous Bodies, such as Public Sector Banks, Health and Education Institutes, etc.
- The process of filling open positions in various Ministries and Departments never ends. Every open position is being filled in a mission-mode manner.

About Rozgar Melas:-
- The first National Rozgar Mela will take place on October 22, 2022.
- Ministry: The Ministry of Entrepreneurship and Skill Development (MSDE).
- Goal: Under the auspices of the Ministry of Skill Development & Entrepreneurship (MSDE), Government of India, the National Skill Development Corporation (NSDC) has been holding Rozgar Melas throughout the nation to boost employment initiatives.
- The country to give young people without jobs appropriate employment possibilities in the private sector.
- A half-day event called a Rozgar Mela brings together a number of employers and job seekers with the aim of conducting interviews and accepting applications.
- These Rozgar Melas often serve young people between the ages of 18 and 35 who have completed their 8th, 10th, or 12th grade, an ITI, a diploma, or a degree, as well as those who have received training and certification in accordance with the National Skills Qualifications Framework.
- Through a variety of means, like as print advertisements, bulk SMS, social media, and college and university workshops in and around the Rozgar Mela regions, job seekers are made aware of the event and encouraged to apply.
- Ten lakh positions in Group A and B Gazetted Posts, Group B Non-Gazetted Posts, and Group C Non-Gazetted Posts will be open for applications under the Rozgar Mela Scheme.

Activities in Rozgar Melas:-
- Mudra Loan Facilitation Counters & Skill Exhibition (where SSCs demonstrate the training model, equipment, and job roles of their respective sectors), Kaushal Melas for the registration of youth under fresh skill development training (PMKK/PMKVY), and counseling sessions for job seekers and their parents

Goals of Rozgar Mela:-
- Giving the youth more power
- Giving young people the chance to participate in the development of their country
- accelerating the meeting between companies and job seekers
- reflecting the belief of the prime minister that progress has to be distributed fairly throughout the nation

8.10 Andriamamelo Cave

Recently, unique prehistoric rock art drawings were found in western Madagascar's Andriamamelo Cave.

Key Features:-
- Archaeological evidence from Madagascar suggests prehistoric links between Africa and Asia.
- There have been finds of pictorial art that shows scenes from nature with figures that resemble both humans and animals.
- Previously, simple symbols dominated Madagascar's rock art. The latest research shows more intricate figures and sceneries.
- A few scenes are similar to Ptolemaic period (300–30 BCE) Egyptian motifs.
- Major images allude to Thoth, Maat, Anubis, Horus, and other Egyptian deities.
- Writings and symbols allude to cultural ties between the Afro-Arab and Ethiopian realms.
- The artwork is reminiscent of Borneo's two-thousand-year-old cave art tradition.
- At least three extinct Madagascarian species, such as a huge tortoise, elephant birds, and sloth lemurs, may be shown in the artwork.
- The ubiquitous M-shaped symbol is associated with the idea of the "breath of life" in several Austronesian languages, and it corresponds to the "hawt" of the Amharic alphabet.
- The absence of modern motifs and Christian, Muslim, and Hindu emblems suggests the art's old origins.

Importance:
- The ramifications of this discovery are important for reconstructing early Madagascar history. (Prehistoric rock art at Ratnagiri)

About Andriamamelo Cave:-
- It is located in Madagascar's western region.
- The cave's distinctive geological structure is a result of its location within the Paysage Harmonieux Protege de Beanka's karstified limestone environment.
- This cave is a prominent component of a larger karst area that encompasses the UNESCO World Heritage site Parc National de Bemaraha.
- It is distinguished by complex subterranean formations that arise from the dissolution of soluble rocks, such as limestone.

8.11 Bhoomi Rashi Portal

The Bhoomi Rashi Portal is transforming land acquisition for highway projects, according to recent revelations made by Union Minister of Road Transport and Highways Nitin Gadkari.

Context:
- In a recent statement to the Rajya Sabha, Nitin Gadkari said that the Bhoomi Rashi portal plays a crucial role in accelerating the building of highway infrastructure in India.

About Bhoomi Rashi Portal:-
- Initiated: 2018.
- Ministry: Highways and Road Transport Ministry.

- The aim is to expedite the development of highway infrastructure in India.
- Bhoomi Rashi serves as a central hub for the online processing of notifications related to land acquisition.
- The portal serves as a consolidated platform where the state government's designated revenue officers, or Competent Authority for Land Acquisition (CALA), send online notifications about land acquisitions.
- Following approval by the Ministry of Road Transport and Highways, the e-Gazette is used to electronically disseminate these notices to the Government of India Press.
- Additionally, the portal is integrated with the Public Financial Management System (PFMS) to enable real-time compensation deposits into the accounts of impacted and interested parties.

Characteristics of Bhoomi Rashi:
- Hindi and English bilingual application for effortless use
- Interface preparation for adding project fundamentals, such as LA sanction information.
- creation of an interface for the villages that make up the land acquisition locations
- Interface preparation for CALA details
- Interface for producing a notice of arrest
- Interface for Land Specific Information
- Interface for creating 3a, 3A, and 3D notifications: a corporate email ID system for all process participants to guarantee efficient e-office administration
- Interface for Processing and Objections
- Interface for deciding on and completing compensation
- creation of a web service to retrieve payment status and beneficiary verification from the Ministry of Finance's Public Financial Management System (PFMS) platform
- Interface between impacted parties and landowners
- Interface for creating reports

Significance:-
- The land acquisition process for National Highways has been greatly accelerated by the site, which has also made it more transparent and error-free with real-time processing of notifications at every level.

8.12 Veer Baal Diwas

On December 26, 2023, Prime Minister Shri Narendra Modi will take part in the "Veer Baal Diwas" program at Bharat Mandapam in New Delhi.

Concerning Veer Baal Diwas:
- The day was commemorated to honor the martyrdom of Sahibzadas Baba Zorawar Singh Ji and Baba Fateh Singh Ji, the sons of Sri Guru Gobind Singh.
- The Prime Minister declared that December 26 will be remembered as "Veer Bal Diwas" to commemorate the martyrdom of Sri Guru Gobind Singh's sons, Sahibzadas Baba Zorawar Singh Ji and Baba Fateh Singh Ji, on January 9, 2022, the day of the Guru's Prakash Purab.

Background Information in History:
- Sahibzada Ajit Singh, Sahibzada Jujhar Singh, Sahibzada Zorawar Singh, and Sahibzada Fateh Singh are the four sons of Guru Gobind Singh ji.
- Before the age of 19, all four of his boys were put to death by Mughal soldiers after being initiated into the Khalsa.
- The four princes of the Khalsa warrior order, known as "Char Sahibzade," are revered in Sikhism for their bravery and sacrifice as the distinguished murdered sons of Guru Gobind Singh ji.
- Among the most venerated martyrs in Sikhism are Sahibzada Jorawar Singh (age 9) and Sahibzada Fateh Singh (age 7).
- Guru Gobind Singh's two sons were apprehended.

- If they converted to Islam, they would be guaranteed safe passage.
- Rather than straying from the high ideals of Dharma, these two outstanding people would have rather died.

Key events :-
- The prime minister will also lead a youth march through Delhi on this special day.
- To commemorate this day, the government is holding interactive events across the nation to teach and educate the public—especially the younger generations—about the Sahibzades' inspirational tale of bravery.
- There will be a digital exhibit about the life and sacrifice of the Sahibzades on display in daycare centers and schools around the nation.
- There will also be a "Veer Baal Diwas" movie screened all around the country.
- Additionally, a number of online contests, including interactive quizzes, will be held via the MyGov and MYBharat portals.

9. Mapping

- Zimbabwe recently said that it will be building its first utility-scale geothermal power plant.

An Overview:
- The initiative intends to lessen Zimbabwe's reliance on energy sources that are threatened by climate change, namely hydropower.

About Zimbabwe:-

- Southern Africa is the location.
- Capital: Harare.
- Zimbabwe is a nation that is landlocked.
- Zimbabwe is bordered by South Africa, Botswana, Mozambique, and Zambia.
- The nation is home to a variety of topography, including plateaus, mountains (like those in the Eastern Highlands), and savannas.
- On the Zambezi River, it is home to the famous Victoria Falls.
- Zimbabwe is located north of the Capricorn Tropic.
- Despite being entirely in the tropics, it experiences subtropical weather.
- The grasses of the Savvanah dominate it.

Major Rivers:-
- Zambezi River: The famous Victoria Falls, one of the biggest waterfalls in the world, is created by the Zambezi, one of Africa's greatest rivers, flowing through Zimbabwe.
- The Limpopo River is an essential water source for the region and forms a portion of Zimbabwe's southern border with South Africa.
- Save River: A significant river in southeast Zimbabwe, it provides vital water for the area's wildlife and agriculture.

Highlands and Mountains:
- Eastern Highlands: Boasting tall peaks, verdant forests, and bountiful valleys, this hilly area shares a border with Mozambique. Zimbabwe's tallest mountain, Mount Nyangani, is a part of the Eastern Highlands.

- Chimanimani Mountains: Part of the Eastern Highlands subrange, renowned for its varied vegetation, picturesque scenery, and well-traveled hiking paths.

Matobo Hills: These granite hills in the southwest are well-known for their unusual rock formations, prehistoric rock art, and spiritual value to the surrounding people.

9.2 Accra (Ghana)

- In 2023, more than 85 nations and international organizations are expected to attend the United Nations Peacekeeping Ministerial Meeting in Accra, Ghana.
- Aim: The meeting is aimed at expressing collective commitment to UN peacekeeping, in alignment with ongoing reforms under Action for Peacekeeping and the Action for Peacekeeping Plus plan.
- West Africa contains the nation of Ghana. Its boundaries are shared by the Ivory Coast to the west, Burkina Faso to the north, and Togo to the east. It borders the Atlantic Ocean and the Gulf of Guinea to the south. Ghana's capital, Accra, is located on West Africa's Atlantic coast.
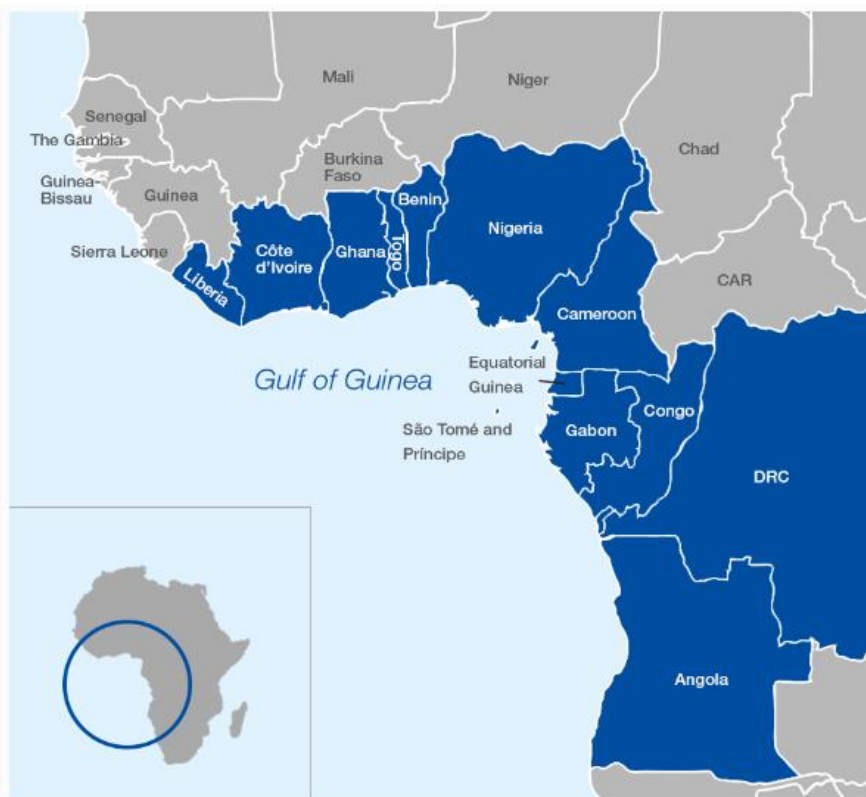
9.3 Mount Merapi (Indonesia)

- On Sumatra Island, Mount Merapi in Indonesia erupted, killing at least 11 hikers out of a group of 26, three of whom were rescued.
- The eruption damaged neighboring communities with volcanic debris that shot a 3,000-meter-tall plume of ash skyward.

About Mount Merapi
- An active stratovolcano called Mount Merapi separates Indonesia's Special Region of Yogyakarta from the province of Central Java. It has been erupting on a regular basis since 1548, making it the most active volcano in Indonesia. Indonesia is part of the Pacific Ring of Fire and is located on the subduction zone, where the Indo-Australian Plate is subducting beneath the Eurasian Plate. As a result, Indonesia frequently experiences earthquakes and volcanic eruptions.

Indonesia volcano

9.4 Kawal Tiger Reserve

Recently, smooth-coated otters have found refuge in Kawal Tiger Reserve.

Background:-
- These animals can be found living on the banks of the Godavari River, the Kadam River, and the canal bunds.

About Kawal Tiger Reserve:-

- Location: Telangana.
- The Kawal Tiger Reserve is located in Telangana's northeast region.
- The Godavari River forms one side of the reserve's border, while Maharashtra forms the other.
- This region is traversed by the Godavari tributary, the River Kadam.
- It is a major component of the central highlands of the Deccan peninsula.
- The rivers Godavari and Kadam, which both run southward through the sanctuary, are also caught by Kawal.
- In 2012, Kawal Wildlife Sanctuary was designated as a Tiger Reserve. The Tiger Reserve of Amrabad
- Southern Tropical Dry Deciduous Forest vegetation.

About Smooth-Coated Otter:-
- Scientific name: Perspicillata Lutrogale.
- The smooth-coated otter is distinguished by its incredibly sleek and smooth coat.
- They have small eyes and ears, a flattened tail, strong, short limbs, and huge, well-webbed fore and hind paws.
- It's common to characterize these otters as fish experts.
- They can swim rather well.
- They go hunting in packs.
- The majority of their habitats include lowlands, rice fields, huge wooded rivers, lakes, freshwater wetlands, coastal mangrove forests, and peat swamp forests.

Threats:-
- Large-scale hydropower project construction
- Wetland conversion for agriculture and habitation
- decrease in the biomass of the prey
- Pesticide contamination and poaching in streams.

9.5 Sierra Leone

- Economic difficulties, such as poverty and a high cost of living, combined with political unrest following President Bio's contentious reelection, served as the impetus for the coup attempt on November 26, Sierra Leone.
- As evidenced by its actions in Niger, Sierra Leone's regional organization, ECOWAS, is prepared to step in and preserve constitutional order.
- Fifteen West African nations make up the ECOWAS (Economic Community of West African States), a regional political and economic union.
- Situated on the southwestern coast of Africa, Sierra Leone borders Guinea and Liberia. The major city and capital is Freetown.
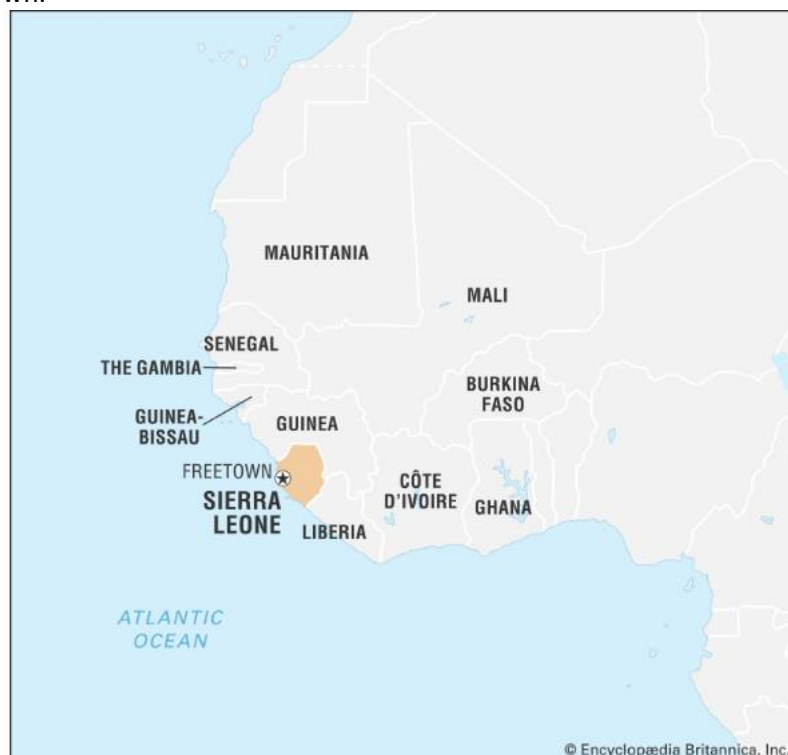
9.6 Kakrapar-4 nuclear reactor

- Criticality was recently reached by the 700 MWe Kakrapar Atomic Power Project's fourth unit in Gujarat, signaling the start of a controlled fission chain reaction.
- The largest in-country nuclear power reactors constructed by the Nuclear Power Corporation of India Limited (NPCIL) are housed at the Kakrapar plant.
- Natural uranium serves as the fuel in these pressurized heavy water reactors (PHWRs), which also use heavy water as a coolant and moderator.
- KAPS-1 and -2 are the names of the two operational PHWRs at the Kakrapar Atomic Power Station, each with a capacity of 220 MWe.
- At other plants, the Department of Atomic Energy's public sector enterprise, NPCIL, already runs native PHWRs.
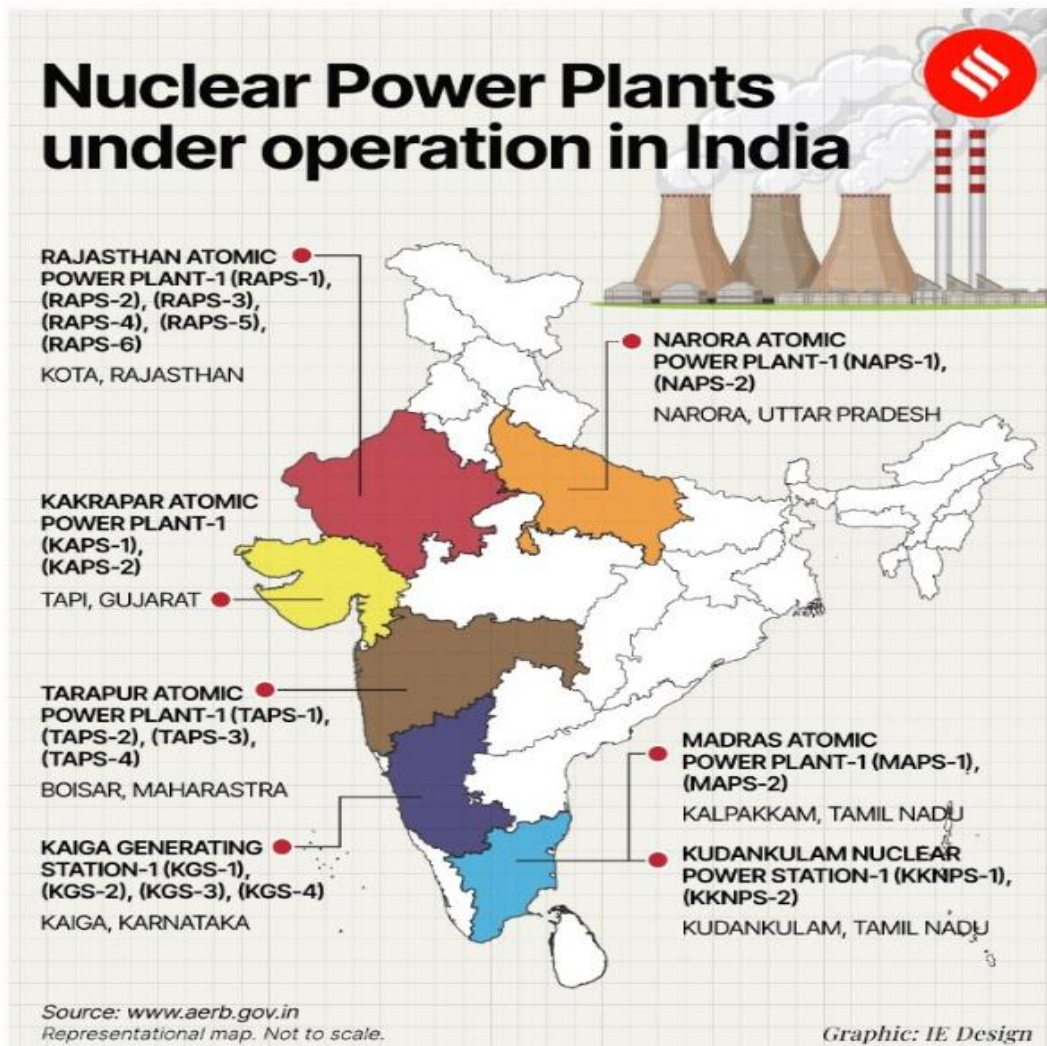
9.7 Red Sea

- The recent attacks in the Red Sea have the potential to substantially disrupt global trade as more ships decide to stay out of the sea.

Context:
- The latest shipping corporations to declare their avoidance of the Red Sea are Germany's Hapag-Lloyd and Hong Kong's OOCL. This comes after attacks on vessels by Yemen's Houthi group interrupted global trade and led to the formation of a naval task force.

About Red Sea:-

- The Red Sea is a narrow body of water that stretches 1,200 miles (1,930 km) southeast from Suez, Egypt, to the Bab el-Mandeb Strait, which links it to the Arabian Sea via the Gulf of Aden.
- Africa and Asia are separated by the Red Sea.
- To the north and south, respectively, it is bounded by the Sanai Peninsula, the Gulf of Aqaba, the Gulf of Suez (which leads to the Suez Canal), and the Gulf of Aden.
- It is connected to the Mediterranean Sea in the north by the Suez Canal and to Israel and Jordan in the south via the Gulf of Aqaba (all of which border Saudi Arabia, Egypt, Israel, and Jordan).
- The Arabian Sea and the Gulf of Aden, via the Bab-el-Mandeb Strait (between Djibouti and Eritrea in the Horn of Africa and Yemen on the Arabian Peninsula).
- It is a point where Africa and Asia meet the Indian Ocean. (Islands of Paracel)
- Stretching between the Indian Ocean to the southeast and the Mediterranean Sea to the northwest, the basin is long and thin.
- Some of the hottest and saltiest waters on Earth can be found in the Red Sea.
- Naming: The color variations seen in its waters are the source of its name.
- The Red Sea is typically a deep blue-green color; on rare occasions, though, large blooms of the algae Trichodesmium erythraeum inhabit it, and when these blooms end, the sea takes on a reddish brown hue.
- Geology: North Africa and Arabia, two major chunks of the Earth's crust, are divided by a fault depression where the Red Sea is located.
- This fissure in the crust is a component of the larger, intricate East African fissure System.

Resource: The Red Sea region contains five main categories of natural resources: petroleum deposits, evaporite deposits (sediments left behind by evaporation, including dolomite, gypsum, sylvite, and halite), sulfur, phosphates, and heavy-metal deposits.

9.8 Nicaragua

- Recent events involving a flight from Nicaragua that was held in France heightened concerns about human trafficking.
- An increasing number of Indians are expressing interest in visiting Nicaragua, raising questions about possible abuse for unauthorized entrance into the US and Canada. Because there is no embassy of Nicaragua in India and the regulations are murky, it is difficult to obtain a visa for Nicaragua.

About Nicaragua

- With Honduras, the Caribbean, Costa Rica, and the Pacific Ocean as its borders, it is the largest nation in Central America. Central is Managua. Spanish is the primary language of this six million-person multiethnic country, which includes mestizo, Indigenous, European, and African ancestry.

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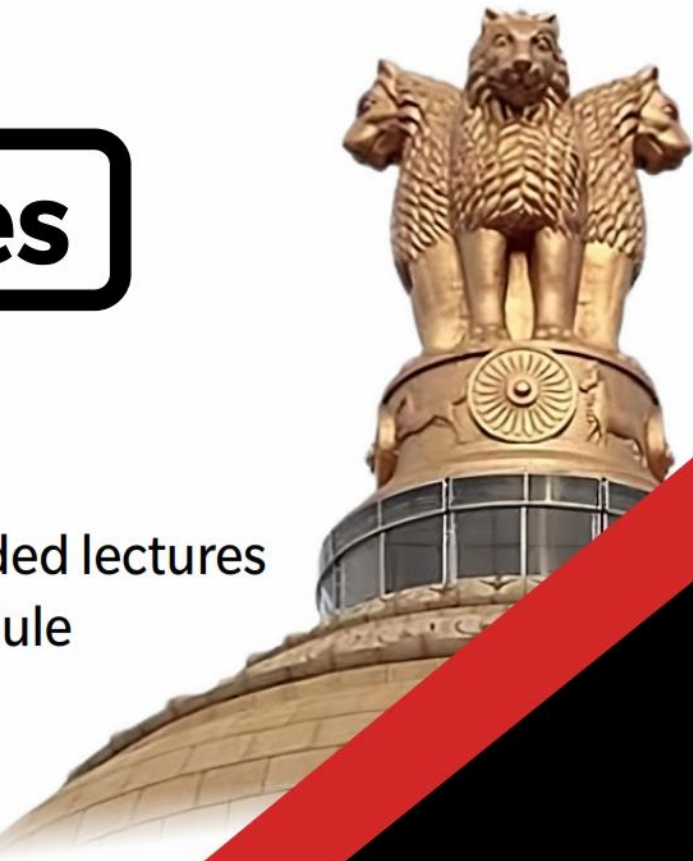
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