

MONTHLY CURRENT AFFAIRS

By



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Important News Articles

GSI

1. Jammu and Kashmir's famed Pashmina gets geographical recognition with GI tag - Hindustan Times

Relevance: Art and Culture

News:

- Recently, **Basohli Pashmina from Jammu and Kashmir** has got the **Geographical Indication (GI) tag**.

Basohli Pashmina

- It is a more than **100-year-old traditional craft from Jammu and Kashmir's Kathua district**.
- It is a **hand-spun product** known for **extreme softness, fineness and light-weight, has insulating properties and extended life**.
- Pashmina products include **shawls for both men and women, mufflers, blankets and basket**.

Pashmina

- It refers to a **fine variant of spun cashmere** (animal-hair fibre) derived from the downy undercoat of the **Changthangi**.
- It is obtained from a **breed of mountain goats** (*Capra hircus*) found on the **Changthang Plateau in Tibet and parts of Ladakh**.
- Traditional producers of pashmina wool in the Ladakh region** are known as the **Changpa**.

Geographical Indication (GI) Tag

- It is an **indication** used to **identify goods having special characteristics** originating from a **definite geographical territory**.
- The **Geographical Indications of Goods (Registration and Protection) Act, 1999** seeks to provide for the **registration and better protection** of geographical indications relating to goods in India.
- It is governed and directed by the **WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
- It is primarily an **agricultural, natural or a manufactured product** (handicrafts and industrial goods).
- Validity: 10 years** following which it can be renewed.

Prelims Takeaway

- Geographical Indication (GI) Tag
- Basholi Pashmina
- Pashmina Wool

2. Government of India notifies establishment of National Turmeric Board - PIB

Relevance: Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).

News:

- The Government of India today notified the **constitution of the National Turmeric Board**.
- The National Turmeric Board will **focus on the development and growth of turmeric and turmeric products in the country**.

Key points

Composition

- The Board shall have a **Chairperson to be appointed by the Central Government**
- Members from the **Ministry of AYUSH, Departments of Pharmaceuticals, Agriculture & Farmers Welfare, Commerce & Industry** of the Union Government
- Senior State Government **representatives from three states (on rotation basis)**

Prelims Takeaway

- Ministry of AYUSH
- Turmeric

- Select **national/state institutions involved in research**, representatives of turmeric farmers and exporters, and have a Secretary to be appointed by the Department of Commerce.

Objective

- To provide **leadership on turmeric** related matters
- Facilitate **greater coordination with Spices Board** and other Government agencies in development and growth of the turmeric sector.
- To **further increase awareness** and consumption
- Develop **new markets internationally** to increase exports, promote research development into new products,
- Develop **on our traditional knowledge for value-added** turmeric products.
- It will especially **focus on capacity building and skill development** of turmeric growers for harnessing greater benefits out of value addition.
- The Board's **activities into research, market development, increasing consumption, and value addition**

India's position in turmeric production

- India is the **largest producer, consumer and exporter** of turmeric in the world.
- In the year 2022-23, an area of **3.24 lakh ha was under turmeric cultivation in India** with a production of 11.61 lakh tonnes (over 75% of global turmeric production).
- The largest producing states of Turmeric are **Maharashtra, Telangana, Karnataka and Tamil Nadu**.
- India has more than **62% share of world trade in turmeric**.
- The leading **export markets for Indian Turmeric are Bangladesh, UAE, USA and Malaysia**.
- With the focused activities of the Board, it is **expected that turmeric exports will reach USD 1 Billion by 2030**.

3. Afghanistan: Two 6.3-magnitude tremors kill over 100, injure 500 - Indian Express

Relevance: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclones. etc., geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

Prelims Takeaway

- Earthquake
- Volcano

News:

- Recently, **Powerful earthquakes in Afghanistan** have killed more than 2,000 people in the **deadliest tremors in years in the quake-prone mountainous country**.

Basics of Earthquake

- It is the **shaking of the earth**.
- It is caused due to **release of energy**, which generates waves that travel in all directions.
- The vibrations called **seismic waves are generated from earthquakes** that travel through the Earth and are recorded on **instruments called seismographs**.
- The **location below the earth's surface** where the earthquake starts is called the **hypocenter**, and the location **directly above it on the surface** of the earth is called the **epicentre**.

Type of earthquake

1. Tectonic earthquake

- **Tectonic plates (Lithospheric plates) are constantly shifting** as they drift around on the viscous, or slowly flowing, mantle layer below.
- This **non-stop movement causes stress on Earth's crust**.
- When the **stresses get too large**, it leads to cracks called faults.
- When tectonic plates **move, it also causes movements at the faults**.
- Thus, the **slipping of land along the faultline along convergent, divergent and transform boundaries** causes earthquakes.

2. Volcanic Earthquake

- Earthquakes **produced by stress changes in solid rock due to the injection or withdrawal of magma** (molten rock) are called **volcano earthquakes**.
- These **earthquakes can cause land to subside** and can produce large ground cracks.
- These earthquakes can occur as rock is moving to fill in spaces where magma is no longer present.

4. Claudia Goldin wins 2023 Economics Nobel Prize for research on workplace gender gap- The Hindu

Relevance: Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.

Prelims Takeaway

- Economics
Nobel Prize

News:

- Recently, the **Nobel Prize for economics** was awarded to **Harvard University professor Claudia Goldin** for her research that has advanced the understanding of the **gender gap in the labour market**.
- Ms. Goldin is just **the third woman to win the prize** out of 93 economics laureates.

Key Points

- Her study showed that **despite continued economic growth, women's pay did not continuously catch up to men's**
- A **divide still exists** despite women gaining higher levels of education than men.

Explaining the gap

- women often taking jobs that allow them to be **on call at home — work that often pays less**.
- a woman's role in the job market and the pay she receives **aren't influenced just by broad social and economic changes**.
- They also are **determined partly by her individual decisions** about, for example, how much education to get.
- The process of evaluating prospects as times change **"helps explain why change in labour market gender gaps has been so slow**.

Gender inequality

- Gender inequality refers to **unequal treatment or perceptions of individuals wholly or partly due to their gender**
- **India and gender inequality**
- Indian women's **labour force participation, at just 27 per cent**, is ranked 170 out of the world's 188 economies.
- Not only is Indian women's labour-force participation among the lowest in the world, research suggests **it may be declining**.
- This is **despite rising education** levels and declining fertility.

Reasons behind the gender inequality in India

- Preference for sons
- Dowry system
- Patriarchal mindset
- Poverty and lack of education

Way forward

- **Need for policy initiatives to empower women** as gender disparities in India persist even against the backdrop of economic growth.
- **Improvements in labour market prospects** also have the potential to empower women.
- **increase in marriage age** and school enrolment of younger girls.
- Implement the **numerous schemes announced in true spirit**.

5. Dogra architecture gets a revival at J&K's Maharaj Gunj -The Hindu

Relevance: Indian culture will cover the salient aspects of Art Forms, literature and Architecture from ancient to modern times.

News:

- Reviving the Heritage of Srinagar's Maharaj Gunj Market

Prelims Takeaway

- The Srinagar Smart City Mission

Restoring the Past Glory

- Srinagar Smart City Limited and the Kashmir chapter of the Indian National Trust for Art and Cultural Heritage (INTACH) are collaborating on a project **to revive the historic Maharaj Gunj market in Srinagar**
- It has been **obscured by encroachments and deviations for decades**
- The project aims **to conserve vernacular elements of Kashmiri architecture** and bring back the market's rich historical character.

Rich Architectural Legacy

- The Maharaj Gunj **market boasts a blend of vernacular and colonial architecture.**
- **Many buildings have a mixed-use design**, featuring shops on the ground floor and living quarters on the upper floors.
- These structures are **constructed in the taq or dhajji dewari styles.**
- The project seeks to **restore the market's highly ornate exteriors and interiors.**

Transformation in Progress

- Approach roads from the Budshah Tomb have already undergone transformations with a traditional color palette and uniform fenestration styles, altering the area's character.

Challenges in Restoration

- The restoration **efforts are challenging due to the extent of deviations** and encroachments.
- Inappropriate interventions are being **reversed to restore the historical character** of the site.

Historical Significance

- The Maharaj Gunj market, located in Srinagar's old city, **was established by Maharaja Ranbir Singh to boost trade and commerce in Kashmir.**
- Before 1947, the **market attracted traders from cities like Amritsar, Lahore, Karachi, Rawalpindi, and even Central Asia.**
- It played a **pivotal role in the trade of various commodities**, including saffron, shawls, paper, and fruits.

The Market's Former Glory

- **In 1932, a trade directory praised Maharaj Gunj** as one of the finest markets in India.
- It **facilitated the export of prized Kashmiri items** and introduced a diverse lifestyle to the city.

Preservation and Conservation

- **The Srinagar Smart City Mission's revival program** will spotlight the city's rich cultural heritage, encompassing old shrines, tombs, mosques, temples, and a gurdwara.
- INTACH has been working on digitized mapping of Srinagar with an emphasis on the **heritage area of the old town.**
- **The project aims to offer new urban experiences** for tourists exploring Srinagar and revive the historic essence of the Maharaj Gunj market.

GS II

6. Argentina, India sign social security agreement - The Hindu

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- Recently, **India and Argentina** signed the '**Social Security Agreement**'.
- It aims to ensure **legal rights of professionals in each other's domain** that will assist in **risk-free international mobility**.

Key Features

- It is aimed at **ensuring rights of Indian nationals employed** in various Indian and international concerns in **Argentina** as well as for **Argentine nationals seeking employment in India**.
- It would **protect the rights** of professionals and workers **against loss of benefits or contributions made towards social security** in both countries.
 - It would thus facilitate **greater movement** of professionals and labour force
- It also **takes care of factors like rent, subsidy and lump sum payments** as per national laws of both countries.
- It has **created a legal framework** which will enable professionals on both sides to **claim old age and survivor's pensions**.
- It also **safeguards permanent and total disability pension** for employed persons as well as to legislations in Argentina concerning contributory benefits of the **Social Security System**.

Prelims Takeaway

- Social Security Agreement
- Location Based Questions

7. Educational institutions run by religious, linguistic minorities need not provide reservation for SCs, STs and OBCs: Madras High Court - The Hindu

Relevance: Constitution of India —historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

News:

- The Madras High Court recently ruled that **educational institutions run by religious and linguistic minorities need not follow the rule of reservation** with respect to the SC, ST and OBC students.
- It has also held that the **government cannot compel such institutions to provide reservation to such candidates**.

Key Highlights

- The court ruled the **State government would not have any right to restrict the minority status of an institution** to a particular period.
- **Once minority status is granted** to an institution, **it will persist**, until the **National Commission for Minority Educational Institutions (NCMEI)** cancels it for valid reasons.
- It upheld the government's right to stipulate that **minority institutions can admit students from the respective religious and linguistic minorities** up to 50% of the sanctioned intake based on merit.
- They clarified that **students admitted on merit should not be counted** within the first 50% of admissions allocated for minorities.

Legal Provisions

- The judges found support in **Article 15(5) of the Constitution**, introduced through the 93rd amendment in 2005.
- It **specifically excludes minority institutions** from the State Government's authority to **provide special provisions for reservations**.

Prelims Takeaway

- Minority Institutions
- Reservation

- The **Section 2(d) of the Act** also **excludes minority institutions established under Article 30(1)** of the Constitution **from its definition of ‘private educational institution.’**
- Thus, the **State cannot impose reservation provisions on minority educational institutions.**

8. At 36%, EBCs largest group in Bihar, shows caste study - The Hindu

Relevance: Polity and Governance

News:

- The **Bihar government** recently released the **results of its caste survey**, shedding light on the state’s demographic composition and caste dynamics.
- Parties have continued to **demand a caste census** saying that such an exercise is **necessary to streamline welfare policies.**

Prelims Takeaway

- Caste Census
- Census

Caste Composition

- The survey reveals the **caste composition in Bihar** as follows
 - Extremely Backward Classes (EBCs): 36.01%
 - Other Backward Classes (OBCs): 27.12%
 - Scheduled Castes (SCs): 19.65%
 - Scheduled Tribes (STs): 1.68%
 - Unreserved: 15.52%
- **Hindus make up 81.99%**, while **Muslims constitute 17.72%.**
- **Other religious denominations have minuscule populations.**

Survey Phases

- The survey **occurred in two phases**
 - **First phase:** Involved counting households in January.
 - **Second phase:** Aimed to collect caste, religion, economic, and family data.

First Caste Census as SECC

- Socio-Economic and Caste Census was **conducted for the first time in 1931.**
- It is meant to **canvas every Indian family**, both in rural and urban India, and ask about their **economic status and specific caste name.**
- It has the potential to allow for a **mapping of inequalities at a broader level.**

Difference Between Census & SECC

Census	Socio-Economic and Caste Census
It provides a portrait of the Indian population	It is a tool to identify beneficiaries of state support.
Since the Census falls under the Census Act of 1948, all data is considered confidential.	All the personal information given in the SECC is open for use by Government departments to grant and/or restrict benefits to households.

9. Dr Jitendra Singh launches the Intelligent Grievance Monitoring System (IGMS) 2.0 Public Grievance portal and Automated Analysis in Tree Dashboard portal of DARPG - PIB

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

- Recently, the **Union Minister of State (Independent Charge) Science & Technology**, MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space launched the **IGMS 2.0.**

Prelims Takeaway

- IGMS 2.0
- CPGRAMS

Intelligent Grievance Monitoring System (IGMS) 2.0

- It is a **public grievance portal and automated analysis** in the **Tree Dashboard portal** of the **Department of Administrative Reforms and Public Grievances (DARPG)**.
- It has been **implemented by IIT Kanpur** following an **MoU with DARPG for upgrading DARPG Information Systems (CPGRAMS)** with **Artificial Intelligence capabilities**.

Significance

- It provides **instant tabular analysis of grievances filed & disposed**, state-wise & district-wise grievances filed & ministry-wise data.
- It will also help the officials **identify the root cause of the grievance**.
- It will help the DARPG with the **creation of a draft letter for the selected scheme/ministry** and **expedite the grievance redressal process** by the concerned ministry/department.
- It has been **enabled with Artificial intelligence (AI) capacity**.

Centralised Public Grievance Redress and Monitoring System (CPGRAMS)

- It is an **online platform** available to the citizens **24x7 to lodge their grievances to the public authorities** on any subject related to **service delivery**.
- It is a **single portal connected to all the Ministries/Departments** of Government of India and States.
- Every Ministry and States has **role-based access to this system**.
- It is also **accessible to the citizens** through
 - **standalone mobile applications** downloadable through Google Play store
 - **mobile applications integrated with UMANG**
- The **status of the grievance can be tracked with the unique registration ID provided** at the time of registration of the complainant.

10. Amended norms for 28% GST on e-gaming kick in; companies raise concerns - Indian Express

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

- Amended provisions are set to kick in for **online gaming from Sunday** bringing into effect the **28 percent tax at face value at entry level** under the GST regime.
- Industry players and experts have, however, **raised concerns about compliance and the applicability** of the amended legal provisions.
- This is because **some states are still in the process of clearing the amendments** for their respective State GST (SGST) laws.

Prelims Takeaway

- Online Gaming
- Goods and Service Tax

The Changes

- The **uniform levy of 28 percent tax** is applicable
 - On the face value of the chips purchased in the case of casinos
 - On the full value of the bets placed with bookmaker/totalisator in the case of horse racing
 - On the full value of the bets placed in case of online gaming.
- It includes **definitions for online gaming, online money gaming, specified actionable claim and virtual digital assets**.
- It is mandatory for **offshore online money gaming firms** providing services to Indian users to **register** in the country and **pay taxes** or face access blockages.

Different types of online gaming**1. e-Sports**

- These are video games that were **played privately or on consoles** in video game stores in the 1990s
- Now, they are played **online** in a **structured manner** between professional players, either individually or in teams.

2. Fantasy sports

- These are games in which the **player selects a team of real sports players** from several teams and **earns points** based on how well the players perform in real life.

3. Online casual games

- These could be **skill-based**, where the outcome is heavily impacted by **mental or physical skill or chance-based**
- A game of chance may be considered as **gambling** if players bet money or **anything of monetary value**.

The Indian online gaming market

- The online gaming industry **grew exponentially** during the **Covid-19 pandemic**.
- The **revenue** of the Indian mobile gaming industry is expected to **reach \$5 billion in 2025**.
- The industry in the country grew at a **Compound annual growth rate (CAGR) of 38% between 2017-2020**, as opposed to 8% in China and 10% in the US.
- India's percentage of **new paying users (NPUs)** in gaming has been the **fastest growing** in the world.

11. Madras HC dismisses PIL petition against Kudankulam project - The Hindu

Relevance: Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).

News:

- The **Madras High Court has dismissed a public interest litigation (PIL)** petition filed in 2017 against the Kudankulam Nuclear Power Project (KKNPP)
- The **PIL was filed against the first pour of concrete for units 3 and 4 of the Project without complying with norms** on restricting the population growth in the sterilized zone — the area within a 5-km radius of the plant.

Prelims Takeaway

- Nuclear energy
- The Kudankulam power plant

The Kudankulam power plant

- It is located in the **coastal Tamil Nadu**.
- It is a **Civilian Nuclear Power Plant**, built by India in joint-collaboration **with Russia**.
- There are a total of **7 operating nuclear power plants in India**, and all of these facilities are a part of India's Critical Information Infrastructure.

Nuclear energy

- **It comes from splitting atoms in a reactor** to heat water into steam, turn a turbine and generate electricity.
- Inside **nuclear power plants, nuclear reactors** and their equipment contain and control the chain reactions, most commonly fueled by Uranium-235, to produce heat through fission.

Significance for India

- With the availability of Thorium, **India has the potential to be the first nation to realise the dream of a fossil fuel-free nation**.
- Nuclear energy will **also relieve the nation of about \$100 billion** annually which we spend on importing petroleum and coal.
- Nuclear power **provides a relatively clean, high-density source of reliable energy with an international presence**.

12. Toilet use declining in rural India since 2018-19: WB paper - The Hindu

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

Prelims Takeaway

- Swachh Bharat Abhiyan
- National Family Health Surveys

- A departmental working paper by the **World Bank on the progress of the Swacch Bharat Mission - Gramin (SBM-G)** observed the trend of regular toilet use declining in rural India from 2018-19 onwards,

- **The largest drop being seen among Scheduled Caste and Scheduled Tribe** socio-economic groups.

Key findings of the report

- The paper, by researchers at the World Bank and a faculty of Economics at Yale University, **reconciles varied data points on toilet access and usage from:**
 - the National Family Health Surveys (NFHS)
 - the SBM-G's own information system.
- The **NARSS was conducted across rural India from 2017-18 to 2019-20** by the Ministry of Drinking Water and Sanitation with World Bank support.
- As the programme started, it led to a substantial increase in access to own or shared improved toilets in rural India - **from 38% in 2012 to 90% in 2019-20**
- the States **where there has been a sustained decline in regular use of toilets since 2018 were Uttar Pradesh, Gujarat, Chhattisgarh, Telangana, Karnataka, and Himachal Pradesh,**
- Regular toilet use **has increased in Tamil Nadu, Karnataka, Andhra Pradesh, Telangana and Gujarat**
- It concluded that **most low-income States were among the best performers** in terms of their overall increase in regular use of toilets
- the **performance of richer States was mixed.**

Decline amongst SCs, STs

- While **regular use of toilets declined for all groups, the decline is the largest for the SCs and the STs.**
- But the **regular use of any toilet for SC and ST people saw a jump of 51 and 58 percentage points** respectively between 2015-16 and 2018-19

13. 'Green shipping plan to position maritime sector as eco-friendly' - The Hindu

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- **Director General of Shipping** took part in the 13th edition of the **South Asia's largest maritime exhibition and conference - INMEX SMM India 2023**
- He said that the **National Action Plan for Green Shipping promotes** eco-friendly practices and **incentives for low-emission ships.**

Prelims Takeaway

- International Maritime Organisation
- Solar energy

Key points

- The **recent achievements in the shipping sector** include:
 - doubling major ports' capacity
 - substantial waterway growth
 - increased cruise passengers and seafarers
 - expanded solar power,
 - lighthouse tourism.
- This progress is fuelled by transformative reforms like **Sagarmala and digitization initiatives.**
- **Sustainability** is key, as seen through the Swachh Sagar Portal for environmental data.
- The sector's vision encompasses **quadrupling port capacity, clean energy fuel hubs, cruise tourism growth, shipbuilding and recycling leadership,** and a 5,000 km regional waterway grid.

National Centre of Excellence for Green Port & Shipping

- It is a major initiative by the **Ministry of Ports, Shipping and Waterways (MOPSW)** towards providing greener solutions.
- The NCoEGPS will be **working under the framework of the Sagarmala programme** of the MoPSW.
- The **Energy and Resources Institute (TERI)** is the **knowledge and implementation partner** for this project.

- The centre aims to develop a **regulatory framework and alternate technology adoption roadmap for Green Shipping** to foster carbon neutrality and circular economy (CE) in the shipping sector in India.
- Green shipping is **when people or goods are transported by ships using the minimum resources and energy possible**
- all ships **must switch to an alternative fuel oil** that emits less than 0.50% sulphur into the atmosphere as per guideline of IMO (**International Maritime Organisation**)
- India has been **selected as the first country under IMO Green Voyage 2050** project to conduct a pilot project related to Green Shipping

14. Election of China-friendly Mohamed Muizzu could test Indo-Maldives ties - Indian Express

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- The somewhat **surprising victory of Mohamed Muizzu** after a second-round run-off **presidential election** earlier this week is widely seen **as being to China's benefit**.
- **India's ties with the Maldives**, including in defence and through infrastructure investments, **were among the primary issues in the campaign**.

Prelims Takeaway

- Greater Male Connectivity project
- Colombo Security Conclave

India-Maldives bilateral relation

- India provides the **largest number of training opportunities for Maldivian National Defence Force (MNDF)**, meeting around 70% of their defence training requirements.
- A **drug detoxification and rehabilitation centre** in Addu built with Indian assistance
- India is **Maldives 2nd largest trading partner**
- **Hanimaadhoo International Airport** Development project under an **Indian credit line** will add a brand-new terminal to cater to 1.3 million passengers a year.
- In 2022, the **National College for Policing and Law Enforcement (NCPLE)** was inaugurated by India's External Affairs Minister.
- NCPLE is the **largest grant project executed by India in Maldives**.

Neighbourhood First policy

- Under the **Neighbourhood First policy and Security and Growth for All in the Region (SAGAR)**, security cooperation between the two countries has grown.
- **Colombo Security Conclave**, which includes Sri Lanka, India and the Maldives.
- Delhi has also **provided financial assistance for the Greater Male Connectivity project**, among other infrastructure collaborations.

15. LPG subsidy for Ujjwala beneficiaries raised to ₹300 - The Hindu/ Govt hikes LPG subsidy for Ujjwala beneficiaries by 50% to Rs 300 per cylinder - Indian Express

Relevance: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

News:

- **Ujjwala beneficiaries will get an additional subsidy** of ₹100, taking the entire amount to ₹300, the Union Cabinet decided recently.
- This will **benefit 9.6 crore Ujjwala beneficiaries**.

Prelims Takeaway

- Socio Economic Caste Census Data 2011
- Pradhan Mantri Ujjwala Scheme

Pradhan Mantri Ujjwala Scheme

- The Scheme was **launched** by the **Prime Minister** on **1st May, 2016** with the slogan of “**Clean Fuel, Better Life**”.
- **Objective:** To safeguard the health of women & children by providing them with a clean cooking fuel – LPG.
- **Implementing Agency:** Ministry of Petroleum & Natural Gas
- **5 crore LPG connections** were to be provided to **BPL (Below Poverty Line)** families with a support of Rs 1600 per connection in the next 3 years (2016-19).
- Subsequently, the target was revised to **8 crore LPG connections** in April 2018.
- **Connections** are issued in the name of **women of the households**.
- The **identification** of the **BPL** families is done through **Socio Economic Caste Census Data 2011**.
- The eligible beneficiaries **receive a free LPG connection**.
- The beneficiaries also receive a subsidy on the **first six refills of 14.2 kg cylinders or eight refills of 5 kg cylinders**.
- The beneficiaries can opt for an **EMI facility to pay for the cost of the stove and the first refill**.
- The **beneficiaries can also join the PAHAL scheme** to receive the subsidy amount directly in their bank accounts.

16. Shah calls for uniform anti-terrorism structure under NIA in all States - The Hindu

Relevance: Security challenges and their management in border areas – linkages of organized crime with terrorism.

News:

- Recently, Union Home Minister proposed to set up a “**Model Anti-terrorism Structure**” under the purview of **National Investigation Agency (NIA)**,
- It is to be **followed by the States for better coordination** in the fight against terror.

Prelims Takeaway

- Inter-Operable Criminal Justice System
- National Crime Records Bureau

Key Points

- The government has prepared many database verticals in the last 5 years and both the Centre and State agencies should make **multidimensional and AI-based use of the data to successfully fight against terrorism**.
- The **database should be used by every police station and officers** for investigation, prosecution, prevention and action.
- **Inter-Operable Criminal Justice System (ICJS)** — CCTNS have been implemented in 99.93 per cent cases in 16,733 police stations.
- Similarly, as many as **22,000 courts have been connected to e-Court** and about 2 crore prisoner data is available through e-Prison, 1 crore through e-Prosecution.
- The **National Automated Fingerprint Identification System (NAFIS)** has more than 90 lakh fingerprint records.
- Under **Integrated Monitoring of Terrorism (i-MoT)**, data of **22 thousand terrorist cases is available** for monitoring UAPA registered cases.
- Data of more than **5 lakh narco-offenders is available under NIDAN**, i.e. National Integrated Database on Arrested Narco-Offenders.

Inter-Operable Criminal Justice System

- ICJS is a **national platform for enabling integration of the main IT system** used for delivery of Criminal Justice in the country.

- It seeks to **integrate the five pillars of the system:**
 - Police (through Crime and Criminal Tracking and Network Systems)
 - e-Forensics for Forensic Labs
 - e-Courts for Courts
 - e-Prosecution for Public Prosecutors
 - e-Prisons for Prisons
- The **ICJS system would be made available through a dedicated** and secure cloud-based infrastructure with high speed connectivity.
- **National Crime Records Bureau (NCRB)** will be responsible for **the implementation of the project in association with National Informatics Centre (NIC).**
- The project will be **implemented in collaboration with the States and Union Territories.**

17. Bangladesh gets its first batch of uranium - The Hindu/ Bangladesh receives first uranium consignment for Russia-built nuclear plant - Indian Express

Relevance: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

News:

- **Bangladesh received the first uranium delivery for its Russia-backed nuclear plant**, a project aimed at bolstering its overstretched energy grid but complicated by sanctions on Moscow.

Prelims Takeaway

- The Treaty on the Non-Proliferation of Nuclear Weapons
- Nuclear energy

Nuclear energy

- It is the **energy in the nucleus, or core, of an atom.**
- Nuclear energy can be **used to create electricity**, but it must first be released from the atom.
- In the **process of nuclear fission**, atoms are split to release that energy.
- A nuclear reactor, or **power plant**, is a series of machines that can control nuclear fission to **produce electricity.**
- The fuel that nuclear reactors use to produce **nuclear fission is pellets of the element uranium.**
- In a **nuclear reactor, atoms of uranium are forced to break apart.**
- As they split, the **atoms release tiny particles called fission products.**
- Fission products **cause other uranium atoms to split**, starting a chain reaction. The energy released from this chain reaction creates heat

The Treaty on the Non-Proliferation of Nuclear Weapons

- It is commonly known as the **Non-Proliferation Treaty or NPT**, is an international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology,
- **Objective:** to promote cooperation in the peaceful uses of nuclear energy, and to further the goal of achieving nuclear disarmament and general and complete disarmament
- **Four UN member states have never accepted the NPT**
 - Three of which possess or are thought to possess nuclear weapons: India, Israel, and Pakistan.
- In addition, **South Sudan, founded in 2011, has not joined.**

18. SYL canal front and centre, Punjab-Haryana ties hit troubled waters again - Indian Express

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

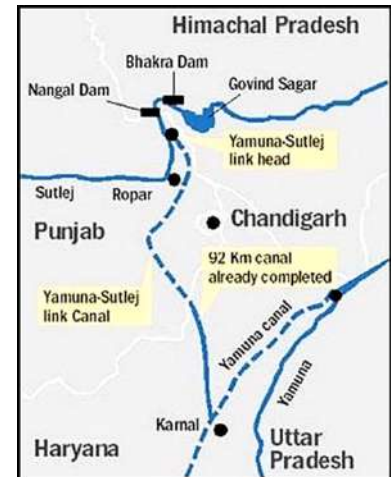
- The Supreme Court gave direction to the government of Punjab to complete the construction of the project The Sutlej-Yamuna Link (SYL) canal.

Sutlej Yamuna Link Canal (SYL) Dispute

- The Sutlej Yamuna Link Canal (SYL), is an under-construction canal to connect the Sutlej and Yamuna rivers.
- The decades-old dispute over the canal, which is supposed to carry water from Punjab to Haryana, has its origin in a disagreement over sharing of Ravi-Beas water.
- The river Beas joins river Sutlej in Punjab.
- The dispute regarding sharing of river water emerged after Punjab was reorganised in 1966, and the state of Haryana was created (out of Punjab).
- After this, Punjab refused to share waters of Ravi and Beas with Haryana.
- The court asked the Union government to “survey the portion of the land allocated for the project in Punjab to ensure that the land is protected

Prelims Takeaway

- Sutlej Yamuna Link Canal
- Beas river



19. MGNREGS runs out of funds; Ministry seeks more budget - The Hindu

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

- Six months into the financial year, the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), has run out of funds
- The data as per the statistics put out by the Ministry on its website is running a deficit of ₹6,146.93 crore.

Key Points

- An amount of ₹60,000 crore was sanctioned for the scheme for 2023-24, which was 18% lower than the ₹73,000-crore budget estimates for the financial year 2022-23.
- The Ministry of Rural Development (MoRD) had approached the Finance Ministry asking for a supplementary budget of ₹23,000 crore.
- The Ministry, quoting from statistics, said that out of the sanctioned ₹60,000 crore, ₹56,105.69 crore, 93.5% of the funds had been released to the States.
- Though, the Ministry’s statistical report (7.1.1) available on the website shows a deficit of ₹6,146 crore.
- “This is a story that repeats each year without fail.

MGNREGA

- MGNREGA is one of the largest work guarantee programmes in the world launched in 2005 by the Ministry of Rural development.
- It aims to guarantee 100 days of employment in every financial year to adult members of any rural household willing to do unskilled manual work.
- The act aims at addressing the causes of chronic poverty through a rights-based framework.
- If any rural adult fails to get work within 15 days of demanding it, an ‘unemployment allowance’ is given.

Prelims Takeaway

- MGNREGA

- The act mandates **Gram sabhas** to recommend the works that are to be undertaken and **at least 50%** of the works must be executed by them.
- At least **one-third** of beneficiaries need to be **women**.
- The **Centre** bears **60% of the cost of the materials used for MGNREGS work** and the **remaining 40%** is provided by the **State governments**.
- **Data:**
 - As of 2022-23, there are **15.4 crore active workers** under the MGNREGA.

20. Rajasthan CM announces three new districts - The Hindu

Relevance: Polity

News:

- The **Rajasthan Chief Minister** recently announced the **formation of three new districts** namely Malpura, Sujangarh and Kuchaman.
- This takes the **total number of districts** in the State to **53**.

Prelims Takeaway

- Formation of Districts
- Changing Name of Districts

The Districts

- India's districts are **local administrative units** inherited from the **British Raj**.
- They generally form the **tier of local government** immediately below states and territories.
- A district is headed by a **Deputy Commissioner/ Collector**.
 - He is responsible for the **overall administration and the maintenance of law and order**.
- Districts are most frequently further **subdivided into smaller administrative units**, called either **tehsils or talukas or mandals**, depending on the region.

The Procedure

- The power to **create/alter/abolish** new districts or existing districts rests with the **State governments**.
- This can either be done through an **executive order** or by **passing a law** in the State Assembly.
- Many States prefer the **executive route by simply issuing a notification** in the official gazette.

Role of Central government

- The Centre has **no role to play** in the alteration of districts or creation of new ones.
- The Home Ministry comes into the picture only when a State wants to **change the name of a district or a railway station**.
- The State government's request is **sent to other departments and agencies seeking clearance**.
 - These include the Ministry of Earth Sciences, Intelligence Bureau, Department of Posts, Geographical Survey of India Sciences and the Railway Ministry.
- A **no-objection certificate** may be issued after examining their replies.

21. Israel 'at war' as Hamas attack leaves 200 dead - The Hindu/ At war, says Israel, after worst Hamas attack in years, 300 killed & counting - Indian Express/ Israeli air strikes pound Gaza as death toll climbs - The Hindu

Relevance: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

News:

- Recently, **Palestinian Islamist group Hamas** launched the biggest attack on Israel in years, killing at least 200 people
- It claimed **it had taken dozens of hostages** in a surprise assault combining gunmen crossing into Israel and a barrage of rockets fired from Gaza.

Prelims Takeaway

- Map bases question

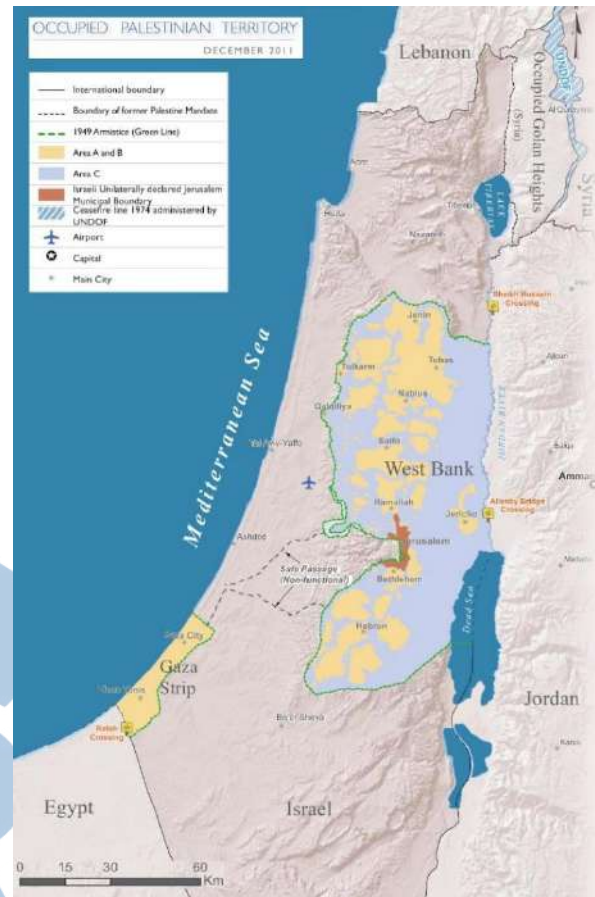
The Conflict

- It is linked **to the age-old tussle over identity** and land starting with Jerusalem.

- In the **first Arab Israeli war of 1948**, the Israelis captured the western half of the city, and **Jordan took the eastern part** which Israel later captured and annexed.
- Since then, **Israel has expanded settlements in East Jerusalem**.
- The Palestinians want to make **East Jerusalem the capital of their yet to be formed state**.
- The Palestinians are facing the **threat of eviction from Sheikh Jarrah**, a neighbourhood in east Jerusalem.
 - Their land is to be given to the Jewish settlers.
- Moreover, the **Israeli armed forces have recently attacked the Al-Aqsa Mosque** ahead of a march by Zionist nationalists.
- The **Al Aqsa Mosque is the third holiest shrine** for Islam after Mecca and Medina.
- It created a fear for the followers, **all over the region and the radicals began to call for defending the Al Aqsa Mosque**.

Hamas in Rule in Palestine

- Hamas, founded in 1987, is a **violent offshoot of Egypt's Muslim Brotherhood** seeking "to raise the banner of Allah over every inch of Palestine" through violent jihad.
- **Hamas is the more radical faction of the Palestinians** which has now started retaliating.



22. SC flags need for a dependable code of police investigation - The Hindu

Relevance: Structure, organisation and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

News:

- The Supreme Court (SC), in a recent judgement, **has highlighted the need for a "consistent and dependable code of investigation"**
- Objective is to **prevent lapses in police probes** leading to the guilty getting acquitted on technical grounds.

Prelims Takeaway

- Malimath Committee

Criminal Justice System

- It is the **set of laws, processes, and institutions that aim to prevent, detect, prosecute, and punish crimes**, while ensuring the rights and safety of all people.
- It includes **institutions like police forces, judicial institutions, legislative bodies, and other supportive organizations** like forensic and investigation agencies.

Committees to Reform the Criminal Justice System of India

- Vohra Committee, 1993
- Malimath Committee, 2003
- Madhav Menon Committee, 2007

Malimath Committee, 2003

- Some of the key recommendations were:
- Introducing a **new category of offences called 'social welfare offences'** for minor violations that can be dealt with by imposing fines or community service.

- Replacing the **adversarial system** with a '**mixed system**' that incorporates some elements of the inquisitorial system such as allowing judges to play an active role in collecting evidence and examining witnesses.
- **Reducing the standard of proof required for conviction** from 'beyond reasonable doubt' to 'clear and convincing evidence'.
- **Making confessions made before a senior police officer admissible as evidence.**

23. HC to start live-streaming cases from tomorrow

Relevance: Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

Prelims Takeaway

- National Judicial Data Grid

News:

- The **Delhi High Court** will start the **live-streaming** of its proceedings from Wednesday.
- For now, the **live-streaming will be limited to the Chief Justice's court** and on a "case-to-case basis, as per the direction of the High Court

e-Courts Integrated Mission Mode Project

- As part of the **National e-Governance Plan**, the project is under implementation since 2007 for **Information and Communications Technology (ICT) development of the Indian Judiciary**
- The **e-Courts project** is being implemented in association with the **e-Committee Supreme Court of India and the Department of Justice.**

Initiatives Taken Under the Project

- Under the Wide Area Network (WAN) Project, **connectivity has been provided to 99.4% of total Court Complexes** across India with an improved bandwidth speed.
- **Case Information Software (CIS) is based on Free and Open-Source Software (FOSS)** which has been developed by National Informatics Centre (NIC).
- **National Judicial Data Grid (NJDG)** is a database of orders, judgments, and cases, created as an online platform under the eCourts Project.
- It provides information relating to **judicial proceedings/decisions of all computerized district and subordinate courts.**
- 7 platforms have been created to **provide real-time information on case status**, cause lists, judgements, etc. to lawyers/Litigants.
- **Electronic Case Management Tools (ECMT)** have been created with Mobile Apps for lawyers and judges.
- **21 Virtual Courts in 17 States/UTs have been operationalized** to handle traffic challan cases.
- **Video-conferencing (VC) facilities** have also been enabled between court complexes and corresponding jails.
- **The Supreme Court emerged as a global leader** by conducting lakhs of hearings.
- **New e-filing system has been rolled out for the electronic filing** of legal papers with upgraded features.
- \As of 2022, a total of **19 High Courts have adopted the model rules of e-Filing.**

24. Sri Lanka to take over as Chair of Indian Ocean Rim Association The Hindu

Relevance: Important International institutions, agencies and fora- their structure, mandate.

News:

- Several Foreign Ministers of Association will participate in the **Indian Ocean Rim Association (IORA) Council of Ministers meeting in Colombo** on October 11, 2023.
- India and Sri Lanka will launch a long-pending **ferry service connecting Nagapattinam in Tamil Nadu with Kankesanthurai** in the Northern Province of **Sri Lanka**

Prelims Takeaway

- Indian Ocean Rim Association

Indian Ocean Rim Association

- It was **established in 1997 as an intergovernmental organisation** of states on the rim of the Indian Ocean,
- The IORA has members **from Africa, West Asia, South Asia, Southeast Asia and Oceania.**
- The Association's membership has expanded to **23 member states and 11 dialogue partners.**
- Its **Secretariat** is based in Cyber City, Ebène, **Mauritius.**
- It manages, coordinates, services and monitors the **implementation of policy decisions, work programmes and projects adopted by the member states.**
- Importance:
 - the Indian Ocean carries half of the world's container ships
 - one-third of the world's bulk cargo traffic
 - two-thirds of the world's oil shipments.
- It is a **lifeline of international trade and transport** and the Indian ocean region is woven together by trade routes and commands control of major sea-lanes.

25. SC sets Oct. 31 for hearing electoral bonds case- The Hindu

Relevance: Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

News:

- Recently, the **Supreme Court posted a batch of pleas** challenging the controversial **electoral bond scheme** for a final hearing on October 31.

Prelims Takeaway

- Representation of the People Act, 1951

Electoral bond

- They serve as a means for **individuals and entities to make donations** to registered political parties while maintaining donor anonymity.
- **State Bank of India (SBI) issues the bonds in** denominations of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore.
- It is **payable to the bearer** on demand and interest-free.
- It is **purchased by Indian citizens or entities** established in India.
- It can be **bought individually or jointly** with other individuals.
- It is **valid for 15 calendar days** from the date of issue.
- **Eligibility of political parties**
 - political parties registered under **Section 29A of the Representation of the People Act, 1951**
 - have secured not less than 1% of the votes polled in the last general election to the House of the People
 - have secured not less than 1% of the votes polled in the last general election to the Legislative Assembly, are eligible to receive electoral bonds.
- Electoral Bonds **can be purchased digitally or through cheques.**
- Encashment only **through an authorized bank account of the political party.**
- **As per Companies Act 2013**, a company can make a political contribution only if its net average profit of three preceding financial years is at 7.5%.
- **The removal of this clause** has raised concerns of **black money** in political funding through shell companies.

26. Baiga tribal group gets habitat rights in Chhattisgarh: What this means, significance

Relevance: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

News:

- Recently, the **Baiga Particularly Vulnerable Tribal Group (PVTG) became the second** to get **habitat rights** in the state, after the Kamar PVTG.

Prelims Takeaway

- PVTGs

Particularly Vulnerable Tribal Group (PVTG)

- PVTGs are **more vulnerable** among the tribal groups.
- Due to this factor, more developed and assertive tribal groups take a major chunk of the tribal development funds, because of which **PVTGs need more funds directed for their development**.
- In this context, in 1975, **the Government of India declared 52 tribal groups as PVTGs** on the recommendation of Dhebar commission.
- Currently, **there are 75 PVTGs** out of 705 Scheduled Tribes.
- The PVTGs are spread **over 18 states and one UT**, in the country (2011 census).
- Odisha has the highest number** (more than 2.5 lakh) of PVTGs.

Characteristics of PVTGs

- Their Population is declining day by day – stagnant/declining
- Literacy Level among them is extremely low

27. Trade and security ties with India gathering pace: Australian Speaker

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests

News:

- Security and trade cooperation between India and Australia are gathering pace**, and relations between the two are getting stronger, the Speaker of Australia's House of Representatives said.

Prelims Takeaway

- Malabar exercises

Australia and India bilateral relation

- the first time established diplomatic relations in the pre-Independence period, when **the Consulate General of India was first opened as a Trade Office in Sydney in 1941**.
- In 2014, **Australia signed a Uranium supply deal with India**, the first of its kind with a country that is a non-signatory to the Nuclear Non-Proliferation Treaty,
- India is one of the top sources of **skilled immigrants to Australia**.
 - As per the 2021 Census, around 9.76 lakh people in Australia reported their ancestry as Indian origin,
- Australia and India are **cooperating in several regional and multilateral forums** that provide economic and strategic dialogue for the region.
 - "It's not just the Quad, but be it the G-20, the East Asia Summit, the ASEAN regional forum, the Indian Ocean Rim Association
- The **Mutual Logistics Support Agreement (MLSA)** was signed during the Virtual Summit in June 2020 to enhance defence cooperation.
- Australia hosted the "Malabar" exercises in August 2023**, with participation from India, Japan, and the US.

28. Operation Ajay' set to evacuate Indian nationals from Israel- The Hindu

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- Government is launching **Operation Ajay to evacuate its citizens** who wish to return from **conflict-hit Israel**.
- This will be the **second evacuation this year, after Operation Kaveri** that brought back several thousand **Indian citizens from conflict-torn Sudan** in April-May.

Prelims Takeaway

- International Solar Alliance

India-Israel Relations

- Though **India officially recognized Israel in 1950**, both countries established full diplomatic ties only on 29th January 1992.
- India is **Israel's third-largest trade partner** in Asia and seventh largest globally.
- **Israeli companies have invested in India** in energy, renewable energy, telecom, real estate, water technologies, and are focusing on setting up R&D centers or production units in India.
- The **Indian armed forces have inducted a wide array of Israeli weapon** systems over the years, which range from:
 - Phalcon AWACS (Airborne Warning And Control Systems)
 - Heron
 - Searcher-II and Harop drones
 - Barak anti-missile defence systems and Spyder quick-reaction anti-aircraft missile systems.
- **Israel is also joining the India-led International Solar Alliance (ISA)**, to scale up their cooperation in renewable energy and partner in clean energy.

29. Chinese crew not allowed to come ashore at Vizhinjam port - The Hindu

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

News:

- Though the **Chinese ship carrying container-handling cranes** is allowed to dock at the under construction Vizhinjam International Seaport.
- The **Chinese crew on-board the ship are not allowed to sign off** in India, nor allowed to come ashore.

Prelims Takeaway

- Vizhinjam Port Project

Vizhinjam Port Project

- It is a Rs 7,525 crore port, being **built under a Public Private Partnership (PPP)** model with Adani Ports Private Limited **at Vizhinjam near Thiruvananthapuram, Kerala**.

Significance

- It is believed that the **ultramodern port, located close to major international shipping routes**
- It will **boost India's economy** and its location is also of strategic importance.
- The port is **expected to compete with Colombo, Singapore, and Dubai** for a share of trans-shipment traffic.

Advantage:

- availability of a **20m contour within one nautical mile** from the coast
- **minimal littoral drift** along the coast
- **hardly any maintenance** dredging required
- **links to national/regional road, rail network**
- **proximity to international shipping routes.**

30. Supreme Court divided on married woman's right to abort 26-week pregnancy

Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News:

- Recently, **A Division Bench of two women judges of the Supreme Court were split** in their opinions about the decision of a **married woman to abort her 26-week pregnancy**
- the Centre's **resolve to save the "unborn child."**

Prelims Takeaway

- Medical Termination of Pregnancy (Amendment) Act 2021

Key Provisions of Medical Termination of Pregnancy (Amendment) Act 2021

- Under the Act, a **pregnancy may be terminated up to 20 weeks** by a married woman in the case of failure of contraceptive method or device.
- It allows **unmarried women to also terminate a pregnancy** for this reason.
- **Opinion of one Registered Medical Practitioner (RMP) for termination of pregnancy up to 20 weeks of gestation.**
- Opinion of two RMPs for **termination of pregnancy of 20-24 weeks of gestation.**
- **Opinion of the State-level medical board is essential** for a pregnancy to be terminated after 24 weeks in case of substantial foetal abnormalities.
- **Increases the upper gestation limit from 20 to 24 weeks** for special categories of women, including :
 - survivors of rape
 - victims of incest and other vulnerable women (differently abled women, minors, among others).
- The **"name and other particulars of a woman whose pregnancy has been terminated shall not be revealed"**, except to a person authorised in any law that is currently in force.

31. 21 lakh appeals pending with Information Commissions: report - The Hindu

Relevance: Statutory, regulatory and various quasi-judicial bodies.

News:

- More than **three lakh appeals and complaints are pending in 27 State Information Commissions** across the country according to a new report.

Prelims Takeaway

- Right to Information (RTI) Act

Key Points

- Of the 3,21,537 pending appeals, **the maximum number was reported in Maharashtra (1,15,524)** followed by Karnataka (41,047).
- **Tamil Nadu declined** to provide the information.
- Four Information Commissions — **Jharkhand, Telangana, Mizoram and Tripura** — are **defunct** as no new Information Commissioners were appointed upon incumbents demitting office.
- **Six Information Commissions are currently headless** — the Central Information Commission, and the State Information Commissions of Manipur, Chhattisgarh, Maharashtra, Bihar, and Punjab.
- The report has been **compiled on information accessed under the Right to Information (RTI) Act** by the Satark Nagrik Sangathan (SNS)
- During 2023, **2,14,698 cases were disposed of by 29 Information Commissions** for which information could be obtained.
- Under the RTI law, **Information Commissions are the final appellate authority.**

Case backlog

The time taken to dispose a complaint filed was computed using the average monthly disposal rate and the pendency

Information Commission	Estimated time for disposal
West Bengal	24 years and 1 month
Chhattisgarh	4 years and 4 months
Maharashtra	4 years
Arunachal Pradesh	2 years and 11 months
Odisha	2 years and 7 months
Madhya Pradesh	1 year and 11 months
Karnataka	1 year and 11 months
Telangana	1 year and 7 months
Kerala	1 year
Himachal Pradesh	1 year

32. India likely to skip China’s BRI summit - The Hindu

Relevance: Effect of policies and politics of developed and developing countries on India’s interests, Indian diaspora.

News:

- **India is likely to skip China’s third summit** marking President’s signature Belt and Road Initiative (BRI)
- **Russian President is expected to attend the Belt and Road Forum (BRF)** in Beijing, with the Russian leader also present at the previous two summits in 2017 and 2019.

Prelims Takeaway

- Pakistan-occupied Kashmir (PoK)

Belt and Road Initiative (BRI)- Background

- More than **100 countries signed agreements with China to cooperate in BRI** projects like railways, ports, highways and other infrastructure.
- It was announced by **the Chinese President in 2013.**

Route

- **New Silk Road Economic Belt:** It encompasses trade and investment hubs to the north of China; by reaching out to Eurasia including a link via Myanmar to India.
- **Maritime Silk Road (MSR):** It begins via the South China Sea going towards Indo-China, South-East Asia and then around the Indian Ocean thus reaching Africa and Europe.

Issues

- Most of the contracts (93%) **have also gone to the state-owned enterprises in China.**
- **Chinese monopoly** in lending and building infrastructure **has further led to corruption.**
- **The debt trap diplomacy,** the lack of transparency and unreasonable loan conditions have made the scheme extremely unpopular.
- This has also led to **dumping of steel and cement raising environmental concerns.**
- More than **35% of the project portfolio is stuck** on the implementation stage.
- **China is now facing the BRI backlash** in a growing number of countries across Africa, Asia, Latin America, and Eastern Europe.
- The China-Pakistan Economic Corridor (CPEC) **passes through Pakistan-occupied Kashmir (PoK) and Baluchistan**
 - both of which are home to a long-running insurgency where it faces terrorism and security risks.

33. CBI registers FCRA case against NewsClick, others - The Hindu

Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources

News:

- The **Central Bureau of Investigation** conducted searches on the premises of NewsClick founder after **registering a case alleging violation of the Foreign Contribution (Regulation) Act (FCRA)**.

Prelims Takeaway

- Foreign Contribution Regulation Act (FCRA)
- nongovernmental organization (NGO)

Foreign Contribution Regulation Act (FCRA)

- The **“Foreign Contribution (Regulation) Act” (FCRA)** regulates foreign donations and ensures that such contributions do not adversely affect internal security.
- **First enacted in 1976, it was amended in 2010 in which a slew of new measures was adopted to regulate foreign donations.**
- The FCRA act is implemented by **the Ministry of Home Affairs**.
- Under the **new rules notified by MHA in 2015, NGOs are required to give an undertaking that**
 - the acceptance of foreign funds is not likely to prejudicially affect the sovereignty and integrity of India
 - impact friendly relations with any foreign state and does not disrupt communal harmony.
- The FCRA is **applicable to all associations, groups and NGOs which intend to receive foreign donations.**

Registration

- It is **mandatory for all such NGOs to register themselves under the FCRA**.
- **Registration can be canceled** for a range of reasons including:
 - if in the opinion of the Central Government
 - If It is necessary for the public interest to cancel the certificate
- Once the registration of an NGO is canceled, **it is not eligible for re-registration for three years.**

34. Centre to create autonomous body Mera Yuva Bharat to ‘harness immense youth energy for nation-building’

Relevance: Statutory, regulatory and various quasi-judicial bodies.

News:

- Recently, **the Prime Minister's cabinet approved the establishment of an autonomous body called Mera Yuva Bharat (MY Bharat)** for “youth-led development and to provide equitable access to the youth”.

Prelims Takeaway

- National Unity Day

Key Points

- The platform is meant to **offer suitable opportunities for youngsters to engage in voluntary work** in the field of their choice and look for such opportunities across the country.
- It will act as a **one-stop shop for young people** and various central government ministries, and will also create a centralized youth database.
- However, **there will be no financial remuneration involved.**
- The Mera Yuva Bharat (MY Bharat) will be **launched on National Unity Day**.
- **Objective:** To make it a whole Government platform for youth development.
- The autonomous body **will benefit the youth in the age group of 15-29 years**, in line with the definition of youth in the National Youth Policy.
- In the case of programme components meant for adolescents, **the beneficiaries will be in the age group of 10-19 years.**
- This will allow them to **act as the Yuva Setu** between the Government and the citizens.
- It seeks to **harness the immense youth energy** for nation building.

35. EAM S Jaishankar participates in 23rd Council of Ministers meeting of Indian Ocean Rim Association in Colombo

Relevance: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Prelims Takeaway

- Indian Ocean Region

News:

- **India participated in the 23rd Council of Ministers (COM)** meeting and the 25th Committee of Senior Officials of the Indian Ocean Rim Association (IORA) held in Colombo, Sri Lanka, led by External Affairs Minister.
- **India assumed the role of the Vice Chair of IORA** for the year 2023-25 in this meeting, followed by the Chairmanship in 2025-27.

The Indian Ocean Rim Association (IORA)

- It is an **inter-governmental organisation** with 23 Member States and 11 Dialogue Partners.
- **Objective:** strengthening regional cooperation and sustainable development within the Indian Ocean region through

Significance of Indian Ocean Region (IOR)

- Due to its geographical location, it **serves as a major transit route for global trade**, including oil and gas shipments.
- It is **home to several important chokepoints**, such as the Strait of Malacca and the Bab-el-Mandeb strait.
- **IOR is home to several fast-growing economies**, including India, China, and several Southeast Asian nations.
- It shares **64% of the global population and 60% of the global GDP**.
- The region has seen increased military activity in recent years, **with major powers such as the US, India, and China increasing their presence in the region**.
- The region is also **vulnerable to the impacts of climate change**, including rising sea levels and increased frequency of extreme weather events.

36. India reiterates call for a 'sovereign Palestine state' - The Hindu

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

Prelims Takeaway

- Map based question

News:

- **India's "longstanding and consistent" policy on Palestinian state** remains unchanged, says MEA spokesperson

Evolving relationship between India and Palestine

- India's support for the Palestinian cause is an integral **part of the nation's foreign policy**.
- In 1974, **India became the first Non-Arab State** to recognize Palestine Liberation Organization (PLO) as the sole and legitimate representative of the Palestinian people.
- **India became the first non-Arab state to recognize** Palestine Liberation Organization (PLO) in 1974
- India is one of the **first countries to recognize the State of Palestine**.
- Unlike in Israel, **India does not have an embassy in Palestine**.
- India voted in favour of Palestine for its **acceptance as a full member of UNESCO**.
- India co-sponsored the resolution that made **Palestine a 'non-memberstate' of United Nations General Assembly**.
- India supported **the installation of the Palestine flag at UN premises**.

37. India ranks 111 out of 125 countries in hunger index - The Hindu

Relevance: Important International institutions, agencies and fora- their structure, mandate.

News:

- **India ranks 111 out of a total of 125 countries** in the Global Hunger Index (GHI) 2023.
- **The Union government**, though, contested India's performance for the third year in a row, **citing flawed methodology**.

Prelims Takeaway

- Global Hunger Index (GHI)

Key Points

- **The index** is jointly released by **Concern Worldwide and Welthungerhilfe every October**.
- **Afghanistan, Haiti and 12 sub-Saharan** countries **perform worse** than India on the GHI.
- **The GHI score is based on a** formula which combines **four indicators** that together capture the multi-dimensional nature of hunger including
 - Under-nourishment
 - child stunting
 - child wasting
 - child mortality.
- While **India made significant strides between 2000 and 2015**, with its score improving from 38.4 in 2000 to 35.5 in 2008 and 29.2 in 2015, over the past eight years
- Globally, **the share of people who are undernourished**, which is one of the indicators used in the index, **actually rose from 7.5% in 2017 to 9.2% in 2022**
- **South Asia and Africa South of the Sahara are the world regions with the highest** hunger levels, with GHI scores of 27.0 each, indicating serious hunger.
- **West Asia and North Africa** is the region with the third-highest hunger level with a score of **11.9** indicating "moderate" hunger level.
- **Latin American and the Caribbean** is the only region in the world whose **GHI scores have worsened between 2015 and 2023**.
- **East and Southeast Asia, dominated by populous China**, has the **second-lowest** 2023 GHI score of any region in the report.
- **China**, for example, is among the top 20 countries that each have a **GHI score of less than 5**.

Reason:

- **According to the GHI 2023 report**, the stagnation in the fight against global hunger is largely due "to the **combined effects of overlapping crises**, including:
 - the COVID-19 pandemic
 - the Russia-Ukraine war
 - economic stagnation
 - the impacts of climate change
 - The intractable conflicts facing many countries of the world
- It adds that **the combination of these crises have led to a cost of living crisis** and exhausted the coping capacity of many countries.

38. Disqualification pleas: Shinde group seeks separate hearings, Uddhav-led faction disagrees- The Hindu

Relevance: Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.

News:

- **The Shiv Sena group** led by Maharashtra Chief Minister sought **separate hearings on the disqualification petitions** filed against MLAs of the faction

The anti-defection law

- it was introduced in 1985, through the **52nd Amendment Act of 1985**.

Prelims Takeaway

- The anti-defection law

- It was **inserted in the Tenth Schedule** of the Indian Constitution and is popularly known as Anti Defection Act.
- Defection has been defined as a "**conscious abandonment of allegiance or duty**".
- It lays down **the process of disqualification on grounds of defection**.
- The presiding officer **has the authority to disqualify a member on proven grounds of defection**.
- The goal **was to prevent the legislators from changing their political affiliations** during their tenure in office.
- It applies to **both the Parliament and the state assemblies**.

Ground

- One of the most important grounds is the phrase "**Voluntarily giving up his membership**".
- It has a **wider connotation than resignation**.
- In **absence of formal resignation**, the giving up of his membership can also be inferred from the legislator's conduct.
- Another **ground of Defection is "Violation of Instructions"**.
 - It means that if the legislator votes or abstains from voting in the House contrary to a direction issued by the political party he belongs to, he is deemed to be disqualified.

39. CAA will come to the rescue of Sikhs: Shah

Relevance: Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these

News:

- Recently, **Home Minister said that through the Citizenship Amendment Act (CAA)**, the union government opened the way to give **citizenship to Sikh tortured in neighbouring countries such as Pakistan and Afghanistan**.

Prelims Takeaway

- Citizenship (Amendment) Act, 2019 (CAA)

The Citizenship (Amendment) Act, 2019 (CAA)

- It was **passed by the Parliament** of India on 11 December 2019.
- It **amended the Citizenship Act, 1955** by providing an accelerated pathway to Indian citizenship for **persecuted religious minorities** from:
 - Afghanistan
 - Bangladesh
 - Pakistan
- who are **Hindus, Sikhs, Buddhists, Jains, Parsis or Christians**, and arrived in India before the **end of December 2014**
- The law **does not grant such eligibility to Muslims** from these countries.
- The act was the first time that **religion had been overtly used as a criterion for citizenship** under Indian law, and it attracted global criticism.
- It **exempts the members of the six communities** from any criminal case under the Foreigners Act, 1946 and the Passport Act, 1920.
- The two Acts specify punishment for entering the country illegally and staying here on expired visas and permits.

Concern

- It intended **only to grant citizenship** to a certain class of people,
- It **introduces a religious test in classifying victims** of persecution, and granting them citizenship in a secular republic.
- It **contradicts the Assam Accord of 1985**, which states that illegal migrants, irrespective of religion, heading in from Bangladesh after 25th March, 1971, would be deported.
- India **has several other refugees that include Tamils from Sri Lanka and Hindu Rohingya from Myanmar**.
 - They are not covered under the Act.

40. Army chief presents the President's Colours to Naga Regiment- PIB

Relevance: Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

News:

- Indian Army's **Naga Regiment** was conferred the prestigious **President's Colours** on Friday, a Defence Ministry statement said.

Prelims Takeaway

- Rashtrapati ka Nishaan

President's Colours Award

- It is the **highest honor** that can be awarded to any military unit, military training establishments, or state/UT Police Forces of India.
- It is **bestowed upon a military unit** in recognition of exceptional service rendered to the nation, both in peace and in war.
- It is also known as "**Rashtrapati ka Nishaan**" in Hindi.
- The Indian Navy was the first Indian Armed Force to be awarded the President Colour by Dr. Rajendra Prasad on May 27, 1951.
- The flag consists of a **golden border in the middle and the insignia** of a respective military unit, training establishments, and police forces in the centre.
- Sometimes, it may also contain the motto, **important achievements, and battle participation of those military units** to which the award is bestowed.

41. SC refuses to interfere with transfer of Armed Forces Tribunal member - Indian Express

Relevance: Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

News:

- The Supreme Court refused to interfere with the transfer** of Justice Dharam Chand Choudhary, who was a **judicial member with the Armed Forces Tribunal** Chandigarh, to Kolkata.
- The Armed Forces Tribunal**
- The Armed Forces Tribunal Act 2007**, was passed by the Parliament
- the power:**
- The **adjudication or trial by Armed Forces Tribunal of disputes** and complaints with respect to commission, appointments, enrolments and conditions of service in respect of :
 - persons subject to the Army Act, 1950
 - The Navy Act, 1957
 - the Air Force Act, 1950.
- It can further provide for **appeals arising out of orders, findings or sentences of courts- martial** held under the said Acts
- Its Principal Bench is in **New Delhi**
- AFT has **Regional Benches at Chandigarh, Lucknow, Kolkata, Guwahati, Chennai, Kochi, Mumbai, Jabalpur, Srinagar and Jaipur.**
- With the exception of the Chandigarh and Lucknow Regional Benches, which have three benches each, **all other locations have a single bench.**
- Each Bench **comprises a Judicial Member and an Administrative Member.**
- The Judicial Members are **retired High Court Judges and Administrative Members** are retired Members of the Armed Forces
- The Tribunal shall transact their proceedings as per **the Armed Forces Tribunal (Procedure) rules, 2008.**
- All proceedings in the **Tribunal will be in English.**
- The Tribunal will normally **follow the procedure as is practiced in the High Courts** of India.

Prelims Takeaway

- The Armed Forces Tribunal

- The dress as mandated for the officials of the Tribunal **including the bar will be white shirt, collar band and a black coat/ jacket.**

42. G20 ministerial for swift implementation of roadmap to deal with crypto - Business Standard

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- The finance ministers of the G20 nations have called for swift and coordinated implementation of the **G20 roadmap to deal with the issues related to crypto assets.**

G20 Roadmap on Crypto Assets:

- It is a detailed and **action-oriented roadmap**
- **Aim:** to help **coordinate global policy** as well as **develop mitigating strategies** and regulations considering the specific implications on **Emerging Markets and Developing Economies (EMDEs).**
- **Adopted by the G20 Finance Ministers** was spelt out in a Synthesis Paper prepared jointly by the **International Monetary Fund (IMF) and Financial Stability Board (FSB).**
- **Issues to be Addressed under the Roadmap:**
 - Implementation of policy frameworks;
 - Outreach beyond G20 jurisdictions;
 - Global coordination, cooperation and information sharing;
 - Addressing data gaps

43. DRDO's oceanographic research vessel 'INS Sagardhwani' embarks on Sagar Maitri Mission-4 - PIB

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- Recently, **INS Sagardhwani** embarked on a two-month long **Sagar Maitri (SM) Mission-4** from Kochi.

INS Sagardhwani

- An **oceanographic research vessel** launched in **July 1994.**
- It has been **designed and developed** by the **Naval Physical and Oceanographic Laboratory (NPOL), Kochi.**
 - The NPOL is involved in **studying the ocean environment** and other related fields.
 - It is a **premier systems laboratory** of the **DRDO.**
- It is **constructed indigenously** by GRSE Ltd.
- The vessel has been engaging in **extensive oceanic observing missions and research** for the last 25 years.

Sagar Maitri

- A novel initiative of the **Defence Research and Development Organisation (DRDO).**
- **Vision:** It supports the objective of India's policy declaration '**Safety and Growth for All in the Region (SAGAR)**'.
- **Objective:** To promote **closer cooperation among Indian Ocean Rim (IOR) countries** in the areas of socio-economic and scientific interactions especially in ocean research.
- It focuses on establishing **long-term scientific partnerships and collaborations with eight IOR countries.**
 - These countries include Oman, the Maldives, Sri Lanka, Thailand, Malaysia, Singapore, Indonesia and Myanmar.
- Under the aegis of this policy, DRDO initiated a **scientific component named 'MAITRI (Marine and Allied Interdisciplinary Training and Research Initiative)'**.

Prelims Takeaway

- Sagar Maitri
- INS Sagardhwani
- Indian Ocean Rim

- MAITRI focuses on establishing long-term collaboration with IOR countries in the field of 'Ocean Research and Development'.

The Current Mission (SM 4)

- It includes
 - Scientific deployments onboard INS Sagardhwani in the Northern Arabian Sea.
 - Initiating collaborative research programmes with the Department of Marine Sciences & Fisheries at Sultan Qaboos University, Oman.
- Gives the scientists an opportunity to **cooperate and build strong working relationships with their IOR counterparts** studying the oceans.

44. SC refers electoral bonds case to 5-judge Constitution Bench - The Hindu/ SC refers petitions against electoral bonds scheme to five-judge bench - Indian Express

Relevance: Constitution of India —historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

News:

- The **Supreme Court recently referred petitions** challenging the 2018 **Electoral Bonds Scheme** to a five-judge **Constitution Bench**.
- The CJI said, "In view of the importance of the issue raised, and with regard to **Article 145 (4) of the Constitution of India**, the matter be placed before a bench of at least five judges".

Prelims Takeaway

- Electoral Bonds
- Constitutional Bench
- Election Commission of India

Electoral Bonds

- The electoral bonds system was **introduced in 2017 by way of a Finance bill** and was implemented in 2018.
- They serve as a means for individuals and entities to **make donations to registered political parties** while maintaining **donor anonymity**.

Key Features

- **State Bank of India (SBI)** is the **authorized issuer** and the bonds are issued through **designated SBI branches**.
- SBI issues the bonds **in denominations** of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh and Rs 1 crore.
- Can be **purchased digitally or through cheques** by **Indian citizens or entities established in India**.
- Purchased Can be bought **individually or jointly** with other individuals.
- Payable to the bearer **on demand and interest-free**.
- Valid for **15 calendar days** from the date of issue.
- **Encashment** only through an **authorised bank account** of the political party.

Eligibility of Political Parties

- Political parties **registered under Section 29A of the Representation of the People Act, 1951**
- Must have **secured not less than 1% of the votes polled in the last general election** to the House of the People or the Legislative Assembly

Transparency and Accountability

- Parties must **disclose their bank account** with the Election Commission of India (ECI).
- Donations are made through **banking channels**, ensuring transparency.
- Political parties are obligated to **explain the utilization of the funds received**.

Diverse Views

- The Centre termed the scheme "**a big step towards electoral reform**" which "will ensure **transparency**" and "**accountability**".
- However, the petitioners have contended that **it affects transparency in political funding**.
- They pointed out that **it allows political parties not to disclose**
 - their **annual contribution reports** to the Election Commission of India (ECI)
 - the **details of the identity of those who have donated** through the Electoral Bonds

45. SC verdict on same-sex marriage case slated today-The Hindu

Relevance: Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

News:

- Recently, the **Supreme Court will pronounce its decision** on petitions seeking **legal recognition to same-sex marriages**.

Prelims Takeaway

- Special Marriage Act

Same-sex marriage

- It is the **marriage of two people of the same legal sex**.
- As of 2023, marriage between same-sex couples is legally performed and **recognized in 34 countries with the most recent being Andorra**.
- It will become legal in the 35th country, **Estonia, on 1 January 2024**.

Special Marriage Act

- It governs a **civil marriage** where the **state sanctions the marriage** rather than the religion.
- Religious laws** such as the Muslim Marriage Act, 1954, and the Hindu Marriage Act, 1955, **require either spouse to convert to the religion of the other before marriage**.
- However, the **SMA enables marriage between inter-faith or inter-caste couples** without them giving up their religious identity or resorting to conversion.

Argument in the favor of same sex marriage

- Between **Navtej Johar** (wherein Section 377 was held unconstitutional) **and today, our society has found much greater acceptance** of same-sex couples.
- Marriage is not only a question of dignity but also carried with it a **bouquet of rights** that **LGBTQ community is denied post-Navtej Johar**
 - e.g. bank account, life insurance, medical insurance.

Argument against same sex marriage

- Many religious and cultural groups believe that **marriage should only be between a man and a woman**.
- Some people argue that the **primary purpose of marriage is procreation**, and that same-sex couples cannot have biological children.
- There are **concerns that allowing same-sex marriage will create legal problems**, such as issues with inheritance, tax, and property rights.

Centre's response

- In response, **Centre assured it will form a committee headed by cabinet secretary** to address "human concerns" of same-sex couples without legally recognising their relationship as a marriage.

Way forward

- The **language of law should be modified** and wherever husband and wife is used, it should be made gender-neutral by using "spouse"
 - Where man and woman is used, it should be made gender-neutral by saying "person."
- Everything **can't change at once and other will take some time**.
- The **security and social welfare of same-sex couples must be ensure**
- Government should take effort to save them** from ostracisation even if it was unwilling to grant legal recognition to such marriages.

46. India, Europe & Middle East economic corridor will create jobs: Modi - Indian Express

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

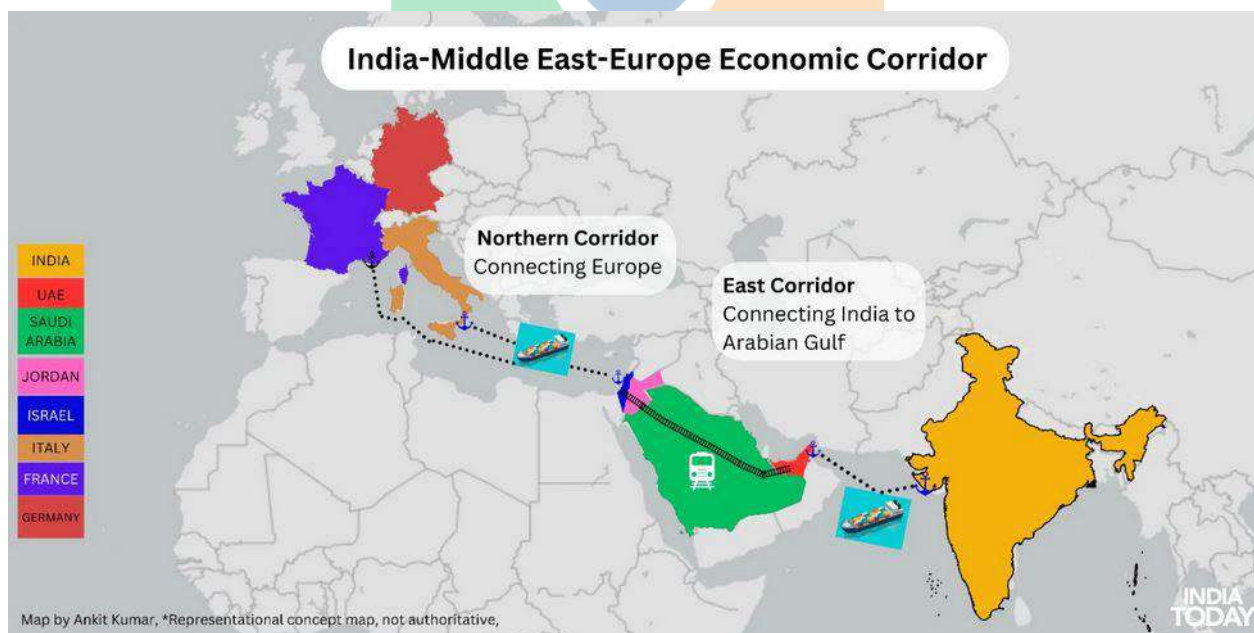
- Recently, the Prime Minister said that the **India-Middle East-Europe Economic Corridor** will **reduce business costs, increase logistical efficiency and create a large number of jobs.**

India Middle East Europe Corridor

- It is a network of **transport corridors comprising railway lines and sea lanes.**
- Objective:** To promote **economic integration** between Asia, the Arabian Gulf, and Europe.
- The proposed corridor will comprise **two separate corridors** namely
 - The Eastern Corridor:** It will connect India to the Arabian Gulf
 - The Northern Corridor:** It will connect the Arabian Gulf to Europe.
- The project involves
 - Transit by ship between India and Saudi Arabia
 - A rail link to the UAE and likely to Jordan
 - Then, the shipment will move by sea to Turkey and further by rail
- Cables for energy and digital connectivity as well as a pipeline** for clean hydrogen export will also be laid.
- Members:** India, US, UAE, Saudi Arabia, European Union (EU), Italy, France and Germany.

Prelims Takeaway

- India Middle East Europe Corridor
- Partnership for Global Infrastructure Investment
- Belt and Road Initiative
- G7



Partnership for Global Infrastructure Investment (PGII)

- The India Middle East Europe Corridor is **part of the Partnership for Global Infrastructure Investment (PGII)**
- PGII is a collaborative effort by G7 nations to **fund infrastructure projects in developing nations.**
- It is the **G7 bloc's counter to China's Belt and Road Initiative.**
- It is part of **G7's vision of the Build-Back-Better framework.**

47. Lok Sabha Speaker refers 'cash-for-query' complaint against Trinamool Congress MP Mahua Moitra to ethics panel - The Hindu

Relevance: Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.

News:

- Recently, the **Lok Sabha Speaker** referred a BJP MP's "bribe-for-query" complaint to the **Ethics Committee of the Lower House**.

Ethics Committee of the Parliament

- Constituted in **Rajya Sabha in 1997** and in **Lok Sabha in 2000**.
- It enforces the **code of conduct** of members of Parliament.
- It **examines the cases of misconduct** and **recommends appropriate action**.
 - The House **may or may not agree with the recommendations**.
- Thus, it is engaged in **maintaining discipline and decorum in Parliament**.

Ethics Committee Lok Sabha

- Should not contain **more than 15 members**.
- Members are **nominated by the Speaker** and **hold office for a term not exceeding one year**.
- It can **examine every complaint relating to unethical conduct** of a member of Lok Sabha referred to it by the Speaker.
- It can **formulate a Code of Conduct for members** and **suggest amendments or additions to the Code of Conduct** from time to time.

Ethics Committee vs Privileges Committee

- The work of the Ethics Committee and the Privileges Committee **often overlap**.
- A **corruption allegation** against an MP **can be sent to either body**.
 - Since, it involves an **accusation of serious breach of privilege and contempt of the House**.
- In the case of the Ethics Committee, **only an MP can be examined for misconduct**.
 - The mandate of the Committee of Privileges is to **safeguard the freedom, authority and dignity of Parliament**.
 - Thus, **a person who is not an MP can also be accused of breach of privilege** for actions that attack the authority and dignity of the House.

Prelims Takeaway

- Ethics Committee
- Privileges Committee
- Speaker of Lok Sabha

48. SC gives Narwekar last chance to set timeline for anti-defection proceedings - The Hindu

Relevance: Constitution of India —historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

News:

- Recently, **Maharashtra Assembly Speaker** was given a **final opportunity by the Supreme Court** to frame a realistic time schedule to **hear and decide the anti-defection proceedings** against Chief Minister Eknath Shinde and other MLAs.

The Anti-Defection Law

- The **Anti-Defection Law** passed in **1985** through the **52nd amendment** to the Constitution added the **Tenth Schedule** to the Indian Constitution.
- It aimed to combat **"the evil of political defections"**.
- According to it, a **member of a House** belonging to any political party becomes **disqualified**, if
 - he **voluntarily** gives up his **membership** of such political party
 - he **votes or abstains from voting** in such House **contrary to directions** issued by his political party and such act has not been **condoned** by the party
 - If any **independently** elected member **joins any political party**.
 - If any **nominated member** joins any political party after the **expiry of six months**.

Prelims Takeaway

- The Anti-Defection Law
- Supreme Court of India
- The Speaker

Exceptions

- If a member goes out of his party as a result of a **merger of the party** with another party.
 - A merger takes place when two-thirds of the members of the party have agreed to such merger.
- If a member, after being elected as the **presiding officer** of the House, **voluntarily gives up the membership** of his party or **rejoins it** after he ceases to hold that office.

Powers of Speaker with regard to Anti-Defection Law

- **Any question** regarding disqualification arising out of defection is to be decided by the **presiding officer** of the House.
- After the **Kihoto Hollohan case**, the Supreme Court declared that the **decision** of the **presiding officer is not final**
- It is **subject to judicial review** on the grounds of **malafide, perversity, etc.**

49. Can refer aspects of PMLA verdict to Constitution Bench, if need be: SC- The Hindu

Relevance: Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

Prelims Takeaway

- Enforcement Directorate

News:

- A **three-judge Bench** headed by Justice Sanjay Kishan Kaul indicated that it may refer any aspect of the **Prevention of Money Laundering Act (PMLA)**, upheld by a Supreme Court judgment in July 2022, to a Constitution Bench.

Prevention of Money Laundering Act

- The PMLA was enacted in response to **India's global commitment (Vienna Convention)** to combat the menace of money laundering.
- It is a criminal law **enacted to prevent money laundering**
 - To provide for confiscation of property derived from, or involved in, money-laundering and related matters.
- The provisions of this act are **applicable to all financial institutions**, banks (Including RBI), mutual funds, insurance companies, and their financial intermediaries.
- The **ED is responsible** for enforcing the provisions of the PMLA and investigating money laundering cases.

Amendment in Prevention of Money Laundering Act

- It gives the **government and the Enforcement Directorate (ED)** **virtually unbridled powers** of summons, arrest, and raids, and makes bail nearly impossible
- It **shifts the burden of proof of innocence on to the accused** rather than the prosecution.
- More **disclosures for non-governmental organizations** by reporting entities like financial institutions, banking companies or intermediaries.
- Defining "**politically exposed persons**" (PEPs) as individuals who have been entrusted with prominent public functions by a foreign country
- Bringing in **practicing chartered accountants, company secretaries, and cost and works accountants** carrying out financial transactions on behalf of their clients into the ambit of the money laundering law.

50. Centre notifies appointment of 17 judges across 8 HCs- The Hindu

Relevance: Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

Prelims Takeaway

- Article 217

News:

- **The Centre today notified the transfer of 16 judges** including Manipur HC Acting CJ MV Muralidaran who has been shifted to the Calcutta HC for "better administration of justice".
- Union Minister for Law and Justice took to X to announce the transfers, as also **appointment of 11 judicial officers and six advocates as judges in eight HCs.**

Appointment of High Court Judges

- The **Government has, in consultation with the Chief Justice of India**, decided as a matter of policy to appoint the Chief Justice of all High Courts from outside.
- In case of initial appointment of a Chief Justice of a High Court, **the provisions of Article 217 will have to be followed**
- The proposal for appointment of a Judge of a High Court shall be **initiated by the Chief Justice of the High Court.**
- However, if the Chief Minister desires to recommend the name of any person he should **forward the same to the Chief Justice for his consideration.**
- Since the **Governor** is bound by the advice of the Chief Minister heading the Council of Ministers, a **copy of the Chief Justice's proposal, be sent to the Governor**
- The **Governor** as advised by the Chief Minister should forward his **recommendation along with o the Union Minister of Law, Justice and Company Affairs** as early as possible
 - but not later than six weeks from the date of receipt of the proposal from the Chief Justice of the High Court.
- The **Chief Justice of India** would, in consultation with the **two seniormost Judges of the Supreme Court**, form his opinion in regard to a person to be recommended for appointment to the High Court.
- The **Chief Justice of India and the collegium of two Judges of the Supreme Court** would take into account the views of the **Chief Justice of the High Court and Judges of the High Court, Judges in the Supreme Court.**
- It is of no consequence whether that High Court is their parent High Court or they have functioned in that High Court on transfer.
- After their consultations, **the Chief Justice of India** will in the course of 4 weeks send **his recommendation to the Union Minister of Law, Justice and Company Affairs.**
- the recommendation or **the Chief Justice of India to the Prime Minister** who will advise the President in the matter of appointment.
- the appointment is **approved by the President**

51. Committee on marriage Bill gets another extension-The Hindu

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

- A **parliamentary committee examining a Bill** which seeks to **increase the age of marriage of women** from the present 18 to 21 has been **granted a fresh three-month extension to table its report.**

The Prohibition of Child Marriage (Amendment) Bill, 2021

- **Increasing the age of marriage for females:** The Prohibition of Child Marriage Act, 2006 provides that the minimum age of marriage is 21 years in case of males, and 18 years in case of females.
- The Bill **increases the minimum age** for females to **21 years.**
- Under the 2006 Act, a person who is married before the minimum specified age may **apply to annul the marriage.**
- The petition **must be filed within two years of attaining majority** (i.e., 20 years of age).
- The Bill increases **this to five years** (i.e., 23 years).
- The minimum **age of marriage at 21 years** is higher than the minimum age of majority (18 years).
- The Supreme Court has **ruled that marriage between adults is a fundamental right.**
- The question is whether prohibiting marriage for persons between 18 and 21 years is a **reasonable restriction on their right to marry.**

Prelims Takeaway

- The Prohibition of Child Marriage (Amendment) Bill, 2021

52. SC asks States to appoint officers under POSH Act-The Hindu

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

- Recently, the Supreme Court realised that **women found protection under a law against sexual harassment** at the workplace beyond their reach
- The simple reason that **there was no one to go to with their complaints.**

Prelims Takeaway

- The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act
- Civil courts

Key Points

- The Sexual Harassment of Women At Workplace (Prevention, Prohibition and Redressal) Act, or POSH Act, of 2013 mandates the **States to appoint an officer in every district.**
- The court ordered the Principal Secretaries of the Women and Child Ministries in the States to **ensure appointment of a district officer in each district**

The Sexual Harassment of Women At Workplace (Prevention, Prohibition and Redressal) Act

- The act **defines sexual harassment** at the work place and creates a mechanism for redressal of complaints.
- It also provides **safeguards against false or malicious charges.**
- Every employer is required to constitute an **Internal Complaints Committee** at each office or branch with 10 or more employees.
- The **District Officer** is required to constitute a **Local Complaints Committee** at each district, and if required at the block level.
- The **Complaints Committees have the powers of civil courts** for gathering evidence.
- Penalties **have been prescribed for employers.**
- Non-compliance with the provisions of the **Act shall be punishable with a fine of up to Rs 50,000.**

Key Issues and Analysis

- The Internal Complaints Committee has been given **the powers of a civil court.**
 - However, it does not require members with a legal background nor are there any provisions for legal training.
- The Act provides for **action against** the complainant in case of a **false or malicious complaint.**
 - This could deter victims from filing complaints.
- Two **different bodies are called 'Local Complaints Committee'.**
 - The **act does not clearly demarcate the jurisdiction,** composition and functions of Committees.
- Cases of sexual harassment of **domestic workers have been specifically excluded** from the purview of the act.
- Unlike sexual harassment legislation in many other countries, this **act does not provide protection to men.**

53. Modi reiterates support for Palestinian statehood- The Hindu

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- Recently, the Prime Minister **expressed his condolences to the President of the Palestinian Authority,** for the loss of Palestinian lives in the ongoing conflict with Israel.
- The Prime Minister had earlier spoken with the Israeli **Prime Minister** and expressed **India's support to efforts to defeat terrorism.**

Prelims Takeaway

- Map based question

Evolving relationship between India and Palestine

- India's support for the Palestinian cause is an integral **part of the nation's foreign policy**.
- In 1974, **India became the first Non-Arab State** to recognize Palestine Liberation Organization (PLO) as the sole and legitimate representative of the Palestinian people.
- **India became the first non-Arab state to recognize** Palestine Liberation Organization (PLO) in 1974
- India is one of the **first countries to recognize the State of Palestine**.
- Unlike in Israel, **India does not have an embassy in Palestine**.
- India voted in favour of Palestine for its **acceptance as a full member of UNESCO**.
- India co-sponsored the resolution that made **Palestine a 'non-member state' of United Nations General Assembly**.
- India supported the **installation of the Palestine flag at UN premises**.

54. Major regional disparity in overcoming cancer though survival rates are up: study-The Hindu

Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News

- A recent study published in **The Lancet Regional Health Southeast Asia** assessed **cervical cancer survival rates** in various regions of India, **highlighting significant disparities**.
- The study provides insights into **factors affecting survival rates** for cervical cancer patients in India.

Prelims Takeaway

- Cervical Cancer

Study Findings

- The study **examined cervical cancer survival rates** in India **based** on data from **Population Based Cancer Registries (PBCRs)**.
- Roughly **52% of cervical cancer cases** diagnosed **between 2012 and 2015** in these **PBCRs survived**, indicating an **improvement** compared to previous data.
- The **survival rates varied significantly** across different urban PBCRs in India.

Regional Variations

- **Ahmedabad's** urban PBCR demonstrated the **highest survival rate** at 61.5%, followed by **Thiruvananthapuram** (58.8%) and **Kollam** (56.1%).
- In contrast, **Tripura reported the lowest survival rate** at 1.6%.
- Survival rates were **notably lower** in India's **northeastern region**, particularly in PBCRs in Tripura, Pasighat, and Kamrup urban.
- **Factors contributing** to these disparities **included**
 - Access to diagnostic services
 - Effective treatment
 - Distance from clinical care facilities
 - Travel costs, co-morbidities, and poverty.

Conclusion:

- The study on cervical cancer survival rates in India **reveals significant regional disparities**, emphasizing the **impact of various factors** on survival rates.
- **Understanding these disparities is essential** for **improving healthcare** access and outcomes for cervical cancer patients in **different regions** of the country.

55. Govt. delay disturbs judicial seniority: SC - The Hindu

Relevance: Constitution of India —historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

News:

- Recently, the **Supreme Court** mentioned it was both “troublesome” and “very disturbing” that the government **delayed some judicial appointments and transfers in High Courts.**

Prelims Takeaway

- Transfer of Judges
- Supreme Court
- High Court

Transfer of the HC Judges

- Article 222** of the Constitution makes provision for the **transfer of a Judge** (including Chief Justice) from one High Court to any other High Court.
- The **proposal** for transferring a HC judge (including a Chief Justice) should be **initiated by the CJI**
- The **consent of the judge is not required.**
- All transfers are to be made in the **public interest.**
- For transferring a judge other than the Chief Justice, the **CJI should take the views of**
 - The **Chief Justice of the court concerned**, as well as the **Chief Justice of the court to which the transfer** is taking place.
 - One or more SC judges**
 - The views, expressed in **writing**, should be considered by a **collegium of the CJI and the four senior most Judges of the Supreme Court.**
- The **recommendation** is sent to the **Union Law Minister → the Prime Minister → the President.**
- After the President **approves** the transfer, the **notification will be gazetted** and the judge remains transferred.

56. Eradicate manual scavenging, SC tells Centre, States-The Hindu

Relevance: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

News:

- Recently, the Supreme Court in a judgement, said claims of fraternity, equality among citizens **remain a mere illusion if a sizeable section of society is forced to do manual scavenging**

Prelims Takeaway

- Manual Scavengers and their Rehabilitation Act, 2013.

Key Points

- A Bench headed by Justice S.R. Bhat held the **Union and States duty-bound** to the pledge to completely eradicate manual scavenging
 - through the stringent implementation of the Prohibition of Employment as **Manual Scavengers and their Rehabilitation Act, 2013.**
- The court **enhanced the compensation payable for sewer deaths** to ₹30 lakh from the earlier ₹10 lakh.

Safai Karamchari Andolan and others vs. Union of India

- The apex court itself had **reinforced the prohibition and directed the rehabilitation** of people, traditionally and otherwise, **engaged in the practice**
- The judgement had called for their **rehabilitation based on the principles of justice and transformation.**
- The court had, during the hearing of the case, **collected data from the government on the various steps taken for the rehabilitation** of the people falling within the definition of ‘manual scavengers’
 - State-wise set up of municipal corporations
 - the nature of equipment deployed by such bodies to mechanise sewage cleaning
 - online tracking of sewage deaths
 - action taken by their authorities, including payment of compensation and rehabilitation of families.

57. Notice to W.B. over bid to include 87 castes in OBC list-The Hindu

Relevance: Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.

News:

- The **National Commission for Backward Classes (NCBC)** has issued a notice to the West Bengal government
- it seek the **required documentation** for its proposal to **include 87 castes in the State to the Central List of Other Backward Classes (OBCs)**

Prelims Takeaway

- Article 338B
- Other Backward Classes (OBCs)
- National Commission for Backward Classes

Key Points

- The NCBC is in the middle of an investigation into what its Chairperson, called an “**unusual abundance**” of Muslim castes in West Bengal’s OBC list.
- As per the notice, the **State had so far been unable to show documents on genealogy of Hindu** caste groups that had converted their religion.
- The NCBC is also in the middle of **looking into proposals from other States** on the inclusion of castes in the Central OBC List.

National Commission for Backward Classes

- It is an Indian constitutional body under the jurisdiction of **the Ministry of Social Justice and Empowerment**
- It was established through **Constitution Act, 2018 (also called, 102nd Amendment Act, 2018)**
- This amendment act in the constitution to make it a **constitutional body under Article 338B of the Indian Constitution.**
- It was constituted pursuant to the provisions of the **National Commission for Backward Classes Act, 1993.**

Function

- To advise actively on **the socio-economic development of the socially backward classes (OBCs)** along with evaluating the progress of their development.
- It has all the **powers of a civil court while trying a suit.**

58. As part of ‘Meri Maati, Mera Desh’, Railways plans special trains -The Hindu

Relevance: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections

Prelims Takeaway

- Azadi Ka Amrit Mahotsav

News:

- The Indian Railways **will operate special trains** to transport volunteers carrying mitti (soil) from **State capitals and other major stations across the country** to reach New Delhi on October 29.

Key Points

- The initiative is **part of the ‘Meri Maati Mera Desh’** campaign being organised **by the Ministry of Culture**
 - as “a tribute to the Veers and Veeranganas [bravehearts] who have made the supreme sacrifice for the country”.
- Volunteers would **collect the soil from every household as a mark of respect** to the people who had sacrificed their lives for the nation.
- In cases where the soil was not available, **people can contribute a grain of rice.**

- The soil that gets collected would be **used in the 'Amrit Vatika'**, a special garden being created in Delhi along with an **'Azadi Ka Amrit Mahotsav'** memorial.
- To facilitate the movement of the **volunteers, the Ministry of Railways would operate special 'Amrit Kalash Yatri' trains,**
No representation from some States
- There was **no representation from Tamil Nadu, West Bengal, Telangana, Bihar and Himachal Pradesh.**
- The **maximum participation** was from Uttar Pradesh, followed by Madhya Pradesh and Rajasthan.

59. Canada's actions are in violation of Vienna Convention, says Jaishankar-The Hindu

Relevance: Important International institutions, agencies and fora- their structure, mandate.

News:

- **Canada's inability to provide safety and security to Indian diplomats** challenges the "most fundamental aspect" of the **Vienna Convention on Diplomatic Relations**, External Affairs said recently

Prelims Takeaway

- Vienna Convention

Vienna Convention on Diplomatic Relations

- The **Convention was adopted** on 14th April 1961 by the **United Nations Conference on Diplomatic Intercourse and Immunities** held in Vienna, Austria.
- **India has ratified** the convention.
- **Ratification:** It entered into force on April 24, 1964, and is nearly universally ratified, with Palau and South Sudan being the exceptions.
- It sets out the special rules – privileges and immunities – which **enable diplomatic missions to act without fear of coercion** or harassment through enforcement of local laws and to communicate securely with their sending Governments.
- **Objective:**
- It makes provision for withdrawal of a mission:
 - Which may take place on grounds of economic or physical security
 - For breach of diplomatic relations which may occur in response to abuse of immunity
 - Severe deterioration in relations between sending and receiving States.
- **It affirms the concept of "inviolability"** of a diplomatic mission
- The security of **any High Commission or Embassy is the responsibility** of the host nation.
- While diplomatic missions can also employ their own security, ultimately, **the host nation is accountable for security.**
- The difference between **high commission and embassy is basically where they are situated.**
- The Commission applies to **Commonwealth member states**
- The **Embassy** applies to the **rest of the world.**

60. What is 'Visa Shopping' and why is it being done to enter countries in Europe - Indian Express

Relevance: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

News:

- The **practice of 'visa shopping' is on the rise across various Indian states**, most notably in Punjab, where travel agencies facilitate this process.

Prelims Takeaway

- Visa Shopping
- The Schengen Visa

Visa Shopping

- It involves **obtaining visas** for countries that individuals **may or may not visit during the granted visa period**.
- It is a **strategy to gain entry into preferred countries**, often in Europe, even if one holds a visa for a different European nation.

Exploiting The Schengen System

- The Schengen Visa is a prime example, allowing travellers to **explore multiple European countries without the need for separate visas**.
- The Schengen Area includes 27 countries, where travellers can **move freely without border controls**, making it a coveted choice for visa shoppers.

Case Scenarios

- **Easier Application Process:** Many applicants prefer to secure a Schengen Visa from a country with a **more straightforward application process**.
- Several cases illustrate the practice of visa shopping, such as **obtaining visas for easier entry or to reach a specific destination**, even if the original visa application was rejected.

Legal Implications

- While visa shopping is **not inherently illegal**, travellers **must adhere to visa process norms and obtain valid permission** to stay in the country they visit.
- Legal concerns arise when intentions **do not align with the visa's purpose** or if the traveller seeks a visa for one country and stays in another.

Monitoring and Suspicion

- **Thorough Scrutiny:** Embassies now conduct comprehensive checks of travel plans to detect visa shopping.
- **Potential Consequences:** Suspected individuals may face visa refusal, being offloaded from flights, or deportation from EU borders.
- **Official Suspicion:** Repeated engagement in visa shopping can arouse suspicion among immigration officials, leading to potential problems during travel.

61. Concerned over poor national assessment of its colleges, Bihar will conduct its own ranking

Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News:

- **Bihar Government Establishes Committee to Assess Colleges** and Introduce State Rankings

Concern Over Poor NAAC Performance

- The Bihar government has **expressed concern regarding the underperformance of the state's colleges** in the National Assessment and Accreditation Council (NAAC) grading process.
- As a response, **it has established a committee to assess the colleges** and their academic performance.

Establishment of the Assessment Committee

- The committee's main task is to **evaluate the performance of all 270 constituent colleges affiliated with state universities**.

Decline in NAAC Accreditation

- In contrast to previous years, **only 35 colleges under state universities have obtained NAAC accreditation** in the current year.
- In 2021, **95 colleges** achieved this accreditation.
- **NAAC accreditation is determined based on factors** such as student-teacher ratio, teacher quality, laboratory availability, educational quality, research output, and overall infrastructure.

Prelims Takeaway

- National Assessment and Accreditation Council (NAAC)

Ranking Colleges and Financial Implications

- The state government **has decided to introduce its own ranking system for colleges** using criteria similar to those of NAAC.
- These rankings **may subsequently influence the allocation of government grants** to colleges.

State-Governor Relationship

- **Concerns have arisen about potential conflicts** between the state government's initiative and the Governor, who serves as the chancellor of state universities.
- The government, however, **emphasizes its right to seek an account of how the grant money is spent.**

Potential Impact on Higher Education Quality

- Both the government and the Governor's office agree that as long as **this effort results in improved education quality, there should be no issues.**
- However, if it is perceived as a means **to reduce annual grants for colleges**, it could negatively affect higher education.

62. Bhutan and China make progress in border talks- The Hindu

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- **Bhutan and China** hold the 25th round of discussions which has been held up since the previous round in 2016, **showing signs of progress in bilateral relations;**

Prelims Takeaway

- Map based questions

Key Highlights**Resumption of Long-Stalled Border Talks**

- Both sides expressed a mutual desire **to reach an agreement on demarcating their boundaries in the near future**, signaling a willingness to resolve this long-standing issue.

Agreement on Joint Technical Team

- "Cooperation Agreement outlines the establishment and functioning of a Joint Technical Team (JTT) responsible for the **"Delimitation and Demarcation of the Bhutan-China Boundary.**

Hope for Diplomatic Relations

- **Bhutan had previously refrained from such ties**, primarily due to its policy of not having relations with any UN Security Council Permanent Member (P-5) country.
- Bhutan and China have made substantial progress in their long-pending border talks, **with high-level meetings and agreements that signal a willingness to resolve boundary issues.**

63. Centre to introduce DNA, face matching systems at police stations across country -The Hindu

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

- India to Implement **"DNA and Face-Matching" Systems** at 1,300 Police Stations

Prelims Takeaway

- National Crime Records Bureau

Key Highlights**Introduction of the Criminal Procedure Identification Act**

- More than a year after the passage of the Criminal Procedure Identification Act in Parliament, **India is preparing to roll out "DNA and face-matching" systems** in 1,300 police stations nationwide.
- However, the **Act's provisions have not been fully implemented** on the ground, with logistical and connectivity issues hindering progress.

Empowering Law Enforcement with New Capabilities

- The Act **empowers police and Central investigative agencies** to:
 - collect, store,
 - analyze physical and biological samples, including retina and iris scans, of arrested individuals.

National Crime Records Bureau's Role

- The **National Crime Records Bureau (NCRB)**, responsible for overseeing the Act, is tasked with finalizing standard operating procedures (SOPs) for police officials.
- While the **Act and rules do not explicitly mention DNA samples** and face-matching,
- The NCRB has informed state police officials that these measures will be **implemented in approximately 1,300 locations across police districts** and special investigation units.

Establishment of Domain Committee and Technical Sub-Committee

- To ensure the successful implementation of the Act, **the Union Home Ministry has formed a Domain Committee**,
 - comprising representatives from state police, Central law enforcement agencies, and other stakeholders.
- A technical sub-committee has also been **established to develop SOPs for capturing DNA as a measurement**.
- States are tasked with identifying **locations for measurement collection units (MCUs)**, with the NCRB serving as the national-level database repository.

Transition from Old Practices

- Some **police stations are still using older methods**, such as:
 - Recording thumb and finger impressions and photographs
 - The National Automated Fingerprint Identification System (NAFIS).
- **NAFIS, managed by the NCRB**, has been set up at around 1,300 police stations and contains fingerprint details of over one crore people, including accused and convicts.
- This database is being integrated with the Criminal Procedure Identification Act.

Safeguarding Against Misuse

- The NCRB emphasizes the **importance of safeguarding against the misuse of databases**, allowing access only to designated officials in real time.

Challenges and Funding

- Challenges faced during implementation **include training and resource allocation, with some police departments lacking funds**.
- While the Home Ministry covers the cost of hardware, **states are responsible for the cost of secure internet lines and other operational expenses**.

Controversial Beginnings

- The Act faced opposition when introduced in Parliament in March 2022, **with critics labeling it "unconstitutional" and a violation of privacy**.
- However, **the government has moved forward with its implementation**.

64. Cabinet approves India-Japan chip supply chain partnership - Indian express

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- Recently, the Union Cabinet of India approved a **Memorandum of Cooperation (MoC) between India and Japan** aimed at **establishing a semiconductor supply chain partnership**.
- This partnership will focus on **research and development (R&D), manufacturing, design and talent development for the semiconductor industry**.
- It is part of India's efforts to **establish a reliable presence in the global semiconductor supply chain**.

Prelims Takeaway

- Semiconductors

Semiconductor Importance

- The MoC recognizes the **critical importance of semiconductors** in advancing various industries and digital technologies
- Therefore, it **intends to strengthen cooperation between India and Japan** towards enhancement of the semiconductor supply chain,

India's Semiconductor Ambitions

- India is making significant efforts to **boost its semiconductor manufacturing capabilities**, particularly as companies seek to diversify away from China.
 - Presently, China is a dominant hub for electronics manufacturing.
- The Indian government has launched a **\$10 billion plan to promote local chip manufacturing**.

Global Supply Chain Resilience

- India and the United States are **collaborating on building resilient global semiconductor supply chains**.
- The partnership aligns with the broader efforts to **secure semiconductor supplies and reduce dependence on a single manufacturing hub**.

65. Pradhan Mantri Anusuchit Jaati Abhuyday Yojana - PIB

Relevance: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes

News:

- The **Pradhan Mantri Anusuchit Jaati Abhuyday Yojana (PM-AJAY)** has been implemented since 2021-22.

Prelims Takeaway

- PM Anusuchit Jaati Abhuyday Yojana

Pradhan Mantri Anusuchit Jaati Abhuyday Yojana (PM-AJAY)

- It is a merged scheme that **combines three centrally sponsored schemes**, namely
 - Pradhan Mantri Adarsh Gram Yojana (PMAGY)
 - Special Central Assistance to Scheduled Castes Sub Plan (SCA to SCSP)
 - Babu Jagjivan Ram Chhatrawas Yojana (BJRCY)
- The scheme was **implemented in 2021-22** with the goal of **reducing poverty among Scheduled Caste (SC) communities** by creating
 - employment opportunities through skill development
 - income-generating projects
 - infrastructure development in SC-dominated villages

Components of PM-AJAY

1. **Development of SC-dominated villages into model villages, known as "Adarsh Grams"**
 - To ensure the **integrated development of SC-majority villages**.
 - To provide **adequate infrastructure and improve socio-economic indicators** to eliminate disparities between SC and non-SC populations.
 - This involves addressing issues related to **food and livelihood security, education, maternal and infant mortality, and malnutrition among SCs**.
2. **Grants-in-aid for district/state-level projects aimed at improving the socio-economic well-being of SCs**
 - It focuses on **comprehensive livelihood projects** that create sustainable income opportunities for SCs.
 - It encompasses **skill development, asset acquisition, infrastructure development, and other projects**.
 - Special provisions allocate a portion of funds for **income-generating schemes** for SC women and infrastructure development.
3. **Construction of hostels in higher educational institutions and schools**
 - These are funded, either fully or partially, **by the central, state, or union territory governments** and are recommended by the **Ministry of Education**.

66. SC allows surrogacy, strikes down rule banning use of donor gametes - The Hindu

Relevance : Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News:

- The Supreme Court has **protected the right** of parenthood of a woman, suffering from a rare medical condition.
- The court **stayed the operation of a law** which threatened to wreck her hopes to become a mother through surrogacy.

Prelims Takeaway

- The Surrogacy Law in India
- Assisted Reproductive Technology

Right of Parenthood v Statute

- The woman **suffers from** the Mayer Rokitansky Kuster Hauser (MRKH) syndrome.
- Medical **board records showed** she has “absent ovaries and absent uterus, hence she **cannot produce** her own eggs/oocytes”.
- The couple had **begun the process** of gestational surrogacy, through a donor, in 2022.
- However, a government notification on March 14, 2023 amended the law, **banning the use of donor gametes**.
- It said “intending couples” must **use their own gametes** for surrogacy.
- The petition was filed in the Supreme Court **challenging the amendment as a violation** of a woman’s right to parenthood.

The Opinion of the Hon’ble Supreme Court

- The Supreme Court is of the opinion that the amendment is **not in consonance** with main provisions of the Surrogacy Act.
- The amendment is **prima facie contrary** to the main provisions of the Surrogacy Act both in form as well as in substance.
- The Court is of the opinion that the **amendment is a hurdle** for the intending couple and prevents them from achieving parenthood through surrogacy.

The Point of View of Petitioner

- The petitioner argued that the **amended Paragraph 1(d) of the Surrogacy (Regulation) Rules, 2022**, by ruling out the use of donor eggs had made it impossible for the couple to continue with the process of surrogacy in order to achieve parenthood.
- The petitioner further argued that the 2023 amendment **contradicted the Sections 2(r) and 4 of the Surrogacy Act, 2021** which recognised the situation when a medical condition would require a couple to opt for gestational surrogacy in order to become parents.
- The petitioner cited that the Rule 14(a) of the Surrogacy Rules **the medical or congenital conditions** owing to which a woman could choose to become a mother through gestational surrogacy.
- **The medical or congenital conditions included** “having no uterus or missing uterus or abnormal uterus (like **hypoplastic** uterus or **intrauterine** adhesions or thin **endometrium** or small unicornuate uterus, T-shaped uterus) or if the **uterus** is surgically **removed** due to any medical condition such as **gynaecological cancer**”.

Woman’s Choice v Legal Hurdles

- The Rule made it clear that the **choice was solely** that of the woman. He said his client had **begun** the surrogacy process months **before the amendment**, which cannot be implemented **retrospectively**.
- The **government countered** that the process of surrogacy cannot be availed under the law unless the child was “**genetically related**” to the intended couple. This **exempted** the use of donor eggs.

The Order of the Court over Right of Women

- The Court ordered that the **law** permitting gestational surrogacy was “**woman-centric**”.
- The decision to have a surrogate child was entirely based on the **woman’s inability** to become a mother owing to her medical or congenital condition.
- **Such a condition included :**
 - the “**absence** of a uterus
 - **repeatedly failed** pregnancies,

- **multiple pregnancies**
- an **illness** which makes it **impossible** for her to carry a pregnancy to term would make the pregnancy **life-threatening**".

The Interpretations of the Court Over the Questions of Law

- The amendment **cannot contradict Rule 14(a)**.
- The rule **specifically recognises the absence of a uterus** or any allied condition as a medical indication necessitating gestational surrogacy.
- Addressing the **government's contention** that the surrogate child should be "genetically related" to the couple, the court pointed out that the child would be **related to the husband**.
- "In this regard, it may be noted that the expression '**genetically related**' to the intending couple has to be read as being **related to the husband** when Rule 14(a) applies," the court interpreted.

67. PM Modi chairs meeting of 43rd edition of PRAGATI - AIR

Relevance: e-governance applications, models, successes, limitations, and potential

News:

- Recently, the Prime Minister chaired the meeting of the **43rd edition of PRAGATI, involving Centre and State governments**.

Prelims Takeaway

- PRAGATI Platform
- CPGRAMS

Pro-Active Governance and Timely Implementation (PRAGATI) Platform

- Launched on March 25, 2015, it is a **multi-purpose and multi-modal platform** that is aimed at **addressing common man's grievances**.
- It also **monitors and reviews important programmes and projects of the Government** of India as well as projects flagged by State Governments.
- It is also a **robust system for bringing e-transparency and e-accountability** with real-time presence and exchange among the key stakeholders.
- This platform is combined with the **three latest technologies** namely
 - Video-conferencing
 - Digital data management
 - Geo-spatial technology
- It provides a **unique combination for cooperative federalism**.
 - This is done by bringing the **Chief Secretaries of the states** and the Secretaries of the GOI on one platform.
 - The PM can **discuss the issues at ground level with this platform**.
 - He can communicate with concerned state and central officials with full information.

Key features

- It works on a **three-tier system**.
- The Prime Minister **will conduct a meeting every month**.
 - He will **interact with secretaries and chief secretaries** of the GOI via video conferencing.
- Issues to be flagged before the PM is **picked up from the available database** regarding public grievances, on-going Programmes and pending projects.
- The system will **ride on, strengthen, and re-engineer the data bases** of
 - the CPGRAMS for grievances
 - the Project Monitoring Group (PMG)
 - the Ministry of Statistics and Programme Implementation
 - PRAGATI provides an interface and platform for all these three aspects.
- It will also take into consideration **various correspondences to the PM's office** by the common people or from high dignitaries of States and/or developers of public projects.

Public Grievances

- The issues flagged are **uploaded seven days prior to the PRAGATI day**.
- These issues **can be viewed by the Union Government Secretaries and Chief Secretaries** after entering into the application.

- Union Government Secretaries and Chief Secretaries will be **able to see the issues pertaining to their Department /State**.
- Union Government Secretaries and Chief Secretaries have to **put their comments and updates about the flagged issues** within three days
- One day, Tuesday, is available to the PMO team **to review the data entered** by the Union Government Secretaries and Chief Secretaries.
- The design is such that when **PM reviews the issue**, he should have on his screen the issue as well as the **latest updates and visuals** regarding the same.

68. Pursue all legal, political options in Qatar case, say experts - The Hindu/ Delhi explores legal and diplomatic options after Qatar death sentence - Indian Express

Relevance : India and its neighbourhood- relations.

News :

- India is exploring **legal and diplomatic options in Qatar death row**.
- The charges are of **spying for Israel**.
- The verdict has been given by **Qatar's Court of First Instance**

Prelims Takeaway

- DIMDEX
- India-Qatar Defence Cooperation Agreement
- U212

Backdrop

- All eight naval officers were **employees of Doha-based Dahra Global**.
- They were **working in private capacity**.
- Their job was **to oversee the induction** of Italian small stealth submarines U212.

Challenges for India in Qatar

- **Opacity** of trial.
- **No exact reason** for the arrest of eight men.
- An **appeal** in the higher court.
- A **mercy petition** to the Emir of Qatar.
- It will be a **twin-track** of appeal and mercy petition that is being considered, as of now.

Economic ties between India and Qatar

- The two countries have **strong economic ties** like :
 - LNG imports from Qatar is an important feature of these ties
 - The investments by Qatar Investment Authority is substantial in India's new economy.
 - Major Qatari investments include communications , transmission, green energy , retail ventures, food business , news agency and education. .

Political and Defence Ties between India and Qatar

There are strong political ties between two countries like :

- There have been **high-level visits** in recent years.
- The External Affairs Minister has **visited Doha multiple times**.
- India **offers training slots** in its defence institutions to a number of partner countries, including Qatar.
- India **regularly participates** in the biennial Doha International Maritime Defence Exhibition and Conference (**DIMDEX**) in Qatar.
- The India-Qatar **Defence Cooperation Agreement** in 2008 and extended in 2018.

Workable Factors in Qatar

- Indian diaspora has goodwill in Qatar.
- **Qatar's heft** great heft in international diplomacy like :
 - Taliban's global mission in Doha

- Securing the release of US hostages from the captivity of Hamas.

Prisoners Transfer Agreement

- In this, one of the options could be the **transfer of prisoners agreement** that was signed in 2015 between India and Qatar.
- For the prisoner **to serve the rest of his/her sentence** in India, there must not be a standing appeal against his committal to prison in the foreign country.
- But for that, it **needs to be converted** from a death sentence into a life imprisonment at least.

Matters of Consideration for Future

- The current West Asia conflict has **made the verdict untimely**.
- There is **very rare use of the death penalty in Qatar**.
- **A former Indian envoy** to Qatar has been deployed for the job.

69. Panel holds back its report on crime Bills - The Hindu/ Panel likely to seek redraft of provisions on organised crime - Indian Express

Relevance:Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.

News:

- The Parliamentary Standing Committee on Home Affairs is **reviewing the three Bills** to replace existing criminal codes.
- It is likely to **recommend redrafting** key provisions that were brought in for the first time to tackle organised crime.
- The Bharatiya Nyaya Sanhita, 2023, which **seeks to replace** the Indian Penal Code, 1860, introduced **new provisions to define and penalise** “organised crime”.
- The deliberations by the panel are likely to **lead to a recommendation** to re-draft this provision.

Prelims Takeaway

- Maharashtra Control of Organised Crime Act (MCOCA), 1999.
- The Supreme Court, in a landmark ruling on adultery-2018
- Definition of Organized Crime in India

Features of the Bills

- It is learnt that while the panel feels that the provision is a **very effective addition**, many terms used must be **clearly defined** to avoid uncertainty.
- Section 109 of the proposed law defines an **organised crime syndicate to include** a “gang, mafia or (crime) ring” involved in “gang, criminality, racketeering and syndicated organised crime.”
- It is learnt that experts have pointed out that the **scope of organised crime** in the proposed law is **much wider**, even when compared with the stringent Maharashtra Control of Organised Crime Act (MCOCA), 1999.
- The proposed provision **also criminalises** holding “any property, derived, or obtained from the commission of an organised crime or proceeds of any organised crime”.
- It **stipulates the jail term** of **not less** than three years but which can be **extended** to life imprisonment.
- The deliberations of the Parliamentary panel are likely to lead to a recommendation **to safeguard third parties** who may acquire such property unknowingly.
- This means, **supplementing the provision** with the “intent” to hold such property obtained from unlawful means.
- It recommends that handcuffs should not be used on economic offenders.
- It rejects the contention on the **Hindi nomenclature** of the Bills.

Opinions on Bills

- Former CBI Special Director, former Additional Solicitor General of India National Human Rights Commission Chairperson are **among the experts** who appeared before the panel.
- There is a view leaning in favour of **bringing back the provision** criminalising adultery (Section 497 of the IPC) and non-consensual 'unnatural sex' (Section 377 of the IPC) which **have been removed** in the new Bills.
- The Supreme Court, in a landmark ruling in 2018, had **decriminalised adultery**. Some have gone to the panel with concerns that there is a **need to keep the provision** in order to safeguard the sanctity of the institution of marriage.

70. Union Government Launches Bharatiya Beej Sahkari Samiti Limited (BBSSL) - PIB

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

- Recently, the Union Home and Cooperation Minister **addressed the "National Symposium on Production of Improved and Traditional Seed through Cooperative Sector"**.
- It was organized by **Bharatiya Beej Sahkari Samiti Limited (BBSSL)**.
- He unveiled BBSSL's Logo, Website, and Brochure and emphasised the **significance of the cooperative movement** in the agricultural sector.

Prelims Takeaway

- Primary Agricultural Credit Society
- Bharatiya Beej Sahkari Samiti Limited

Key Highlights

1. **Promoting Self-Reliance**
 - BBSSL will help India become self-reliant in **seed conservation, promotion, and research**
2. **Traditional Seed Preservation**
 - There is a **need to conserve traditional Indian seeds** to maintain the **quality and nutritional value of crops**.
 - **BBSSL** is expected to play a role in this preservation effort.
3. **Research and Development**
 - BBSSL will engage in **research and development to increase seed production**, focusing on methods developed by Indian agricultural scientists.
 - It aims to **expand India's share in the global seed market**.
4. **Cooperative Approach**
 - The cooperative society will link with **Primary Agricultural Credit Societies (PACS)** to enable farmers to **produce certified seeds**.
 - The profits from this initiative will **directly benefit seed-producing farmers**.
5. **Global Seed Market**
 - India's current share in the global seed market is **less than one percent**, and there is a goal to increase it significantly.
 - The government established BBSSL with the **aim of achieving this objective**.
6. **Collaboration**
 - Key organisations are integral to BBSSL's core, **collaborating to support the farmers' seed production**.
 - These organisations include **IFFCO, KRIBHCO, NAFED, NDDDB and NCDC**
7. **Multiple Cooperative Institutions**
 - **Various cooperative institutions**, including multi-state, state-level, district-level, and PACS, **will join this cooperative network**.
 - The goal is to ensure the **entire process** from production to marketing **is efficient and scientifically managed**.

8. **Conservation of Traditional Seeds** by collecting and scientifically analyzing data and creating a database of their positive aspects.
9. **Monopoly on Millets**
 - Attention is given to **promoting millets in the global market**, such as Ragi, Bajra, and Jowar, where India can **potentially have a monopoly**.

71. Mizoram has highest cancer incidence rate in India, finds study - The Hindu

Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News:

- According to a report, **Mizoram exhibits the highest incidence rate of cancer in India.**

Prelims Takeaway

- Cancer
- World Health Organisation

Findings of the Study

- Escalating **cancer incidence and mortality in Mizoram.**
- **Stomach cancer:** Primary cause of cancer-related deaths among men
- **Lung cancer:** Primary cause of cancer-related deaths among women.
- **Possible Causes**
 - Static lifestyle and dietary patterns, potentially contributing to a genetic predisposition.
 - Lack of specialised diagnostic facilities, human resources, and transportation challenges.

Deadly disease

- **World Health Organisation**
 - Cancer is a large group of diseases that can **start in almost any organ or tissue of the body** when **abnormal cells grow uncontrollably**, and go beyond their usual boundaries to invade adjoining parts of the body or spread to other organs.
- It is the **second leading cause of death globally**, accounting for one in six deaths in 2018.
- **Most common types of cancer in men:** Lung, prostate, colorectal, stomach and liver cancer
- **Most common types of cancer among women:** Breast, colorectal, lung, cervical and thyroid cancer are the

Cancer on the rise

- **One in nine people** across India are **likely to develop cancer in their lifetimes.**
- **Lung and breast cancers** were the **leading sites of cancer in males and females**, respectively.
- Among childhood cancers, **lymphoid leukaemia** was the leading site.
- The incidence of cancer cases is **estimated to increase by 12.8 percent in 2025** as compared to 2020.

72. 80% of India's urban population has access to high-speed Internet: PM - The Hindu

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:

- During the **seventh India Mobile Congress**, the Prime Minister highlighted **India's rapid progress in 5G network coverage.**

Prelims Takeaway

- 5G Technology
- Cyber Security

5G Progress in India

- He mentioned that **over 80% of India's urban population** now has **access to 5G technology**
- Approximately **4 lakh 5G base stations** have been **deployed** within a year of the 5G launch in the country.
- He also mentioned that improving internet connectivity and speed **enhances the quality of life.**

Key Highlights of Speech

- **5G Expansion**
 - India has seen a **swift expansion of 5G networks in urban centres**, providing high-speed technology access to the majority of the urban population.

- **Focus on 6G**
 - India is also **moving towards becoming a leader in 6G telecommunications** by focusing on research efforts to **standardise the next generation** of telecommunications.
- **Benefits of Improved Connectivity**
 - Enhanced internet connectivity and speed have **broader positive impacts**.
 - Such as **facilitating online education, telemedicine, and navigation for tourists**.
- **Domestic Electronics Manufacturing**
 - The PM also celebrated the **growth of domestic electronics manufacturing**.
 - He **cited examples** such as
 - Apple and Samsung's smartphone assembly in India
 - Google's plans to assemble its Pixel lineup in India
- **Supply Chain Security**
 - He also made a case for **securing electronics supply chains**, suggesting the need to **make democratic societies safe from potential disruptions**.

73. PM discusses security situation in West Asia with Egypt President - The Hindu/ Modi dials Egypt's El-Sisi over Gaza, both agree on early peace - Indian Express

Relevance : Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News :

- India and Egypt, recently, **discussed the deteriorating** security and humanitarian situation in West Asia.
- Both shared concern over **terrorism, violence and loss of civilian lives**.
- They **emphasised on facilitating humanitarian assistance** to those in need.
- They also deliberated on the **implications of the current situation** for West Asia and the world.
- Egypt is **making diplomatic efforts** to push the conflict towards a ceasefire.

Prelims Takeway

- El-Arish Airport
- Sinai Peninsula
- Middle East Region
- West Asia

India's Efforts to De-escalate West Asian Conflict

- India called Jordan to **express its concern** on the conflict.
- India made **call to both Israel and Palestinian Authorities**
- India **reiterated its long-standing and principled position** on the Israel-Palestine issue.
- India sent over **38 tonnes of relief material** for the people of Palestine via Egypt.
- The **Arab world has recognized India's efforts** in the conflict so far.

India's Strategic Interests in West Asia

- An estimated **90 lakh Indians** work in West Asia.
- West Asia meets over **50% of India's energy needs**.
- The geopolitics of the Middle East is **fraught as well as closer home**.

74. Bangladesh is building memorial to honour Indian heroes of 1971 war - The Hindu

Relevance: India and its neighbourhood- relations.

News:

- **Bangladesh** has undertaken the **construction of a memorial at Ashuganj, Bangladesh** to pay **tribute to the Indian heroes** who played a pivotal role in the **1971 Liberation war**.
- This will be the first memorial in Bangladesh **exclusively dedicated to Indian soldiers from the 1971 war**.

Prelims Takeway

- 1971 Liberation War
- India - Bangladesh relations

Background

- The 1971 war marked a significant historical moment, as **Indian armed forces supported the Bangladeshi Mukti Bahini** (freedom fighters) in their **fight for independence from Pakistan**.
- This support was **instrumental in the victory** and the **eventual formation of the independent nation of Bangladesh**.

Significance

- The memorial **serves as a symbol of the enduring friendship** and **strong ties between India and Bangladesh**, reinforcing the historic cooperation during the 1971 war.
- The construction of this memorial **underscores the recognition of the valor and selflessness of Indian armed forces** in aiding Bangladesh's quest for independence.
- It aims to **raise awareness** of the 1971 Liberation War among the youth.

75. 7.5% dip in active workforce under MGNREGS, says study - The Hindu

Relevance: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

News:**Prelims Takeway**

- MGNREGA

- A data analysis by **LibTech India**, for April-September 2023 reveals a **7.5% reduction in the number of active workers** in the **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)** in India.

Workforce Contraction

- The analysis, in conjunction with a **net reduction of 80 lakh workers** in the current financial year, paints a **concerning picture for the MGNREGS program**.
- This highlights the **need for a comprehensive analysis** to identify the factors contributing to this decrease and **formulate strategies to rejuvenate program participation**.
- Interestingly, despite the shrinking workforce, there is a **9% increase in person days under MGNREGS** compared to the previous fiscal year.
 - Person days refers to the **total work days by individuals registered** under the scheme in a financial year

State-Level Variations

- The report also notes **variations in employment trends at the state level**.
- **Fourteen states** reported an **increase in MGNREGS participation**, while six states experienced a decline.
- Notably, **West Bengal suspended the scheme**, alleging large-scale corruption in its implementation, resulting in a 99.5% decline.

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

- MGNREGS is one of the largest **work guarantee programmes** in the world launched in **2005** by the **Ministry of Rural development**.
- It aims to guarantee **100 days of employment** in every financial year to **adult members of any rural household** willing to do **unskilled manual work**.
- The act aims at addressing the **causes of chronic poverty** through a **rights-based framework**.
- If any rural adult fails to get work within **15 days** of demanding it, an **'unemployment allowance'** is given.
- The act mandates **Gram sabhas** to recommend the works that are to be undertaken and **at least 50%** of the works must be executed by them.
- At least **one-third** of beneficiaries need to be **women**.
- The **Centre** bears **60% of the cost of the materials used for MGNREGS work** and the **remaining 40%** is provided by the **State governments**.
- **Data:**
 - As of 2022-23, there are **15.4 crore active workers** under the MGNREGA.

76. India, UK trade ministers review progress of talks on proposed FTA - The Economic Times

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- India and the UK recently reviewed the progress of negotiations of the proposed **free trade agreement (FTA)**, talks for which have reached the final stage.

Prelims Takeaway

- Free Trade Agreement
- Intellectual Property Rights (IPRs)

Key Highlights

- There are 26 chapters in the agreement, which include **goods, services, investments and intellectual property rights**.
- An investment treaty** is also being negotiated as a **separate agreement** between India and the UK.
- These investment treaties help in **promoting and protecting investments** in each other's country.
- The main point of contention in this pact is the **mechanism for settlement of disputes**.
- The **bilateral trade between India and the UK increased** to USD 20.36 billion in 2022-23, from USD 17.5 billion in 2021-22.

India's Demands

- Greater access for its skilled professionals** from sectors like IT, and healthcare in the UK market
- Market access** for several goods at **nil customs duty**.

UK's Demands

- Significant cut in import duties** on goods such as scotch whiskey, automobiles, lamb meat, chocolates and certain confectionary items.
- More opportunities for UK services in Indian markets** in segments like telecommunications, legal and financial services.

Free Trade Agreement (FTA)

- An **agreement** between countries or regional blocks to **reduce or eliminate trade barriers**, through mutual negotiations with a view to **enhancing trade**.
- It includes **goods, services, investment, intellectual property**, competition, government procurement and other areas.
- This **concept** of free trade is the opposite of **trade protectionism or economic isolationism**.
- FTAs can be **categorised** as
 - Preferential Trade Agreement
 - Comprehensive Economic Cooperation Agreement (CECA)
 - Comprehensive Economic Partnership Agreement (CEPA)

India

GS II

77. Fill vacancies in CIC, SICs, top court tells Centre, States - The Hindu

Relevance: Statutory, regulatory and various quasi-judicial bodies.

News :

- The Supreme Court directed the Centre and the States to **immediately take steps** to fill up vacancies in the Central Information Commission (CIC) and State Information Commissions (SIC).
- The court **expressed apprehension** of these bodies becoming defunct.
- This might also **damage the citizens' right** to know under the Right to Information (RTI Act) a "dead letter".

Prelims Takeaway

- Chief Information Commission
- RTI Act

Time-bound Order

- The Bench headed by the Chief Justice of India gave the Centre three weeks **to collect data** from the States **regarding**

- the sanctioned strength of the CIC and SICs
- existing and anticipated vacancies till March 31, 2024
- the pending cases.

Facts of the Petition

- The petitioner **argued** that
 - the continuing **vacancies**, making RTI almost redundant.
 - a Supreme Court **judgment** in 2019 that directed the government to fill vacancies of information bodies was cited.
 - the **delay** violates the order of the court.
 - cases were **piling up** in these Information Commissions
 - many of the bodies had **stopped accepting cases**.

State of Recruitments in the Various Information Commissions of the Country

- **CIC itself** was functioning without a Chief Information Commissioner.
- Only four Information Commissioners are functioning presently and they will retire soon.
- The Jharkhand SIC, the Tripura SIC and the Telangana SICs had been **defunct**.
- Other SICs, including in Maharashtra, Karnataka, Bihar, Odisha and West Bengal, were almost **crippled** by vacancies and a huge backlog.

78. SC puts Maharashtra Speaker on deadline over defection pleas - The Hindu

Relevance: Constitution of India —historical underpinnings, evolution, features, amendments, significant provisions and basic structure.

News:

- The **Supreme Court** recently directed Maharashtra Assembly Speaker to decide **disqualification petitions** against the Maharashtra Chief Minister by December 31, 2023.

The Anti-Defection Law

- The **Anti-Defection Law** passed in **1985** through the **52nd amendment** to the Constitution added the **Tenth Schedule** to the Indian Constitution.
- It aimed to combat "**the evil of political defections**".
- According to it, a **member of a House** belonging to any political party becomes **disqualified**, if
 - he **voluntarily** gives up his **membership** of such political party
 - he **votes or abstains from voting** in such House **contrary to directions** issued by his political party and such act has not been **condoned** by the party
 - If any **independently** elected member **joins any political party**.
 - If any **nominated member** joins any political party after the **expiry of six months**.

Prelims Takeaway

- The Anti-Defection Law
- Supreme Court of India

Power play

Recent judgments in which the SC dealt with the power of Speakers under the Tenth Schedule:

■ In **Keisham Meghachandra Singh versus Manipur Speaker (2020)**, a three-judge Bench led by Justice R.F. Nariman said **Speakers should decide disqualification petitions within a maximum three months unless there are "exceptional circumstances"**

■ In the **Karnataka MLAs' disqualification case (2019)**, a three-judge Bench led by Justice N.V. Ramana had held that a **Speaker who cannot stay aloof from the pressures and wishes of his political party does not deserve to occupy his chair**



Exceptions

- If a member goes out of his party as a result of a **merger of the party** with another party.
 - A merger takes place when two-thirds of the members of the party have agreed to such merger.
- If a member, after being elected as the **presiding officer** of the House, **voluntarily gives up the membership** of his party or **rejoins it** after he ceases to hold that office.

Powers of Speaker with regard to Anti-Defection Law

- **Any question** regarding disqualification arising out of defection is to be decided by the **presiding officer** of the House.
- After the **Kihoto Hollohan case**, the Supreme Court declared that the **decision** of the **presiding officer is not final**
- It is **subject to judicial review** on the grounds of **malafide, perversity, etc.**

79. India seeks formal talks at WTO for reforms in dispute resolution body - Indian Express

Relevance: Important International institutions, agencies and fora- their structure, mandate.

News:

- India is gearing up for the **upcoming World Trade Organisation (WTO) ministerial conference**, which is just four months away.
- It has pressed for early start of formal talks on getting the **dispute settlement system in the world body functioning** again.

Prelims Takeaway

- World Trade Organisation
- WTO Dispute Settlement

Informal Talks on Reforming WTO Dispute Settlement System

- The dispute settlement system within the WTO has **become non-functional due to actions primarily taken by the United States.**
- The US is now engaging in discussions about **reforming the Dispute Settlement Body, in informal ways.**
- Informal discussions pose challenges for **WTO members with limited ambassador presence**, hindering their participation.
- Other logistics challenges, including not having **enough translators is also hampering broader participation** in informal discussions.
- India, during the 'senior officials' meeting in Geneva, has called for **shifting negotiations to a formal committee** setting to enable greater member involvement and resource deployment.

WTO Dispute Settlement

- A **dispute arises** when a member government believes another member government is **violating an agreement** that it has **made in the WTO.**
- There are **two main ways** to settle a dispute once a complaint has been filed in the WTO
 - The parties find a mutually agreed solution, particularly during the phase of bilateral consultations.
 - Through adjudication which are binding upon the parties once adopted by the Dispute Settlement Body.
- There are **three main stages to the WTO dispute settlement process**
 - Consultations between the parties.
 - Adjudication by panels and, if applicable, by the Appellate Body.
 - The implementation of the ruling
 - It includes the possibility of countermeasures in the event of failure by the losing party to implement the ruling.

WTO's Appellate Body

- The Appellate Body, **set up in 1995**, is a **standing committee of seven members.**
- It **presides over appeals** against judgments passed in trade-related disputes brought by WTO members.
- Countries can approach the Appellate Body if they feel the **report of the panel** set up to examine the issue **needs to be reviewed on points of law.**

- However, **existing evidence is not re-examined** but **legal interpretations are reviewed**.
- The Appellate Body can **uphold, modify, or reverse the legal findings of the panel** that heard the dispute.
- The appellate body at the WTO **stopped functioning from December 2019**, but the **panels are still working**.

80. West Asia conflict could trigger 'dual shock' in commodity markets: World Bank - Indian Express

Relevance: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

News:

- The World Bank has **assessed the impact** of the West Asia Conflict on the world economy in its report.
- The **name of the report** is Commodity Markets Outlook.
- The World Bank has **cautioned** that West Asia Conflict can lead to energy market turmoil and intensification of food insecurity.

Prelims Takeaway

- Commodity Markets Outlook
- Arab oil embargo in 1973

India and World Food Market

- **Ban on exports of non-basmati rice** by India has caused disruptions in food security.
 - India **accounts for** nearly 40 per cent of the world's rice exports.
- A **cut in India's fertiliser subsidy** for the second half of the season could further impact demand.
- Rice prices **will remain high** in 2024 assuming India maintains export curbs.

Perspectives of World Market

- Fears of **potential El Niño** impacts in crucial rice-growing areas.
- At the **end of 2022** more than 700 million people—nearly a tenth of the global population—were undernourished.
- High **oil prices may** lead to inflation that can escalate undernutrition.
- The **fluctuations** are triggered by
 - Ban on export of food and fertilisers
 - Price controls.
 - Price subsidies.
- A **better option** is to
 - improve social safety nets
 - diversify food sources
 - increase efficiency in food production and trade.

Stable 2024 and 2025 Expected

- As per World Bank, Oil prices are **expected to average** \$90 a barrel this quarter before falling to \$81 a barrel in 2024 as global economic growth slows.
- **Overall commodity prices** are projected to fall 4.1% in 2024.
- Prices of **agricultural commodities** are expected to decline next year as supplies rise.
- Prices of **base metals** are also projected to drop 5% in 2024.
- **Commodity prices** are expected to stabilise in 2025.

Three Scenarios of Disruption of Global Oil Supply

- A "**small disruption**" scenario, roughly equivalent to the reduction seen during the Libyan civil war in 2011
 - The global oil supply would be **reduced** by 500,000 to 2 million barrels per day leading to price rise of oil to a range of \$93-\$102 a barrel.
- In a "**medium disruption**" scenario—roughly equivalent to the Iraq war in 2003
 - The global oil supply would be curtailed by 3 million to 5 million barrels per day, which could drive oil prices to \$109-\$121 a barrel.
- In a "**large disruption**" scenario—comparable to the Arab oil embargo in 1973
 - The global oil supply would shrink by 6 million to 8 million barrels per day, which could drive prices to \$140-\$157 a barrel.

Russian Oil and Price FLuctuations

- There is **redirection of Russian exports** from EU and G7 countries to China, India and Türkiye, the World Bank.
- The price cap on **Russian crude oil** introduced in late 2022 appears increasingly unenforceable given the recent spike in Urals prices.
- The price cap has **not created significant supply disruptions**, with the volume of Russian oil production and exports remaining relatively constant.
- There has been **increasing uncertainty** regarding the discount at which Russian oil trades.

Impact on Gold Prices

- Policymakers need to **remain concerned about gold in particular**.
- Gold prices have **risen about 8%** since the onset of the conflict.
- Gold prices have a **unique relationship** to geopolitical concerns.
 - They rise in periods of conflict and uncertainty often signalling an erosion of investor confidence.
- Gold prices **would likely increase** from already high levels as investors shift to safe-haven assets.

GS III**81. Army's Project Udbhav to rediscover 'Indic heritage of statecraft' from ancient texts - The Hindu****Relevance:** Defence**News:**

- The **Indian Army** recently started an initiative, named **Project Udbhav**.
- A **study to compile Indian stratagems based on ancient texts** has been **ongoing since 2021**.
- A **book has been released listing 75 aphorisms** selected from ancient texts

Prelims Takeaway

- Project Udbhav
- Indian Army
- United Service Institution of India

Key Features

- **Objective:** To rediscover the “**profound Indic heritage of statecraft and strategic thoughts**” derived from ancient Indian texts of “statecraft, warcraft, diplomacy and grand strategy”.
- It endeavours to **explore India's rich historical narratives** in the realms of **statecraft and strategic thoughts**.
- It also aims to **develop an indigenous strategic vocabulary**, which is deeply rooted in India's multifaceted philosophical and cultural tapestry.
- The overall aim is to **integrate age-old wisdom with modern military pedagogy**.
- This project is in collaboration with the **United Service Institution of India, a defence think-tank**.

82. How important is the first asteroid sample? - The Hindu**Relevance:** Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.**News:**

- Recently, on September 24th, **NASA's first asteroid samples**, fetched from **asteroid Bennu**, were dropped by **Osiris-Rex** into the **USA's Utah desert**.
- This was NASA's **third sample return** from a deep-space robotic mission.

Prelims Takeaway

- OSIRIS-REx
- Asteroid Bennu
- NASA

- The samples are expected to **provide insights into the formation of Earth and life 4.5 billion years ago.**

OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer) Mission

- OSIRIS-REx is a **NASA asteroid-study and sample-return mission.**
- Launched in **September, 2016**, the spacecraft **reached asteroid Bennu in 2018.**
- **Objective:** To obtain a **sample of at least 60 gm from Bennu** and return the sample to Earth for a detailed analysis.
- The spacecraft contains **five instruments** meant to explore Bennu including cameras, a spectrometer and a laser altimeter.



Asteroid Bennu

- Bennu is a **B-type Near-Earth Asteroid.**
 - B-type asteroids are a relatively uncommon type of carbonaceous asteroid.
- Because of its high carbon content, it **reflects about four percent of the light that hits it**, which is very low.

- Earth reflects about 30 percent of the light.

Significance of Benu as the Target Asteroid

- Asteroids such as Benu can **act as a "time capsule" for our solar system's earliest history.**
- Scientists believe that it is **4.5 billion years old** and **hasn't undergone drastic changes** since its formation.
- Therefore, it **contains chemicals and rocks dating back to the birth** of the Solar System.
- In particular, Benu was selected because of the **availability of pristine carbonaceous material**, a key element in organic molecules necessary for life.
- It will help researchers learn about **how our planet and solar system formed**, as well as the **origin of organics** that may have led to life on Earth.

83. Aditya L1 exits Earth's sphere of influence: ISRO - Indian Express

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News:

- Recently, ISRO stated that India's solar mission **Aditya L1 has now left the Earth's sphere of influence.**
- This is the region up to which our **planet's gravitational pull can impact a satellite.**

Aditya-L1 Mission

- **Launched by ISRO to the L1 orbit which is about 1.5 million km** from the Earth.
- It is expected to **take more than 120 days** for the spacecraft to reach the L1.
- **The orbit allows Aditya-L1 to look at the Sun continuously** without any occultation/eclipses.

Objective

- To study the **Sun's corona, Sun's photosphere, chromosphere, solar emissions, solar winds and flares and Coronal Mass Ejections (CMEs).**
- To carry out **round-the-clock imaging of the Sun.**

Launch Vehicle and Payloads

- **Launched using the Polar Satellite Launch Vehicle (PSLV)**
 - **Previous Launches**
 - Chandrayaan-1 in 2008
 - Mars Orbiter spacecraft in 2013
- The mission will **have 7 payloads (instruments) on board viz.**
 - Visible Emission Line Coronagraph (VELC)
 - Solar Ultraviolet Imaging Telescope (SUIT)
 - Solar Low Energy X-ray Spectrometer (SoLEXS)
 - Aditya Solar wind Particle Experiment (ASPEX)
 - High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)
 - Plasma Analyser Package for Aditya (PAPA)
 - Advanced Tri-axial High Resolution Digital Magnetometers

What is L1?

- It refers to **Lagrangian/Lagrange Point 1, one of the five points in the orbital plane of the Earth-Sun system.**
- These are **positions in space where the combined gravitational pull** of two large masses roughly balance each other.
- These **can be used by spacecraft to reduce fuel consumption** needed to remain in position.

Prelims Takeaway

- Aditya-L1 Mission
- Lagrange Points
- ISRO

84. Medicine Nobel 2023 goes to duo who paved the way for mRNA COVID vaccines - The Hindu

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News:

- This year's **Nobel Prize for Physiology or Medicine** has been **jointly awarded to Katalin Kariko and Drew Weissman**.
- They have been awarded for their "**discoveries concerning nucleoside base modification** that enabled the **development of effective mRNA vaccines against COVID-19**".

Prelims Takeaway

- Messenger RNA
- mRNA Vaccines

Messenger RNA (mRNA)

- It is a **single-stranded RNA molecule** that is complementary to one of the DNA strands of a gene.
- It is an RNA version of the gene that **leaves the cell nucleus and moves to the cytoplasm where proteins are made**.
- During **protein synthesis**, the **ribosome moves along the mRNA, reads its base sequence, and uses the genetic code to translate into amino acid**.

mRNA Vaccines

- Such vaccines **make use of the messenger RNA molecules** that tell the body's cells what proteins to build.
- Here, the **mRNA is coded to tell the cells to recreate the spike protein of the coronavirus SARS-CoV-2**, which causes Covid-19.
 - It is the spike protein which appears as spikes on the surface of the coronavirus.
 - It initiates the process of infection and allows the virus to penetrate cells after which it goes on to replicate.
- A **coronavirus vaccine based on mRNA**, once injected into the body, will **instruct the body's cells to create copies of the spike protein**.
- In turn, this is expected to **prompt the immune cells to create antibodies to fight it**.
- These antibodies will **remain in the blood and fight the real virus** if and when it infects the human body.

85. IAF likely to induct Astra BVR air-to-air missile by year-end - The Hindu

Relevance: Defence

News:

- The **Indian Air Force (IAF)** has placed two contracts with Bharat Dynamics Limited (BDL) for the **indigenous Astra Beyond Visual Range (BVR) Air to Air Missile**.
- The first batch is expected to be **inducted by the end of 2023**.

Prelims Takeaway

- ASTRA Missile
- LCA Tejas

ASTRA

- It is a **state-of-the-art Beyond Visual Range (BVR) air-to-air missile to engage and destroy highly manoeuvring supersonic aerial targets**.
 - BVM missiles are capable of engaging beyond the range of 20 nautical miles or 37 kilometres.
- It is designed and developed by **Defence Research and Development Laboratory (DRDL), Research Centre Imarat (RCI) and other laboratories of DRDO**.
- It will be **deployed on fighter jets** like Sukhoi-30 MKI and Tejas of the IAF and the Mig-29K of the Navy.

Strategic Significance

- The missile has been designed based on **requirements specified by the IAF for BVR** as well as **close-combat engagement**.
- It reduces the **dependency on foreign sources**.
- AAMs with BVR capability provide **large stand-off ranges to own fighter aircraft**.
- It can **neutralise adversary airborne assets** without exposing adversary air defence measures.

- The missile can **travel at speeds more than four times that of sound** and can reach a **maximum altitude of 20 km**, making it **extremely flexible for air combat**.

86. Senescent immune cells promote lung tumor growth: Study - The Print

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- According to a recent Cancer Cell study, researchers detected **senescent macrophages** in the lung that **supported tumour growth**.

Prelims Takeaway

- Macrophages
- Cellular Senescence

Macrophages

- They are a **type of white blood cell** that plays an important role in the human immune system.
- They are **involved in the detection, phagocytosis and destruction of bacteria and other harmful organisms**.
- They are **essential for the maintenance and defence of host tissues**.
 - They do so by sensing and engulfing particulate matter.
 - When necessary, they initiate a pro-inflammatory response.
- They can **modify themselves to form different structures** in order to fight various different microbes and invaders.
- They provide the **first line of defence in protecting the host from infection**.
- They are also involved in the **development of non-specific or innate immunity**.
- They **produce a variety of cytokines** that **play a role in inflammation, tissue repair, and the adaptive immune response**.
- They migrate to and circulate within almost every tissue, **patrolling for pathogens or eliminating dead cells**.

Cellular Senescence

- It refers to a **state of stable cell cycle arrest** in which **proliferating cells become resistant to growth-promoting stimuli**, typically in response to DNA damage.
- During this phase, the **cell undergoes numerous phenotypic and metabolic changes**.
- Cellular senescence can **compromise tissue repair and regeneration**, thereby contributing towards ageing.
- Removal of senescent cells can **attenuate age-related tissue dysfunction and extend the health span**.
- Senescence can also act as a **potent anti-tumour mechanism** by preventing the proliferation of potentially cancerous cells.

87. Gross GST revenue growth slowed to 10.2% in Sept. - The Hindu

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

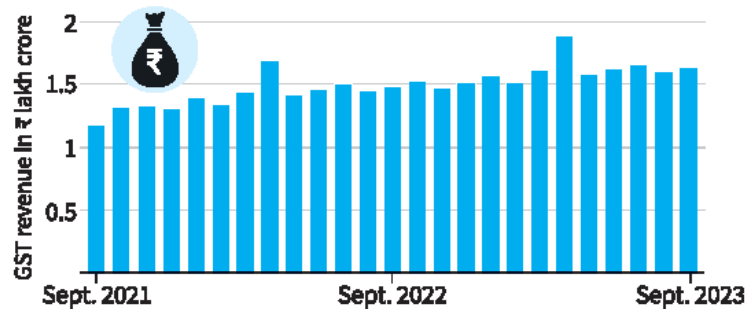
- The **growth in India's gross Goods and Services Tax (GST) revenues slowed to a 27-month low** of 10.2% in September.
- However, the **collections improved 2.3% over August revenues** to touch ₹1,62,712 crore.
- According to experts, these revenues could have been spurred by **businesses settling pending tax dues since the start of the GST regime in 2017-18**.

Prelims Takeaway

- Goods and Services Tax
- GST Council

Revenue check

Goods and Services Tax collections rose to ₹1.63 lakh crore in September 2023, 10.2% higher than September 2022



Goods and Services Tax (GST)

- A **value-added tax** levied on most **goods** and **services** sold for **domestic consumption**.
- **Paid by consumers**, but it is **remitted** to the **government** by the **businesses** selling the goods and services.

Key Features

- Applicable on **'supply' of goods or services** as against the old concept on the manufacture of goods or on sale of goods or on provision of services.
- Based on the principle of **destination-based consumption taxation** as against the present principle of origin-based taxation.
- India has **dual GST** with the **Centre and the States simultaneously levying tax on a common base**.
- **Import of goods or services** are treated as **inter-state supplies** and subject to **Integrated Goods & Services Tax (IGST)** in addition to the applicable customs duties.
- GST rates are **mutually agreed** upon by the Centre and the States.
- The **rates** are notified on the recommendation of the **GST Council**.

GST Council - Article 279A

- Formed by the **President to administer & govern GST**.
- **Chairman:** Union Finance Minister of India
- **Members:** Ministers nominated by the state governments
- The **centre** has **1/3rd voting power** and the **states** have **2/3rd**.
- The **decisions** are taken by **3/4th majority**.

88. World Bank keeps India FY24 growth forecast at 6.3% on waning demand - The Hindu/ Indian economy likely to grow at 6.3% in FY24: World Bank - Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment

News:

- Recently, **the World Bank retained India's growth forecast at 6.3%** for the year 2023-24 saying the **expected moderation was due to challenging external conditions and waning pent-up demand**.
- According to the **RBI's latest forecast**, the **economy would grow at 6.5%** in 2023-24.

GDP

- The **GDP measures the monetary measure of all "final" goods and services**— those that are bought by the final user— produced in a country in a given period.

Prelims Takeaway

- GDP
- World Bank

Key Engines of GDP Growth

- All the **money Indians spent for their private consumption** (that is, Private Final Consumption Expenditure or PFCE)
- All the **money the government spent on its current consumption**, such as salaries [Government Final Consumption Expenditure or GFCE]
- All the **money spent towards investments to boost the productive** capacity of the economy. This includes business firms investing in factories or the governments building roads and bridges [Gross Fixed Capital Expenditure]
- The **net effect of exports (what foreigners spent on our goods) and imports** (what Indians spent on foreign goods) [Net Exports or NX].

How GDP can be calculated

- $GDP = \text{private consumption} + \text{gross investment} + \text{government investment} + \text{government spending} + (\text{exports} - \text{imports})$

89. Nanoparticles from vehicle fumes can cause acute illness': Study looks at 2021 Delhi data over two periods

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- **Nanoparticles** in Delhi's air can potentially be **transported from the respiratory system to other parts of the human body**, creating more chronic and acute illnesses, according to a study.
- A major chunk of **it comes from vehicular emissions**,

Prelims Takeaway

- Nanoparticles
- Black carbon

Key points

- These "**very small particles**" may come from natural sources or from human activities.
- In urban road environments, **nanoparticles come mainly from the combustion process in automobiles**, the study noted,
- **Meteorology and other factors** can also influence concentration of these particles
- With rise in **relative humidity, coagulation of these particles** results in their concentration becoming high
- High concentrations of these pollutants are found **during peak morning and evening hours due to vehicular emissions**
- **Higher wind speed** can result in dispersion of these particles.

Nanoparticles

- Nanoparticles (NPs) are **tiny particles between 1 and 100nm**.
- Due to their ultrafine size, **they can be suspended in the atmosphere for a long time and can travel longer distances**.
- They **enter the environment from various sources**, including natural, incidental and manufactured processes.
- High concentrations of these droplets **increase the proportion of solar radiation reflected back to space**, causing a cooling effect on climate.
- Long exposures to high concentrations of nanoparticles **cause lung problems and cardiovascular disease**.
- **Infant mortality, neonatal complications and birth defects** are likely to increase with increasing concentrations of matter smaller than 10 μm .

90. Trio wins Nobel Prize in physics for finding a way to ‘see’ electrons - The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- Recently, the **Nobel Prize for Physics 2023** was awarded to **France’s Pierre Agostini, Hungarian-Austrian Ferenc Krausz** and **French-Swedish Anne L’Huillier**.
- They were awarded for **research using ultra-quick light flashes that enable the study of electrons** inside atoms and molecules.

Prelims Takeaway

- Nobel Prize Physics 2023
- Atoms and Molecules
- Nobel Prize

The Work

- The scientists have demonstrated a way to **create extremely short pulses of light**.
- This can be **used to measure the rapid processes in which electrons move or change energy**.
- **An atom is composed of a nucleus of protons and neutrons; and electrons that travel around this nucleus**.
- Electrons move so fast that it is **impossible to observe them in real time**.
- But now, we can **observe and study the movement of electrons**, by producing **pulses of light that last only attoseconds** (1×10^{-18} of a second).
- This can be compared to a **high-shutter-speed camera**.
 - If a normal camera is used to capture a moving train, the image will be blurred.

Significance

- **Attosecond physics** gives us the opportunity to **understand mechanisms that are governed by electrons**.
- It has potential applications in **both electronics and medical diagnostics**.
- One possible application is to **study molecular-level changes in blood to identify diseases**.
- A better understanding of how electrons move and transmit energy can also **help in creating more efficient electronic gadgets**.

91. Manufacturing PMI slips to 5-mo. low - The Hindu

Relevance: Indian Economy and issues relating to planning, mobilisation, of resources, growth, development and employment.

News:

- As per the seasonally adjusted **S&P Global India Manufacturing Purchasing Managers’ Index (PMI)**, India’s manufacturing sector activity moderated to a five-month low in September.
- While **inflation in input costs eased to the lowest in over three years, firms raised output charges at a sharper pace** which could hurt sales prospects.

Prelims Takeaway

- Purchasing Managers Index
- Sovereign Credit Ratings
- S & P Global

Manufacturing moderates

Purchasing Managers’ Index shows factories’ output grew at slowest pace in five months, with PMI easing to 57.5 from 58.6



■ Firms cite higher labour costs, business confidence and buoyant demand for September’s output price increases

■ Companies note new business gains from clients in Asia, Europe, North America and West Asia

■ Optimism spurs a pick-up in hiring growth at a ‘historically strong’ pace

Purchasing Managers Index

- It is a **survey-based measure** that asks the respondents about **changes in their perception** about key business variables as compared with the previous month.
- **Purpose:** To provide information about current and future business conditions to company decision makers, analysts, and investors.
- It is **calculated separately** for the manufacturing and services sectors and then a **composite index** is also constructed.
- The PMI is a number from **0 to 100**.
 - A print above 50 means expansion, while a score below that denotes contraction.
 - A reading at 50 indicates no change.
- It is considered a **good leading indicator** of economic activity.
 - It is usually released at the start of every month.
- PMI is compiled by **IHS Markit** for more than 40 economies worldwide.

92. We will remain deployed in eastern Ladakh until full disengagement: IAF chief - The Hindu

Relevance: Security challenges and their management in border areas – linkages of organized crime with terrorism.

News:

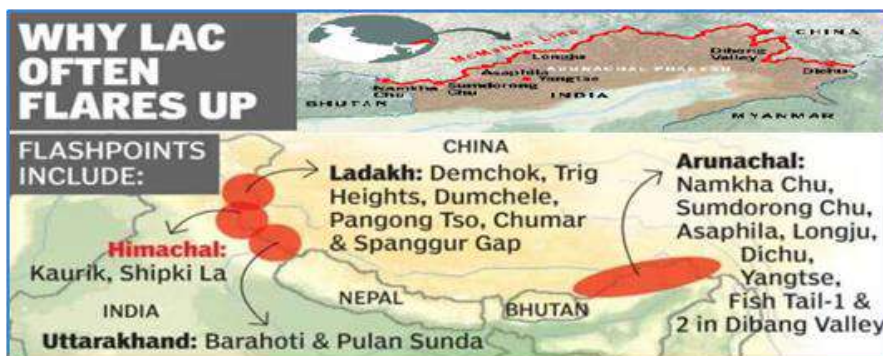
- The Indian Air Force (IAF) **is looking at procuring 97 additional indigenous Light Combat Aircraft (LCA)-Mk1A** fighter jets at an estimated cost of ₹1.15 lakh crore,
- On the **situation along the Line of Actual Control (LAC) with China**, Air Chief Marshal said the operational plans of the IAF were dynamic and can change as per the developing situation.

Prelims Takeaway

- Line of Actual Control
- Map Based question

Line of Actual Control (LAC)

- The LAC is **the demarcation that separates Indian-controlled territory from Chinese-controlled territory**.
- It is divided into **three sectors**:
 - the eastern sector which spans Arunachal Pradesh and Sikkim
 - the middle sector in Uttarakhand and Himachal Pradesh
 - the western sector in Ladakh.
- India considers the LAC to be **3,488 km long**, while the Chinese consider it to be only around **2,000 km**.
- India's **claim line is the line seen in the official boundary marked** on the maps as released by the Survey of India, including both Aksai Chin and Gilgit-Baltistan.
- This means **LAC is not the claim line for India**.
- In China's case, **LAC is the claim line except in the eastern sector**, where it claims the entire Arunachal Pradesh as South Tibet.



93. India's corporate credit rating upgrades moderate in H1 FY24 - Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- According to rating agencies, **Corporate India's credit profile continued to remain strong** in April-September 2023.
- However, the **number of rating upgrades declined** during the first six months.

Prelims Takeaway

- Credit Rating
- Credit Rating Agencies

Rating Upgrades

- The **number of corporates** that witnessed **credit rating upgrades** in H1 of FY24 **outnumbered those who faced downgrades**.
- The upgrades were **driven by an expected expansion in cash flows** for sectors linked to **domestic demand** and for those **benefiting from high government spending**.
- **These sectors**, such as infrastructure, services and consumables, **kept the overall upgrade rate elevated**.

Credit Rating

- It is an **assessment of the creditworthiness of a borrower** in general terms or with respect to a particular debt or financial obligation.
- It can be **assigned to any entity that seeks to borrow money** like an individual, corporation, state or provincial authority, or sovereign government.

Credit Rating Agency

- Credit Rating Agency is a **company that assigns credit ratings**.
 - It **rates a debtor's ability to pay back debt** by making timely principal and interest payments and the **likelihood of default**.
- There are **six credit rating agencies registered under SEBI** namely, **CRISIL, ICRA, CARE, SMERA, Fitch India and Brickwork Ratings**.
- **Evaluating the creditworthiness** of an instrument comprises both **qualitative and quantitative assessments**.

Types of Credit Rating

- All credit agency businesses **use a variety of terminologies to generate credit scores**.
- Therefore, **ratings are divided into two categories**
 - **Investment Grade**
 - Indicate a **safe investment** with a high probability that the issuer will adhere to the terms of the repayment.
 - These **investments cost less** than investments of a speculative grade.
 - **Speculative Grade**
 - Rated as speculative because of their **high risk**.
 - Therefore, they have **higher interest rates**.

Significance

- **For The Money Lenders**
 - With credit rating, lenders **get an idea about the creditworthiness** of the borrower **and the risk factor attached** with them.
 - By evaluating this, they can **make a better investment decision**.
 - High credit rating means an **assurance about the safety of the money** and that **it will be paid back with interest on time**.
- **For Borrowers**
 - With a high credit rating, **banks will approve loan applications of borrowers easily**.
 - Credit ratings will **enable**
 - independent benchmarks for pricing debt
 - a culture of financial discipline
 - help allocate capital efficiently by pricing risk appropriately
 - support financial innovation.

94. Trio wins Chemistry Nobel for 'quantum dots' - The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- The 2023 Nobel Prize in Chemistry has been awarded to Mounqi G. Bawendi, Louis E. Brus and Alexei I. Ekimov for the discovery and synthesis of quantum dots.

Prelims Takeaway

- A quantum dot
- nanotechnology's

Key points

- Quantum dots have unique properties and now spread their light from television screens and LED lamps.
- They catalyse chemical reactions and their clear light can illuminate tumour tissue for a surgeon
- Researchers have primarily utilised quantum dots to create coloured light.
- They believe that in the future quantum dots can contribute to flexible electronics, miniscule sensors, slimmer solar cells and perhaps encrypted quantum communication.
- Today quantum dots are an important part of nanotechnology's toolbox.
- Researchers believe that in the future they could contribute to flexible electronics, tiny sensors, thinner solar cells and encrypted quantum communication
- Last year the prestigious Prize was cinched by Carolyn R. Bertozzi, Morten Meldal and K. Barry Sharpless for the development of click chemistry and bioorthogonal chemistry.
- Their work in click chemistry has been used to develop pharmaceuticals, mapping DNA while bioorthogonal chemistry refined the pharmaceuticals used to treat cancer.
- The Nobel Prize for Medicine or Physiology was granted to Katalin Karikó and Drew Weissman
- their "discoveries concerning nucleoside base modification that enabled the development of effective mRNA vaccines against COVID-19."

A quantum dot

- It is a nanoparticle made of any semiconductor material such as silicon, cadmium selenide, cadmium sulphide, or indium arsenide.
- They are essentially small crystals of nanometer-size dimensions – they're about 20,000 times smaller than the width of a human hair.
- They have distinctive electrical conduction properties that are determined by the incredibly small size and structure.
- When these QDs are hit with a specific frequency of radiation, their changeable structure, tailored by scientists, means that they can be finely tuned to emit a specific frequency of radiation
- changing the wavelength of the light source can achieve the same effect.
- In the dark, the QDs remain inactive. When bombarded by visible light, they become energetically "excited."

95. New defence indigenisation list has futuristic weapons, systems - The Hindu

Relevance: Various Security forces and agencies and their mandate.

News:

- Recently, Defence Minister released the fifth Positive Indigenisation List (PIL) of 98 items which will be procured by the three armed services from indigenous suppliers in a staggered manner
- He also released the Indian Navy's updated indigenisation roadmap, named Swavlamban 2.0.

Prelims Takeaway

- SPRINT initiative
- Swavlamban 2.0

Key Points

- It lays special focus on import substitution of components of major systems

Indigenisation list

- Some items on the list include:
 - a futuristic infantry combat vehicle
 - articulated all-terrain vehicles
 - several types of unmanned aerial vehicles

- medium range precision kill system for artillery,
- an automated mobile test system for the OSA-AK-M air defence system,
- gravity rollers for the Mi-17V5 helicopter,
- flares of P-8I and MiG 29-K aircraft.
- Noting that the Navy has made a **commitment to become a fully atma nirbhar or self-reliant force by 2047.**

Futuristic technologies

- Last year, the Navy had set a target to develop 75 futuristic technologies in partnership with domestic micro, small and medium enterprises, or MSMEs, and start-ups.
- These promises **“have been fully met, and even surpassed in some cases, primarily through the SPRINT initiative.**

96. Govt. eases aircraft recovery rules - The Hindu

Relevance: Economy

News:

- The government has notified that the **protection offered to a corporate debtor** from recovery of dues under the IBC, 2016 **will not cover aircraft, helicopters and engines.**
- The lessors will now have to **move NCLT or other Courts** and seek deregistration and export of their aircraft.

Prelims Takeaway

- IBC, 2016
- Cape Town Convention

No cover

Centre limits the scope of the IBC moratorium so that aircraft lessors can take possession of their aircraft from debtors



- The move comes after lessors moved court following NCLT's blanket moratorium backing Go First
- India is a signatory to the Cape Town Convention that lets lessors take possession of leased assets
- The decision, if implemented retrospectively, may stall Go First's insolvency resolution proceedings

Insolvency & Bankruptcy Code, 2016

- **Purpose:** To consolidate all laws related to insolvency and bankruptcy and to tackle Non-Performing Assets (NPA).
- It covers all **individuals, companies, Limited Liability Partnerships (LLPs) and partnership firms.**
- Under IBC, the **insolvency regime shifted** from 'debtor-in-possession' to '**creditor-in-control**' thus ensuring business continuance.
- **Adjudicating Authority**
 - National Company Law Tribunal (NCLT) for companies and LLPs.
 - Debt Recovery Tribunal (DRT) for individuals and partnership firms.

Insolvency

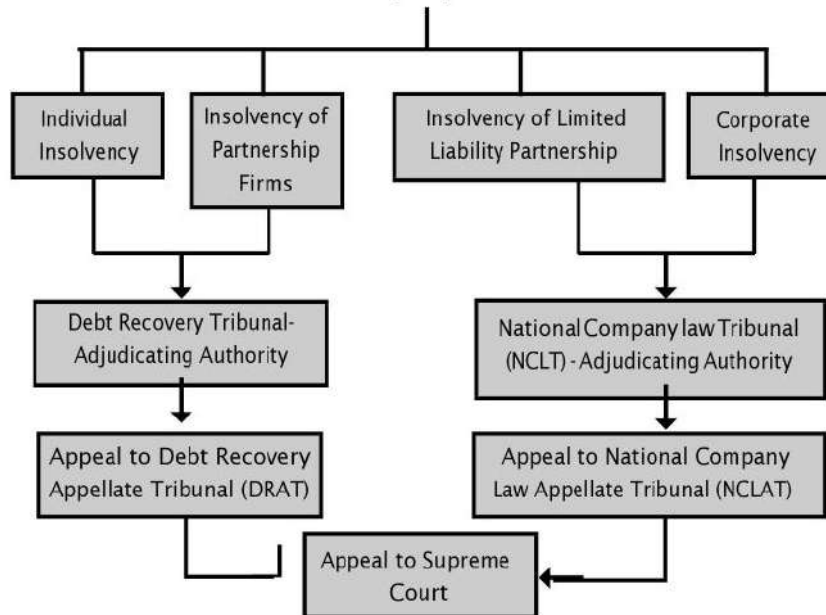
It is a situation where individuals or companies are unable to repay their outstanding debt.

Bankruptcy

It is a situation whereby a court of competent jurisdiction has declared a person or other entity insolvent, having passed appropriate orders to resolve it and protect the rights of the creditors.

It is a legal declaration of one's inability to pay off debts.

The Insolvency Adjudication Process



The Cape Town Convention on International Interests in Mobile Equipment

- The Cape Town Convention is an **international treaty** intended to **standardise transactions involving movable property**.
- It **creates international standards** for
 - Registration of contracts of sale, security interests, leases and conditional sales contracts
 - Various legal remedies for default in financing agreements, including repossession and the effect of particular states' bankruptcy laws
- It was **adopted** under the joint auspices of the **International Civil Aviation Organisation (ICAO)** and the **International Institute for the Unification of Private Law (UNIDROIT)**.
- **India** is a party to the convention.

97. DPIIT and GatiShakti Vishwavidyalaya sign MoU for advancing PM Gati Shakti National Master Plan - PIB

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

News:

- The **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry** and **GatiShakti Vishwavidyalaya (GSV)** entered into **collaboration** recently.

Prelims Takeaway

- PM Gati Shakti
- Special Economic Zones

Key Details of Memorandum of Understanding (MoU)

- **Purpose:** To advance India's infrastructure and logistics sectors.
- **GSV** shall be the **nodal agency** across India to **design, develop and deliver courses and curriculum**.
- These courses and curriculum are related to **PM Gati Shakti National Master Plan** and **National Logistics Policy** at various centres in different states.

Significance

- It will bring **academic vigour to PM GatiShakti approach** leading to
 - reduced logistics cost
 - efficient logistics

- fostering a competitive business ecosystem
- It will lead to a **virtuous cycle of growth and achievement** of the **vision of Amrit Kaal**.
- It shall give momentum to **comprehensive logistics sector development** and embarks Bharat's journey to become a **Vishwaguru**.

PM Gati Shakti Scheme

- Launched in **2021**, it is also known as the **National Master Plan for multi-modal connectivity**.
- It will **subsume the Rs 110 lakh crore National Infrastructure Pipeline** launched in 2019.
- **Aim:** To provide a competitive advantage for manufacturing in India.
- It is a **digital platform to bring 16 Ministries together** for integrated planning and coordinated implementation of **infrastructure connectivity projects**.
- It targets to **cut logistic costs, increase cargo handling capacity and reduce the turnaround time**.
- It will also facilitate the **last mile connectivity of infrastructure**.
- It will incorporate the **infrastructure schemes of various Ministries and State Governments**.
 - Like Bharatmala, Sagarmala, inland waterways, dry/land ports, UDAN etc.
- **Economic Zones** will be covered to **improve connectivity and make Indian businesses more competitive**.
 - Like textile clusters, pharmaceutical clusters, defence corridors, electronic parks, industrial corridors, fishing clusters, agri zones

Gati Shakti Digital Platform

- It involves the **creation of a common umbrella platform**.
- Through it, **infrastructure projects can be planned and implemented in an efficacious manner** by way of coordination between various ministries/departments on a real-time basis.

98. India expanding censorship regime, creating uneven playing field: study - The Hindu

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News:

- According to a new **report by Freedom House**, a Washington DC-based non-profit, **global Internet freedom has declined for the 13th consecutive year**.
- The **environment for human rights online has deteriorated** in 29 countries, with only 20 countries registering net gains.

Prelims Takeaway

- Article 19
- Artificial intelligence

Key Highlights

- The report by **Freedom House** titled **'Freedom on the Net 2023: The Repressive Power of Artificial Intelligence**
- It has **raised a red flag on the increasing use of artificial intelligence by governments** for censorship and spread of disinformation.
- As per the report, the **sharpest rise in digital repression was witnessed in Iran**, where authorities shut down Internet service, and increased surveillance in a bid to quell anti-government protests.
- **China, for the ninth straight year**, ranked as the **world's worst environment for Internet freedom**, with Myanmar the world's second most repressive for online freedom.
- The number of **countries where authorities carry out widespread arrests** and impose multi-year prison terms for online activity has risen sharply over the past decade, from 18 in 2014 to 31 in 2023.
- The report also **detailed how elections were a trigger for digital repression**.
- Ahead of **election periods**, **"many incumbent leaders criminalised broad categories** of speech and imposed other controls over the flow of information to sway balloting in their favor.

India and Freedom on the Net :

- Indian Prime Ministers have incorporated censorship, including the use of automated systems, into the country’s legal framework.
- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules require large social media platforms to use AI-based moderation tools for broadly defined types of content
- India also figured among the list of countries that blocked websites hosting political, social, or religious content.
- Deliberately disrupted ICT networks, used pro-government commentators to manipulate online discussions, and conducted “technical attacks against government critics or human rights organisations”.
- On a range of 1 to 100 where ‘100’ represented highest digital freedom and ‘1’ the worst repression
- India scored 50, while Iceland, with 94, emerged as the country with the best climate of Internet freedom.

Internet freedom

The table lists scores on Internet freedom for select countries according to Freedom House’s “Freedom on the Net” report. Rankings are on a scale of 100 to 0 with 100 being most free

Country	Status	Total score
Iceland	Free	94
U.K.	Free	79
Germany	Free	77
U.S	Free	76
Brazil	Partly free	64
Sri Lanka	Partly free	52
India	Partly free	50
Pakistan	Not free	26



99. China to double space station size, floats an alternative to ISS - Indian Express

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News:

- China plans to expand its space station to six modules from three in coming years
- Offering astronauts from other nations an alternative platform for near-Earth missions as the NASA-led International Space Station (ISS) nears the end of its lifespan.

Prelims Takeaway

- NASA
- International Space Station (ISS)

Key Points

- The operational lifetime of the Chinese space station will be more than 15 years
- China’s self-built space station, also known as Tiangong, or Celestial Palace in Chinese, has been fully operational since late 2022
- It is hosting a maximum of three astronauts at an orbital altitude of up to 450 km (280 miles).
- At 180 metric tons after its expansion to six modules, Tiangong is still just 40% of the mass of the ISS, which can hold a crew of seven astronauts.
- Russia, a participant in the ISS, has similar space diplomacy plans

- **Moscow's partners in the BRICS group - Brazil, India, China and South Africa** - could construct a module for its space station.

International Space Station (ISS)

- The ISS is the most complex international scientific and engineering project in history and **the largest structure humans have ever put into space**.
- As a permanently occupied outpost in outer space, it serves as a **stepping stone for further space exploration**.
- The space station flies at **an average altitude of 400 kilometers above Earth**.
- It circles the **globe every 90 min. at a speed of about 28,000 kph**.
- In one day, the station travels about the **distance it would take to go from Earth to the moon and back**.
- The space station **can rival the brilliant planet Venus in brightness and appears as a bright moving light across the night sky**.
- Five different space agencies representing 15 countries built the USD 100-billion International Space Station and continue to operate it today.
- It consists of modules and connecting nodes that **contain living quarters and laboratories, as well as exterior trusses that provide structural support, and solar panels that provide power**.
- The **first module, Russia's Zarya module, launched in 1998**.
- The **space station reached its full six-person crew size in 2009** as new modules, laboratories and facilities were brought online.
- Current **plans call for the space station to be operated through at least 2020**.
- NASA has requested **an extension until 2024**.

100.NIIF unveils \$600 mn India-Japan Fund - The Hindu

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

News:

- The National Investment and Infrastructure Fund has entered into a collaboration with Japan Bank for **International Cooperation (JBIC) to unveil a \$600 million India-Japan Fund**.

Key points

- The fund will have **JBIC and Government of India as anchor investors**.
- It will **focus on investing in environmental sustainability** and low carbon emission strategies
- **Objective:** aims to play the role of being a 'partner of choice' to further enhance Japanese investments into India
- The announcement **marks NIIF's first bilateral fund, with GoI contributing 49%** of the target corpus and the remaining 51% contributed by JBIC.
- The fund **will be managed by NIIF Limited (NIIFL), and JBIC IG** (a subsidiary of JBIC) will support NIIFL in promoting Japanese investments in India.
- The setting up of the **India-Japan Fund represents a key milestone** in the strategic and economic partnership between the Japanese government and GoI.
- The **₹40,000-crore NIIF was set up in December 2015 as an institution for enhancing infrastructure** financing by investing in greenfield (new), brownfield (existing) and stalled projects.
- The fund was set up as **Category II Alternative Investment Fund (AIF)**.
- NIIF manages **three funds with distinct strategies** - Master Fund, Fund of Funds and Strategic Opportunities Fund.

National Investment and Infrastructure Fund

- NIIF is an **investor-owned fund manager, anchored by the Government of India (GoI)** in collaboration with leading global and domestic institutional investors.
- The Indian government has a **49 % stake in NIIF with the rest held by marquee foreign and domestic investors**.

Prelims Takeaway

- Alternative Investment Fund
- Securities and Exchange Board of India

- NIIF was **set up as an alternative investment fund (AIF)** in 2015 with a planned corpus of ₹40,000 crore.
- **Headquarters:** Mumbai.
- **Objective:** To provide long-term capital to the country's infrastructure sector.
- **NIIF currently manages three funds** each with its distinctive investment mandate namely
 - Master fund,
 - Fund Of Funds and
 - Strategic Fund.
- The funds are registered as **Alternative Investment Fund (AIF)** with the **Securities and Exchange Board of India (SEBI)**.

101. Services PMI signals September boost - The Hindu/ Services activity at 13-yr high in Sept on strong demand - Indian Express

Relevance: Indian Economy and issues relating to planning, mobilisation, of resources, growth, development and employment.

News:

- As per the **S&P Global India Services Purchasing Managers' Index (PMI)**, India's services sector activity **gained momentum** in September.
- With **new orders rising at the second fastest rate** since June 2010, it moved up to 61.
- Even though it is **slightly lower than the 13-year high** of 62.3 in July, it still **indicated one of the strongest upticks in output in 13 years**.

Prelims Takeaway

- Purchasing Managers Index
- Sovereign Credit Ratings
- S & P Global

Buoyant services

The Purchasing Managers' Index shows services activity added momentum last month with the PMI rising to 61 from 60.1



■ September's reading indicates one of the strongest upticks in 13 years

■ With input costs cooling, services firms raised prices at the slowest pace in 6 months

■ Growth in new international orders slowed to a three-month low

Purchasing Managers Index

- It is a **survey-based measure** that asks the respondents about **changes in their perception** about key business variables as compared with the previous month.
- **Purpose:** To provide information about current and future business conditions to company decision makers, analysts, and investors.
- It is **calculated separately** for the manufacturing and services sectors and then a **composite index** is also constructed.
- It does not capture **informal sector activity**.

- The PMI is a number from **0 to 100**.
 - A print above 50 means expansion, while a score below that denotes contraction.
 - A reading at 50 indicates no change.

Significance of PMI

- It is considered a **good leading indicator** of economic activity.
 - It is usually released at the start of every month.
- Central banks of many countries also use the index to **help make decisions on interest rates**.
- It also gives an **indication of corporate earnings** and is closely watched by investors as well as the bond markets.
- A good reading of index **enhances the attractiveness of an economy** vis-a-vis another competing economy.

102. Even platypuses aren't safe from bushfires - a new DNA study tracks their disappearance - Down to Earth

Relevance: Conservation, environmental pollution and degradation

News:

- According to research, **platypuses are disappearing from waterways** after the **Black Summer bushfires** swept across eastern Australia in 2019–20.

Prelims Takeaway

- Platypus
- IUCN

Platypus

- It is a **duck-billed, beaver-tailed, otter-footed, egg-laying mammal**.
 - They are a **species of monotremes but lay eggs**.
 - They're **one of only five species of mammals that lay eggs** - the other four are echidnas.
- **Habitat:** In waterways throughout the **east coast of Australia**, from Cooktown in northern Queensland to Tasmania.
- They are **solitary animals** that, despite occupying overlapping home ranges, only **come together during the breeding season**.
- They are **carnivorous mammals** whose diet consists almost solely of **bottom-dwelling aquatic creatures**.
- They are **nocturnal hunters**.
- **IUCN Status:** Near Threatened

Appearance

- The platypus is an animal with a **small, streamlined body** that is covered in **short and dense waterproof fur**.
- They have **electroreceptors in their bills** to help them **find food in rivers and streams**.
- They have **webbed feet for swimming**.
- Male platypuses have a **spur on the inner side of each ankle** that is **connected to a venom gland** located over the thighs.

Impact of bushfire

- Research shows **aquatic invertebrates** (animals with no backbones) **and fish can be harmed by bushfire, especially when rain follows fire**.
- **Bushfires burn and kill the vegetation** that stabilizes the soil around rivers or streams.
- When rain follows fire, a **lot of ash, soil and other debris can be washed** into waterways.
- The **water chemistry might change** or there might be **big increases in sediment**.
- This makes the river or stream **inhospitable for invertebrates and fish**.
- As platypuses feed on **aquatic invertebrates** such as yabbies, these **flow on effects of fire could also impact them**.

103. Tarantula endemic to the Nilgiris could be under threat from habitat loss, climate change: Researchers - The Hindu

Relevance: Conservation, environmental pollution and degradation

News:

- Recently, researchers said that the **Haploclastus nilgirinus**, a species of tarantula, could be under threat by the **illegal trade in wildlife**.

Prelims Takeaway

- Haploclastus nilgirinus
- Tarantula
- Nilgiri Hills

Haploclastus nilgirinus

- It is an **elusive Nilgiri large burrowing spider** and a **venomous species of tarantula**, which is rarely seen.
- It is **endemic to the Nilgiris hills of Western Ghats**, it is highly sought-after in the pet trade.
- It shows **sexual dimorphism**, the males are much smaller than the females.
- It is threatened by the **illegal trade in wildlife, habitat loss and climate change**.

Tarantula

- They are a type of **large, hairy spider** belonging to the **family Theraphosidae**.
- There are over 900 species of tarantulas **found all over the world, except for Antarctica**.
- They **move slowly** on their eight hairy legs, but they are accomplished **nocturnal predators**.

Nilgiri Hills

- These hills are part of the **Western Ghat mountain range** and run across the **Southern Indian states of Tamil Nadu, Karnataka and Kerala**.
- The **peaks** of the Nilgiri **rise abruptly from the surrounding plains** to an elevation of about 6,000–8,000 feet.
- The hills are **separated from the Karnataka Plateau (north) by the Noyar River** and from the **Annamalai and Palni hills (south) by the Palghat Gap**.
- They are **considerably cooler and wetter than the surrounding plains**.

104. Left-wing extremism will be totally eliminated in two years, says Shah - The Hindu/ Left Wing Extremism will be uprooted in next 2 years: Shah - Indian Express

Relevance: Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention.

News:

- Recently, Union Home Minister Amit Shah said **Left Wing Extremism (LWE) will be totally eliminated from the country in two years**.

Key point

- The **central government had approved the 'National Policy and Action Plan** to address LWE' in 2015.
- The policy **envisages a multi-pronged strategy** involving security-related measures, development interventions, ensuring rights and entitlements of local communities, etc,
- As per officials, **Steadfast implementation of this policy has resulted in consistent decline** in LWE violence across the nation,
- According to the **data prepared by the Ministry of Home Affairs**, there were **17,679 LWE-related incidents and 6,984 deaths between 2004 and 2014**.
- In contrast, **there have been 7,649 LWE-related incidents and 2,020 deaths from 2014 to 2023 (till 15 June 23)**, the data showed.

Left-wing extremism

- It is also known as **left-wing terrorism or radical left-wing movements**
- it refers to **political ideologies and groups that advocate for significant societal and political change through revolutionary means**.

Prelims Takeaway

- SAMADHAN
- Left-wing extremism

- LWE groups may target government institutions, law enforcement agencies, or private property to further their agenda.
- The LWE movement in India originated in a 1967 uprising in Naxalbari, West Bengal.

Responsible Factors:

- The 2006 D Bandopadhyay Committee identified following gaps :
 - governance gaps
 - extensive discrimination against tribals in economic
 - Socio-political
 - cultural spheres as the primary causes of Naxalism's proliferation.

Government Initiatives

- **National Policy and Action Plan to address Left Wing Extremism 2015:**
- **Juvenile Justice (Care and Protection of Children) Act, 2015:** The Juvenile Justice Act, enacted in 2015, plays a crucial role in protecting children affected by LWE
- **SAMADHAN:** It is the one-stop solution for the LWE problem. It encompasses the entire strategy of government from short-term policy to long-term policy formulated at different levels

105. Two out of five amphibians are facing extinction threat due to climate change: study - The Hindu

Relevance: Conservation, environmental pollution and degradation

News:

- A new study found that **climate change is emerging as one of the biggest threats to frogs, salamanders, and caecilians.**
- The study titled '**Ongoing declines for the world's amphibians in the face of emerging threats**' analysed two decades of data from around the world.
- It provides an **update to the landmark 2004 document** based on the **first global amphibian assessment for the IUCN Red List.**
- These data will be **published on the IUCN Red List of Threatened Species.**

Prelims Takeaway

- Amphibians
- IUCN Red List
- IUCN

Key Highlights

- **Two out of every five amphibians** are threatened with extinction primarily as the result of **habitat destruction and climate change.**
- Between 2004 and 2022, a **few critical threats** have pushed **more than 300 amphibians closer to extinction.**
- **Nearly 41% of all amphibian species assessed** are currently **globally threatened**, considered critically endangered, endangered, or vulnerable.
 - This is compared to 26.5% of mammals, 21.4% of reptiles and 12.9% of birds.
- **Four amphibian species** were documented as having gone **extinct since 2004**
 - The Chiriquí harlequin toad (*Atelopus chiriquiensis*) from Costa Rica
 - The sharp-snouted day frog (*Taudactylus acutirostris*) from Australia
 - Craugastor myllomylon and the Jalpa false brook salamander (*Pseudoeurycea exspectata*), both from Guatemala.
- **Twenty-seven additional critically endangered species** are now **considered possibly extinct.**
- However, **120 species have improved their Red List status since 1980.**

Why the Threat?

- **Climate Change**
 - It was the primary threat for 39% of these species.
 - Climate change is especially concerning for amphibians in large part because they are particularly sensitive to changes in their environment.
- **Habitat Destruction**
 - Habitat destruction and degradation are still the **most common threats.**
 - They **affect 93% of all threatened amphibian species.**
 - These are **due to**

- agriculture (crops, livestock like cattle and livestock grazing, and silviculture)
- infrastructure development and other industries
- **Other Factors**
 - **Disease caused by the chytrid fungus and overexploitation** also continue to cause amphibian declines.

Action Plan for Conservation

- Of the 63 species that improved as the **direct result of conservation action**, most improved due to **habitat protection and management**.
- The **protection and restoration of amphibians is a solution to the climate crisis** because of their **key role in keeping carbon-storing ecosystems healthy**.

106. City AQI turns 'poor'; prohibitions to curb air pollution imposed - The Hindu/GRAP stage 1 kicks in as air quality dips to poor, condition likely to prevail till Sunday - Indian Express

Relevance: Conservation, environmental pollution and degradation

News:

- Recently, **Delhi's Air Quality Index (AQI)** slipped into the **"poor category"**.
- Following it, **Stage 1 of the Graded Response Action Plan (GRAP) was imposed** in the National Capital Region (NCR) to **prevent further deterioration of air quality**.

Prelims Takeaway

- National Air Quality Index
- Graded Response Action Plan
- The Committee for Air Quality Management

National Air Quality Index

- Launched in **2014** with outline **'One Number - One Color - One Description'** for the **common man to judge the air quality** within his vicinity.
- **Developed by the CPCB** in consultation with **IIT-Kanpur** and an expert group comprising **medical and air-quality professionals**.
- The **measurement of air quality is based on eight pollutants**
 - Particulate Matter (PM10)
 - Particulate Matter (PM2.5)
 - Nitrogen Dioxide (NO2)
 - Sulphur Dioxide (SO2)
 - Carbon Monoxide (CO)
 - Ozone (O3)
 - Ammonia (NH3)
 - Lead (Pb)
- AQI has **six categories of air quality** namely **Good, Satisfactory, Moderately Polluted, Poor, Very Poor and Severe**.

Graded Response Action Plan

- Formulated in **2016** and notified in 2017 for **Delhi and the National Capital Region (NCR)**.
- These are **institutionalised measures** to be taken when air quality deteriorates, hence works only as an **emergency measure**.
- It includes the measures to be taken by **different government agencies**
 - To prevent worsening of Air Quality of Delhi-NCR
 - To prevent PM10 and PM2.5 levels from going beyond the 'moderate' national Air Quality Index (AQI) category.
- If air quality reaches the **severe+ stage**, GRAP talks about **shutting down schools** and **implementing the odd-even** road-space rationing scheme.

107. Red flags since 2005: Teesta-III dam may not survive lake outburst - Indian Express

Relevance: Disaster and Disaster management.

News:

- **The glacial lake outburst flood (GLOF)** that ravaged parts of Sikkim also washed away the 60-metre-high rock-filled concrete dam of the 1200-MW Teesta-III hydel project near Chungthang village.

Key Points

- There were a **string of early warnings before Teesta-III was commissioned in 2017.**
- Way back in 2005, the **Environment Ministry's steering committee for Carrying Capacity Study of Teesta Basin noted that :**
 - glacial moraines temporarily forming glacial lakes and debris cones, are a potential source of hazard in North Sikkim."
- **South Lhonak glacial lake**, in particular, was under watch for decades as it steadily expanded in size.
- But **Teesta-III underestimated the risk posed by** a once-in-a-century flood event.

Protecting hazard

- A more **credible dam safety governance** should be put in place.
- **Accountability for the lapses must be fixed** and credible, functioning early warning systems need to be created.

A glacial lake outburst flood (GLOF)

- It is a **release of meltwater from a moraine-dam** or ice-dam glacial lake due to dam failure.
- They **cause disastrous floods downstream** and create a huge loss of lives and property.
- These **floods can be triggered by a number of factors**, including changes in the volume of the glacier, changes in the water level of the lake, and earthquakes.
- According to **NDMA (National Disaster Management Authority)**, **glacial retreat** due to climate change
- Most parts of the **Hindu Kush Himalayas has given rise to the formation of numerous** new glacial lakes, which are the major cause of GLOFs.

Prelims Takeaway

- Map based question
- The glacial lake outburst flood

108. Loans from the Centre keep state govts' capex strong - Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- Aided by the front-ending of **capex loans by the Centre**, the state governments' **capital expenditure seem to have grown** at a much higher pace than last year

Key points

- **States have achieved just 23% of their budgeted annual capex** of around Rs 7.3 trillion in April-August
- The borrowings **of 17 states rose 47% on year to Rs 2.14 trillion** in April-August FY24
 - It is largely due to a low base of last year as they had reported a 37% decline in loans and liabilities during the corresponding period.
- The **Centre has raised the capital expenditure target by 37%** on year to a whopping Rs 10 trillion for FY24 to continue the public investment-led economic recovery post-pandemic.
- The **Centre has achieved around 37.4% of its capex** goal in April-August FY24.

Capital expenditure

- It is the **money spent by the government on the development of machinery**, equipment, building, health facilities, education, etc.

Prelims Takeaway

- Capital expenditure
- Revenue expenditure

- It also **includes the expenditure incurred on acquiring fixed assets** like land and investment by the government that gives profits or dividends in future.
- Along with the **creation of assets, repayment of loan is also capital expenditure, as it reduces liability.**
- **Capital spending is associated with investment or development spending**, where expenditure has benefits extending years into the future.
- Unlike capital expenditure, which creates assets for the future, **revenue expenditure is one that neither creates assets nor reduces** any liability of the government.
- **Salaries of employees, interest payment on past debt**, subsidies, pension, etc, fall under the category of revenue expenditure.
- It is **recurring in nature.**

109. ISRO plans Gaganyaan unmanned flight tests, gears for abort mission - The Hindu

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News:

Prelims Takeaway

- The Indian Space Research Organisation, is planning to **commence unmanned flight tests for the Gaganyaan mission**
- It has started to **make preparations for the Flight Test Vehicle Abort Mission-1 (TV-D1).**

Key Points

- **Astronauts** would remain in a **pressurised earth-like atmospheric condition in the crew module** during the Gaganyaan mission.
- **Test vehicle: single-stage liquid rocket** developed for this abort mission.
- The **payloads consist of:**
 - The **CM and crew escape systems (CES)** with their fast-acting solid motors
 - **CM fairing (CMF)**
 - **Interface adapters.**
- This flight will simulate the **abort condition during the ascent trajectory corresponding to a Mach number of 1.2** encountered in the Gaganyaan mission.
- **CES with CM will be separated from the test vehicle** at an altitude of about 17 km.
- Subsequently, **the abort sequence will be executed autonomously**
- Commencing with the separation of CES and deployment of the series of parachutes, **finally culminating in the safe touchdown of CM in the sea**
- The CM, **after integration, underwent various electrical testing at ISRO's facility**, including an acoustic test and was dispatched to the SDSC on August 13.
- It will **undergo vibration tests and pre-integration with the CES**, before final integration to the test vehicle at the launch pad.
- This mission **with this CM is a significant milestone for the overall Gaganyaan** programmes as a near-complete system is integrated for a flight test.
- The **success of this test flight will set the stage** for the remaining qualification tests and unmanned missions, leading to **the first Gaganyaan**
- For the Gaganyaan mission, **four pilots are undergoing training at the Astronaut Training Facility in Bengaluru.**

110. Territorial Army inducts five Chinese language interpreters for border talks - The Hindu/ Army looking at converting logistics units into TA units - Indian Express

Relevance: Defence

News:

- Recently, the **Territorial Army (TA)** inducted its first batch of Mandarin-trained officers.
- This is to support the regular Army's efforts to **enhance expertise in the Chinese language**.

Prelims Takeaway

- Territorial Army
- Line of Actual control (LAC)

The Indian Territorial Army (TA)

- It is the **second line of defence** after the regular Indian Army.
- It is only meant for those people who are **already in mainstay civilian professions**.
- In fact, **gainful employment or self-employment in a civil profession** is a **prerequisite** for joining the TA.
- Serving members of the Regular Army/ Navy/ Air Force/ Police/ GREF/ Para Military and like forces are **not eligible**.

Role and Responsibilities

- Relieving the regular army from **static duties**.
- Providing **assistance to civil authorities** in times of natural calamities and tragedies.
- Help civil administration with **providing essential services** in areas where state machinery is stretched or there are security threats.
- Volunteers of the TA usually **serve in uniform for a few days every year**.
 - This is because they can bear arms for national defence in times of dire need or national emergencies.

History

- It was **raised by the Britishers in 1920** through **Indian Territorial Act of 1920**.
- It was **organised into two wings** namely
 - The Auxiliary Force for Europeans & Anglo-Indians
 - The Indian Territorial Force for Indian Volunteers
- After Independence, the **Territorial Army Act was passed in 1948** and the **Territorial Army was formally inaugurated**.

111. REC launches 'SUGAM REC', a mobile app for 54EC Bonds Investors - PIB

Relevance: Economy

News:

- Recently, **REC Limited** launched a mobile application '**SUGAM REC**'.
- REC Limited is a '**Maharatna**' company under the **administrative control of the Ministry of Power**, Government of India.

Prelims Takeaway

- SUGAM REC App
- Section 54EC Bonds
- Bonds

SUGAM REC App

- It is exclusively for current and future investors in **REC's 54EC Capital Gain Tax Exemption Bonds**.
- The mobile app will **offer investors complete details of their investment** in REC 54EC Bonds.
- **Investors will be able to**
 - download their e-bond certificates
 - apply for fresh investment
 - download important forms related to updating of KYC
 - connect with REC's Investor Cell via call / email / WhatsApp

Section 54EC Bonds

- They are a type of **fixed income financial instruments** which provide **tax exemption under capital gains** to investors, under Section 54EC of the Income Tax Act.

- These bonds allow an investor to save income tax on long-term capital gain **by investing the gains**.
- The investment into these bonds has to be made **within 6 months from the date of long-term capital gain**.
- They have a **fixed lock-in period of 5 years** and can be either held in **physical or demat form**.
- They are issued by **various institutions managed by the Government of India** to finance specific capital projects.

112. Now a more efficacious, inexpensive malaria vaccine - The Hindu

Relevance: Health

News:

- Recently, the **R21/MatrixM malaria vaccine** has been **recommended** (but yet to be prequalified) **by the WHO**.
- This vaccine is **developed by the University of Oxford** and manufactured by the Serum Institute of India.

Prelims Takeaway

- R21/MatrixM Malaria Vaccine
- Malaria

War against malaria gets a shot in the arm

Three countries — Nigeria, Ghana, and Burkina Faso — have already approved the vaccine for children aged less than 36 months

■ A phase-3 trial in 4,800 children was conducted at five sites in four countries with different malaria transmission intensities and seasonality

■ The participants received three vaccine doses four weeks apart, and a booster shot at the end of 12 months after the last dose

■ Primary vaccination was carried out prior to malaria season where it is seasonal or at any time of year in countries where malaria is perennial

■ Vaccine efficacy at the end of one year in children aged 5-36 months was 75% where

malaria is seasonal and 68% when malaria is perennial

■ In children aged 5-17 months, who are more likely to die due to severe malaria, the vaccine efficacy was higher — 79% where malaria is seasonal and 75% where malaria is perennial

■ In children aged 18-36 months, vaccine efficacy was 73% where malaria is seasonal and 63% when malaria is perennial

■ The vaccine efficacy was well maintained to 18 months with a single booster dose given 12 months after the primary series



Humongous:

In 2021, there were 247 million malaria cases worldwide and 6,19,000 deaths

113. What is multimodal artificial intelligence and why is it important? - The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- The **next frontier of AI models would be towards multimodal systems**, where users can engage with AI in several ways.
- A chatbot, even though it can write competent poetry and pass the U.S. bar, **hardly matches up to this fullness of cognition.**
- **If AI systems are to be as close a likeness of the human mind as possible, the natural course would have to be multimodal.**

Prelims Takeaway

- Artificial intelligence

How does multimodality work?

- Like OpenAI's text-to-image model, **DALL.E, upon which ChatGPT's vision capabilities are based, is a multimodal AI model** that was released in 2021.
- **GPT's voice processing capabilities** are based on its **own open-source speech-to-text translation model**, called **Whisper**, which was released in September last year.
- Whisper can recognise **speech in audio and translate it into simple language text.**

Applications of multimodal AI

- Some of the **simpler but rather important functions** are performed by these models **like automatic image caption generation etc.**
- In 2020, Meta was working on a multimodal system to **automatically detect hateful memes on Facebook.**
- **AI models that perform speech translation** are another obvious segment for multimodality.
- Google Translate uses **multiple models as do others like Meta's SeamlessM4T model**, which was released last month.
- The model can perform **text-to-speech, speech-to-text, speech-to-speech and text-to-text translations** for around 100 languages.

114. Smart fence along Myanmar border in the pipeline: govt.- The Hindu

Relevance: Security challenges and their management in border areas – linkages of organized crime with terrorism.

News:

- An **advanced smart fencing system of 100 km along the Myanmar border** is in the pipeline the 2022-23 as per annual report of the **Ministry of Home Affairs (MHA)**
- It is to **strengthen the existing surveillance system**

Prelims Takeaway

- Map Based question

Key highlights of the report

- **Unfenced border and unregulated migration from Myanmar** have been attributed as some of the factors responsible for the ethnic violence in Manipur
- The report stated that in 2022, out of the **201 insurgency-related incidents registered in all the northeast States**, as many as 137 incidents were registered in Manipur.
- **Free Movement Regime (FMR)** exists between **India and Myanmar.**
- Under the **FMR the border can be crossed on production of a border pass** (one year validity) issued by the competent authority and can stay up to two weeks per visit by :
 - every member of the hill tribes, who is either a citizen of India
 - a citizen of Myanmar
 - resident of any area within 16 km on either side of the Indo-Myanmar border
- The **Manipur government has suspended the FMR since 2020**, post COVID-19 pandemic.
- India shares a **1,643-km border with Myanmar** which passes through Arunachal Pradesh (520 km), Nagaland (215 km), Manipur (398 km) and Mizoram (510 km).
- Out of 1,643 km, **demarcation of 1,472 km has been completed**
- The construction of **fencing for a border length of 10.023 km at Moreh**, Manipur has been awarded to the Border Roads Organisation (BRO).

Fragile security situation

- The **terrain, socio-economic development and historical factors** such as language, ethnicity, tribal rivalry, migration had resulted in a **fragile security situation in the northeastern States**.
- This has **resulted in violence, extortion and diverse demands** by various Indian Insurgent Groups [IIGs] which maintain safe havens/camps in neighbouring countries.
- A total of **16 insurgent organisations are declared “unlawful associations”** or “terrorist organisations” under the Unlawful Activities (Prevention) Act, 1967.
- Eight of the **unlawful groups are from Manipur**.

115. Urban unemployment rate drops to 6.6% in Q1- The Hindu

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- Recently, survey was released by the **Ministry of Statistics and Programme Implementation (MoSPI)**
- **As per survey, Urban unemployment rate** in April-June, slid to 6.6 per cent, as per the quarterly bulletin of **Periodic Labour Force Survey (PLFS)**

Prelims Takeaway

- Unemployment rate

Key highlights of the survey

- The **unemployment rate for urban areas**, which was at the **lowest level** since the launch of the PLFS bulletin in 2018
- Nearly **14 states recorded a higher urban unemployment rate** than the national average.
- **For males, the urban unemployment rate**, based on current weekly status for persons above 15 years, declined to **5.9 per cent**.
- **For females also the unemployment rate eased to 9.1 per cent** in April-June from 9.2 per cent in the previous quarter and 9.5 per cent in the year-ago period.
- **Employment of both males and females**, however, **increased in self-employed categories** such as own account worker, helper in household enterprise.
- **Unemployment rate for youth for urban females** in the age group 15-29 years went **up to 23.4 per cent**
- **For urban males in the 15-29 years age group**, the unemployment rate went **up to 15.9 per cent**
- In the urban areas, **states/UTs which recorded higher than national average** unemployment rate included
 - Himachal Pradesh (13.8 per cent),
 - Rajasthan (11.7 per cent),
 - Chhattisgarh (11.2 per cent),
 - Jammu and Kashmir (10.9 per cent)
 - Kerala (10 per cent).

Unemployment rate in states

- **States/UTs which posted a lower-than-national average unemployment rate :**
 - Delhi (2.7 per cent)
 - Gujarat (2.8 per cent)
 - West Bengal (4.4 per cent)
 - Bihar (6.1 per cent)
 - Maharashtra and Haryana (6.5 per cent each).
- the key labour market indicators of **Labour Force Participation Rate (LFPR), Worker Population Ratio (WPR) and unemployment rates improved** in urban areas for persons of age 15 years and above
- The **Unemployment Rate during April-June 2023 was 6.6 per cent** which is lower than the unemployment rates observed in the quarters covered in the pre-pandemic period,” it said.
- **Unemployment rate had shot up sharply during the lockdown** imposed in 2020 during the first wave of the pandemic.

Unemployment rate

- It is **defined as the percentage of persons unemployed** among the persons in the labour force.
- The **urban unemployment PLFS is based on current weekly status approach**, under which a person is considered unemployed if he/she did not work even for one hour on any day during the week
 - but sought or was available for work at least for one hour on any day during the period.
- **Labour force according to CWS** is the number of persons either employed or unemployed on an average in a week preceding the date of survey.

116. What is Hemochromatosis, the rare genetic disorder that causes organ dysfunction?

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- Recently, health experts revealed all about Hemochromatosis or 'bronze diabetes'.

Prelims Takeaway

- Hemochromatosis

Hemochromatosis

- It is an **inherited condition where iron levels** in the body slowly build up over many years.
- This health condition is primarily classified into two types:

Hereditary hemochromatosis:

- It is **driven by a mutation in the HFE gene**, resulting in individuals being homozygous for the C282Y variant.
- This **genetic anomaly sets the stage for a lifelong struggle** with excessive iron absorption within the intestines.

Secondary hemochromatosis:

- It is **typically caused by external factors like** frequent blood transfusions, excessive iron supplementation, or certain medical conditions.
- The **iron accumulation in secondary hemochromatosis** is often more rapid and can have a similar impact on organ function
- **Symptoms of haemochromatosis** usually start between the ages of 30 and 60.
- **Common symptoms include:** Feeling very tired all the time (fatigue), weight loss, weakness and joint pain etc

Treatment:

- **Phlebotomy is the standard treatment** for primary hemochromatosis.
- **Iron toxicity can be reduced by removing red blood cells**, the body's main mobilizer of iron.
- **Phlebotomy** is usually performed once or twice a week.

117. With food inflation limited to dal roti, why govt policy may need changes- Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- **Consumer food prices increases 9.9%** higher year-on-year in August and **overall retail inflation at 6.8%** – well above its target of 4% and upper tolerance limit of 6%

Prelims Takeaway

- Core Inflation
- Headline Inflation

Inflation

- It is defined as **the rise in the price of goods and services** within an economy over a period of time due to which each unit of currency has less purchasing power.

Types of inflation**Creeping or Mild Inflation**

- When the speed of upward thrust in prices is slow but small
- It is helpful for economic development.

Walking or Trotting Inflation

- **When prices rise moderately**, and the annual inflation rate rises by a single digit.
- It is the time when the government should focus on the issue.

Galloping and Hyperinflation

- When **creeping and walking inflation are left unchecked**, the rate will rise above 10%.
- This leads to instability of the economy.
- It is the last stage of inflation.

Stagflation

- It is a situation in which the **rate is high, the economic growth rate slows**, and unemployment remains steadily high.
- It is also known as recession inflation.

Core Inflation

- Price rise in **all goods and services except food and energy** due to high price fluctuations is core inflation.
- It is calculated **as the government needs a stable** and true picture of the rate of price rise.

Headline Inflation

- This measure considers total inflation in an economy, including food and energy prices, which are more volatile.

118. Mental health centers are time-worn, says NHRC- The Hindu

Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News:

- it is necessary that **mental health establishments be restructured** as per the contemporary **requirements of technology, amenities and services**, said the National Human Rights Commission (NHRC) on October 10,
- **The NHRC has recommended** that all **States** must prioritise constituting **mental health authority**.

Prelims Takeaway

- National Tele Mental Health Programme

Mental health in India

- The WHO calls **Mental health a basic human right**.
- it is **crucial to personal, community and socio-economic development**.
- According to the WHO, **mental illness makes about 15% of the total disease conditions around the world**.
- In 2019, India's **suicide rate was at 12.9 per 1,00,000 persons**
- According to the National Mental Health Survey conducted by NIMHANS in **12 States, the prevalence of mental morbidity is high in urban metropolitan areas**

Reason for poor mental health condition in India

- Lack of Awareness and Sensitivity
- Lack of Mental Healthcare Personnel
- Changed Lifestyle
- Income Inequalities

Measures taken

- The Mental Healthcare Act, 2017
- Rights of Persons with Disabilities Act, 2017
 - The Act acknowledges mental illness as a disability
- National Tele Mental Health Programme

119.State-owned NBFCs put under PCA norms- The Hindu

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- The Reserve Bank of India said the **strict supervisory norms under the Prompt Corrective Action (PCA) Framework will apply to state-owned non-banking financial companies** from October 2024.

Prelims Takeaway

- PCA framework

Key Points

- PCA is a framework under which **banks with weak financial metrics are put under watch by the RBI.**
- The RBI introduced the PCA framework in 2002 as a **structured early-intervention mechanism for banks**
- The RBI has **specified certain regulatory trigger points**, as a part of PCA Framework, in terms of three parameters
 - Capital to Risk Weighted Assets Ratio (CRAR)
 - net Non-Performing Assets (NPA)
 - Return on Assets (RoA)
- Being put under the PCA framework means :**
 - restrictions on dividend distribution/remittance of profit
 - Restriction on promoters/ shareholders to infuse equity and reduction in leverage
 - restrictions on taking on other contingent liabilities on behalf of group companies.
- The objective** is to enable supervisory intervention at the appropriate time.

120. 'India's spacetechnology industry has 'downstream' potential' - The Hindu

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News:

- Much of the **demand for satellite technology applications will be decided by demand on earth**, Deloitte India said in a report published with the Indian Space Association and NASSCOM on Tuesday.
- The report analyses **the 'downstream' opportunities in space technology** (spacetechnology).

Prelims Takeaway

- satellite technology

Key Points

- 'Downstream' is a **reference to services like communications, earth imaging and navigation** that satellites enable.
- It's no **longer just technical challenges that will decide the trajectory of satellite-enabled services** by the private sector
- potential opportunities **do not show tremendous headroom in India**, owing to its small share in the global spacetechnology market.
- Satellite internet** for remote areas represents a **market value of \$263 million** in the next five years, as per the report.
- Other applications like **ecological monitoring, surveying and logistics tracking rarely exceed \$1 billion in market promise.**

121.Net direct tax collections up 21.8% to ₹9.57 lakh crore- The Hindu

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- India's **net direct tax collections grew 21.8%** to ₹9.57 lakh crore by October 9, surpassing over half of the Budget estimates for this year,

Prelims Takeaway

- The Goods and Services Tax (GST)

- **Personal income tax revenues rising 32.5%** and corporate taxes increasing 12.4%.

Key Points

- The **taxation system in India** is such that the taxes are levied by the Central Government and the State Governments.
- **Some minor taxes are also levied by the local authorities** such as the Municipality and the Local Governments.
- **Broadly taxes are divided into two categories:**
 - Direct Taxes
 - Indirect Taxes
- A **direct tax can be defined as a tax** that is paid directly by an individual or organization to the imposing entity (generally government).
- A taxpayer **pays a direct tax to a government** for different purposes, including real property tax, personal property tax, income tax or taxes on assets, FBT, Gift Tax, Capital Gains Tax, etc.
- In the colloquial sense, **an indirect tax is a tax collected by an intermediary from the person** who bears the ultimate economic burden of the tax.
 - such as sales tax, a specific tax, value-added tax (VAT), or goods and services tax (GST)

The Goods and Services Tax (GST)

- It is a **value-added tax levied** on most goods and services sold for domestic consumption.
- **The GST is paid by consumers**, but it is remitted to the government by the businesses selling the goods and services.
- **GST is applicable on 'supply' of goods or services** as against the old concept on the manufacture of goods or on sale of goods or on provision of services.
- **GST is based on the principle of destination-based consumption** taxation as against the present principle of origin-based taxation.
- **It is a dual GST** with the Centre and the States simultaneously levying tax on a common base.
- **GST to be levied by the Centre is called Central GST (CGST)** and that to be levied by the States is called State GST (SGST).
- **Import of goods or services would be treated as inter-state** supplies and would be subject to Integrated Goods & Services Tax (IGST) in addition to the applicable customs duties.

122. Centre launches protocol to manage malnutrition in children at Anganwadi- The Hindu

Relevance: issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

News:

- Recently, the Centre **launched a standardised national protocol** to identify and **provide extensive care to malnourished children** in the country
- It includes **fresh initiatives like appetite testing and "buddy mother"** concept.

The protocol provides detailed 10-step guidelines for -

- **The identification and management of children suffering** from severe acute malnutrition (SAM) at the Anganwadi level,
 - including decision-making for referral, nutritional management and follow-up care.
- The processes that **needed to for a healthy weight**
- The **comprehensive norms on dietary requirements** for various levels of malnutrition among children.

Prelims Takeaway

- Buddy mother

- After the **identification of children through growth monitoring data**, appetite tests will be done on all SAM children for medical complications.
- **SAM children** who fail the appetite test **will be referred to Nutritional Rehabilitation Centres**, which will also be linked to medical centres.
- The protocol also includes **unique initiatives like the “Buddy mother”** concept which was first used in the state of Assam.
- Under this scheme, **the mother of a healthy baby guides the mother of a malnourished child** at an Angandwadi centre every week.

123. Bihar accident: Train derailed when driver applied emergency brakes after ‘sensing rattling’ on tracks- India express

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

News:

- The **train accident in Bihar’s Buxar killed** four persons and injured at least 70 was caused when the engine driver applied emergency brakes after sensing a “rattling” on the tracks

Prelims Takeaway

- Rashtriya Rail Sanraksha Kosh

Reasons behind Accidents

- **Infrastructure Defects:** The railway infrastructure, which includes tracks, bridges, overhead wires, and rolling stock,
- **Human Errors:** The railway staff, who are responsible for operating, maintaining, and managing the trains and tracks, are prone to human errors
- **Signalling Failures:** The signalling system, which controls the movement and direction of trains on the tracks, can fail due to technical glitches, power outages, or human errors.
- **Unmanned level crossings:** UMLCs are places where railway tracks crossroads without any barriers or signals to regulate traffic.

Way Forward

- Rashtriya Rail Sanraksha Kosh (RRSK)
- LHB Design Coaches
- Modern Track Structure
- Elimination of Unmanned Level Crossings

124. Proposals for acquisition of aircraft carrier, LCA-Mk1A jets lined up for approval by DAC

Relevance: Various Security forces and agencies and their mandate.

News:

- The **Defence Acquisition Council (DAC)**, chaired by Defence Minister, has two mega proposals lined up from the Navy and the Air Force
- The Navy’s proposal is for a repeat order of a Vikrant-like aircraft carrier
- the Air Force is looking to acquire 97 additional light combat aircraft, LCA-Mk1A

Prelims Takeaway

- The Light Combat Aircraft (LCA)

The Light Combat Aircraft (LCA)

- the programme was **started by the Government of India in 1984** when they established the Aeronautical Development Agency (ADA) to manage the LCA programme.
- It **replaced the ageing Mig 21 fighter planes**.
- It was **Designed by Aeronautical Development Agency** under the Department of Defence Research and Development.
- It was **Manufactured by State-owned Hindustan Aeronautics Limited (HAL)**.

- The **lightest, smallest and tailless multi-role supersonic** fighter aircraft in its class.
- It was **Designed to carry a range of air-to-air, air-to-surface**, precision-guided, weapons.
- **Air to air refuelling capability.**
- Maximum payload **capacity of 4000 kg.**
- It can **attend the maximum speed of Mach 1.8.**
- The **range of the aircraft is 3,000km**
- Variants of Tejas:
 - Tejas Trainer:
 - LCA Navy: Twin- L
 - LCA Tejas Mk-1A

125. Need a 'collective effort' to bring about lifestyle changes to protect environment: Birla - The Hindu

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- While addressing the **Parliamentary Forum on 'LiFE: Lifestyle for Environment'**, ahead of the **ninth G-20 Parliamentary Speakers' Summit (P-20)**, the Lok Sabha Speaker Om Birla emphasised on "collective effort to bring about lifestyle changes" to deal with Climate change effectively.

Prelims Takeaway

- Parliamentary Speakers' Summit (P-20)

Highlights of his speech:

- Mere discussions in the Parliament on lifestyle for the environment and **laws are not enough** to tackle climate change. Rather, **collectively contribute** by changing daily routine is important.
- Prime Minister of India has recently put forward the idea of **Mission Lifestyle**, a **comprehensive approach to environmental protection** by focusing on **reduce, reuse and recycle**.

126. Tea industry in 'acute financial crisis', says Indian Tea Association in a report - The Hindu

Relevance: Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

Prelims Takeaway

- Indian Tea Association (ITA)

News:

- The Indian Tea Association (ITA), a leading body of tea planters, has recently showcased its concern over the industry's current financial distress as prices are not at par with the rising cost of production.

Current Status of the Industry:

- As per the **status paper 'Tea scenario 2023'** of ITA, **tea prices rose at a CAGR of about 4% over the last decade**, but the **cost of vital inputs** grew at a CAGR of **9-15%** during the same period.

Reasons for the Distress

- **Surplus tea:** Besides, the **exponential increase in production** following the emergence of small tea growers resulted in surplus teas remaining in the system.
- **Iran exports drop:** Payment issues resulted in grim export to Iran, which constitutes almost 20% of total tea exports from India.

Way Ahead:

- To mitigate the situation, the industry urged the government to consider **enhancing RoDTEP** (remission of duties or taxes on export products) incentive cap for high quality CTC, orthodox and Darjeeling teas.

127. Terrorism, for any reason, is against humanity: Modi - The Hindu

Relevance: Security challenges and their management in border areas – linkages of organized crime with terrorism.

News:

- Amid the ongoing **war between Israel and the Palestinian militant group**, Hamas, the Indian Prime Minister asserted that **terrorism anywhere in the world, for any reason, is against humanity**.

Prelims Takeaway

- ASEAN Regional Forum,

Terrorism in India

- It can be broadly categorised in **three distinct parts**:
 - Cross border terrorism in J&K.
 - Terrorism in the hinterland.
 - Extreme violence and terrorism as an integral part of the ongoing insurgencies.
- India also remains highly vulnerable to terrorism by foreign terrorists, **due to porous borders with all its neighbours and a long coast line**.
- Resultantly, the terrorists and the insurgents **continue to receive material support and funds from many sources**.

Government Effort to tackle terrorism

- The **1967 Unlawful Activities Prevention Act** was amended in August 2019 to allow for the designation of individuals as terrorists.
- The Indian Parliament passed **amendments to the National Investigation Agency (NIA) Act of 2008** to give NIA the ability to investigate terrorism cases overseas.
- In 2016, **India and the United States signed an arrangement to exchange terrorism screening information**, and India continues to work on implementation.
- in 2019, four Indian states (**Andhra Pradesh, Kerala, Maharashtra, and Telangana**) formulated **Countering Violent Extremism (CVE)** strategies.
- India is a founding member of the **ASEAN Regional Forum, and other UN fora on counterterrorism in 2019**.
- India continued to **use multilateral fora and bilateral visits** to highlight terrorism concerns and impacts.

128. Govt. mulls partnerships to make semiconductor chips - The Hindu

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News:

- **Six working groups**, which had been formed to **mull the Indian government's artificial intelligence (AI) roadmap**, have submitted the first edition of their report,
- The report's recommendations included **public-private partnerships to make semiconductors for AI applications**.

Key Points

- In addition to this, **the PPP model would be leveraged to build so-called "GPU clusters"**, masses of resource-intensive graphics processors that are used by AI applications.
- These **clusters would be made available to Indian start-ups** and researchers,
- the draft National Strategy on Robotics, which was circulated for public input in September.
- The draft strategy **recommends**:
 - fiscal interventions **to facilitate local manufacturing of robotics hardware**
 - building of **'demonstration facilities' to test and show off technologies**

- **building capacity** in the robotics sector.
- Govt. will **not restrict but only monitor** the import of laptops

Artificial intelligence

- AI is the **ability of a computer, or a robot** controlled by a computer **to do tasks that are usually done by humans**
- they require **human intelligence and discernment**.
- Although there is no AI that can perform the wide variety of tasks an ordinary human can do, **some AI can match humans in specific tasks**.
- The ideal characteristic of artificial intelligence is its **ability to rationalize and take actions** that have the best chance of achieving a specific goal.
- A subset of AI is **Machine Learning (ML)**.
- **Deep Learning (DL) techniques enable this automatic learning** through the absorption of huge amounts of unstructured data such as text, images, or video.

129. ImmunoACT's cell therapy to treat blood cancer gets CDSCO nod

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- IIT Bombay-incubated **Immune Adoptive Cell Therapy (ImmunoACT)**, has received **Central Drugs Standard Control Organisation (CDSCO) marketing authorisation approval** of the 'first' humanized CD19-targeted Chimeric Antigen Receptor T cell (**CAR-T cell**) therapy
- It is the product for **relapsed/refractory B-cell lymphomas and leukemia** (blood cancer) in India.

Prelims Takeaway

- Central Drugs Standard Control Organization

Central Drugs Standard Control Organization (CDSCO)

- **The Drug Controller General of India (DCGI)** heads the Central Drugs Standard Control Organization (CDSCO).
- CDSCO is the **central drug authority in India**.
- CDSCO is a **national level regulatory body** under the Ministry of Health and Family Welfare.
- The body is **responsible for approving licenses** for certain categories of drugs.
- It is **headquartered in New Delhi**.
- There are **six functioning central drug testing laboratories** under CDSCO.
- The DCGI also **establishes standards for the manufacturing, sales, import**, and distribution of drugs in India.
- The DCGI also **regulates medical and pharmaceutical devices**.
- In case of any dispute with respect to the **quality of the drug, the DCGI is the appellate authority**.
- The DCGI **prepares and maintains the national reference standard for drugs**.

130. Does the bio decomposer help? It's all in the timing, say farmers in Delhi- Indian Express

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- As Delhi began the **exercise of spraying a bio-decomposer for the fourth consecutive year**, its **potential** as the microbial solution help deal with the stubble-burning problem is **still unclear**.

Reason for its ineffectiveness:

- According to IARI, Stubble burning in **Delhi itself does not contribute much**.

- The decomposer solution spray post-harvest straw left in paddy field **takes 20-25 days for decomposition.**
- **Timing** for beginning of **spraying process is not correct** as harvesting and preparing the field for the next crop has already completed in several fields.
- For **farmers** who **grow crops like fenugreek between paddy and wheat**, decomposer is ineffective.
- **Increasing use of machines and utilisation of straw for packaging** at market or turning into fertilisers results in no need for decomposition.
- **Dependency of harvest on Rainfall and Temperature** conditions in September-October.

131. Egypt is racing to eliminate hepatitis C - The Hindu

Relevance: Health

News:

- According to the **WHO**, **Egypt** became the **first country** to achieve **“gold tier” status** on the path to **elimination of hepatitis C.**

Prelims Takeaway

- Gold Tier Status
- Hepatitis C
- World Health Organisation

Gold tier Status

- It includes meeting **specific criterias** such as
 - Ensuring 100% blood and injection safety
 - Maintaining a minimum of 150 needles/ syringes per year for people who inject drugs (PWID)
 - Diagnosis of over 80% of people living with chronic hepatitis C virus (HCV)
 - Treatment of over 70% of individuals diagnosed with HCV
 - Establishment of a sentinel surveillance programme for hepatitis sequelae, including liver cancer.

Hepatitis C

- An infectious disease caused by **blood-borne virus hepatitis C virus (HCV)** that primarily **affects the liver.**
- **It can be both acute and chronic**
 - **Acute** (inflammation of the liver that presents with sickness - jaundice, fever, vomiting)
 - **Chronic** (inflammation of the liver that lasts more than six months, but essentially showing no symptoms)
- **Symptoms:** It can include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine and yellowing of the skin or eyes (jaundice).

Transmission

- The most common modes of infection are through **exposure to small quantities of blood.**
- This may **happen through**
 - drug use
 - unsafe injection practices
 - unsafe health care
 - the transfusion of unscreened blood and blood products

Treatment

- Presently there is **no vaccine available for HCV.**
- However, it can be **treated with antiviral medication.**
- **Hepatitis A and B** are **preventable by vaccine.**

132. Teesta-III dam break: NHPC admits damage, 9 years ago it said no threat - Indian Express/ Sikkim's fallen dam haunts India's dreams in Bhutan - The Hindu

Relevance: Disaster and Disaster Management

News:

- The **NGT** recently issued notices to **3 key stakeholders** viz. the Sikkim government, the Sikkim Urja Limited and NHPC.

The Background

- The **GLOF** that washed away the **1200-MW Teesta-III** caused **severe damage to two NHPC projects** namely
 - 510 MW Teesta-V
 - The under-construction 500 MW Teesta-VI - downstream.
- In 2014, NHPC's 520 MW Teesta-IV project faced a challenge to its **environmental clearance**.
- The NHPC in an affidavit to the NGT had **dismissed any threats from GLOF**.
- Apparently convinced, the NGT **dismissed the appeal against Teesta-IV's environment clearance** in 2017.

Prelims Takeaway

- National Green Tribunal
- Teesta-III Dam Project
- Teesta River

National Green Tribunal (NGT)

- It is a **specialised body** set up under the **National Green Tribunal Act (2010)** for **effective and expeditious disposal** of cases relating to **environmental protection and conservation** of forests and other natural resources.
- With the establishment of the NGT, India became the **third country** in the world to set up a **specialised environmental tribunal**, only after Australia and New Zealand
- NGT is guided by the **principles of 'natural justice'**.
- It is mandated to make **disposal of applications** or appeals finally **within 6 months of filing** the same.
- An order/decision/award of Tribunal is executable as a **decree of a civil court**.
- An **appeal** against order/decision/ award of the NGT lies to the **Supreme Court**, generally within **ninety days** from the date of communication.
- The NGT deals with **civil cases** under the **seven laws** related to the environment, these include:
 - The Water (Prevention and Control of Pollution) Act, 1974,
 - The Water (Prevention and Control of Pollution) Cess Act, 1977,
 - The Forest (Conservation) Act, 1980,
 - The Air (Prevention and Control of Pollution) Act, 1981,
 - The Environment (Protection) Act, 1986,
 - The Public Liability Insurance Act, 1991 and
 - The Biological Diversity Act, 2002.

Structure of NGT

- The Tribunal comprises the **Chairperson**, the **Judicial Members** and **Expert Members**.
- They shall hold **office** for a term of **three years** or till the age of **sixty-five** years, whichever is earlier
- They are not eligible for **reappointment**.
- The **Chairperson** is appointed by the **Central Government** in consultation with the **Chief Justice of India (CJI)**.
- A **Selection Committee** shall be formed by the **central government** to appoint the Judicial Members and Expert Members.

133. Study estimates count of UAVs required for the three Services

Relevance: Various Security forces and agencies and their mandate.

News:

- The **Chief of Defence Staff (CDS) Gen recently ordered** two studies to be conducted on major military platforms used by all three services.
- According to defence sources these platforms are **Unmanned Aerial Vehicles (UAV) and armoured helicopters.**

Prelims Takeaway

- Light Combat Helicopter

Key Points

- The **three services operate a large number of Israeli Heron MALE UAVs.**
- A **major upgrade** to weaponise and incorporate satellite communication on these UAVs has been **pending** for several years.

Army to get Apaches

- The Indian Air Force has traditionally been responsible **for operating attack helicopters.**
- Army Aviation recently **inducted the first batch of Light Combat Helicopter (LCH).**
- **The Cabinet Committee on Security** has already given **in-principle sanction** for procurement of **39 AH-64 Apache attack helicopters** from the US.
- The IAF has since **inducted 22 AH-64E Apaches** under a deal signed in September 2015.

The Cabinet Committee on Security (CCS)

- It is a **cabinet committee of the Government of India** that discusses, debates and is the final decision-making body on:
 - Senior appointments in the national security apparatus
 - Defence policy and expenditure
 - Generally all matters of India's national security

Members

- Prime Minister of India
- Minister of Defence
- Minister of Home Affairs
- Minister of Finance
- Minister of External Affairs
- The National Security Adviser, the Cabinet Secretary and the Defence Secretary have also been attendees of the CCS meetings.

134. Sri Lanka moves towards RCEP; Bangladesh in queue

Relevance: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

News:

- Sri Lanka **"has taken steps" to renegotiate free trade agreements** with "key bilateral partners including **India, China and Thailand,** " the country's State Minister of Finance has said.
- Sri Lanka intends **to join the Regional Comprehensive Economic Partnership (RCEP)**

Prelims Takeaway

- Regional Comprehensive Economic Partnership (RCEP)

Regional Comprehensive Economic Partnership (RCEP)

- RCEP **negotiations were launched in November 2012** between the **Association of Southeast Asian Nations**
 - ASEAN includes Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam
 - ASEAN's free trade agreement partners (Australia, China, India, Japan, New Zealand and the Republic of Korea)
- RCEP has the **potential to deliver significant opportunities for businesses in the East Asia region**

- the 16 RCEP participating countries account for almost half of the world's population
- contribute about 30 percent of global GDP and over a quarter of world exports.

India and RCEP

- India's **exit in November 2019** from negotiations on the world's largest trade deal

What led India to withdraw

- **increased trade deficits with countries it has free trade agreements (FTAs)** with, as evidence of what RCEP-led economic integration would bring.
- the **lack of safeguards** allowing India to **respond to import surges**, particularly from China
- the threat of **import competition in agriculture**
- **inadequate market access for services exports**, including greater mobility of people to deliver them.
- **Rising border tensions with China** were argued to justify a guarded approach to foreign investment in sensitive sectors such as defence, communication and energy.

What India should review

- In a world where production is organised around supply chains, India's exit would disadvantage not only its consumers, **Consumers would lose access to more affordable imports**,
- **firms would lose competitiveness** due to their inability to source cheaper and more diverse inputs at preferential tariff rates.

135. Centre likely to raise age of retirement of scientists to 65

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- **The Ministry of Science and Technology (MoST)** is working on a proposal to increase the **retirement age of scientists to 65**.

Prelims Takeaway

- The Indian Council of Agricultural Research (ICAR)

Key Points

- At present, **scientists in most wings of the government retire at 60**
- Those **working at the Indian Council of Agricultural Research (ICAR)** and the Indian Council of Medical Research (ICMR) **retire at 62**.
- Over the years, concerns have been raised that **several senior scientists approaching retirement** were quitting institutes for careers in academia.

The Indian Council of Agricultural Research (ICAR)

- It was established on 16 July 1929 as a **registered society under the Societies Registration Act, 1860**.
- It is an **autonomous organisation** under the Department of Agricultural Research and Education (DARE), **Ministry of Agriculture and Farmers Welfare**.
- It is **headquartered at New Delhi**.
- With **102 ICAR institutes and 71 agricultural universities spread across the country** this is one of the largest national agricultural systems in the world.
- It is the **apex body for coordinating, guiding and managing research** and education in agriculture including horticulture, fisheries and animal sciences in the entire country.
- The ICAR has played a pioneering role in **ushering Green Revolution** and **subsequent developments in agriculture in India** through its research and technology development
 - It has enabled the country to increase the production of foodgrains by 5.6 times, horticultural crops by 10.5 times etc.

136. Railways develops anti-freeze flushes and fuel tanks for journeys in J&K

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

News:

- The process of **linking Kashmir to Kanyakumari**, through the new **Udhampur-Srinagar-Baramulla Rail Link (USBRL) project**, poses a unique challenge to the Railways
- It is facing challenges in **maintaining water and fuel in liquid form in sub-zero temperatures during the winters.**

Prelims Takeaway

- Udhampur-Srinagar-Baramulla Rail Link Project

Key Points

- To circumvent the problem of water freezing in toilets and fuel tanks, **engineers at the Rail Coach Factory (RCF) in Kapurthala have designed** and implemented **indigenous innovations.**
- While the **LHB coach** design is prominently used by the Railways, **it did not have temperature control systems.**
- In winter, **temperatures in the J&K region plummet to minus-eight to minus-12 degrees Celsius.**
- There is a problem **if the water freezes in the tanks.**
- Another major challenge is that **if the water tank is full, there is a hazard that it will develop cracks and burst**, as ice has the tendency to expand
- The water tank **mimics thermoplastic bottles with two walls** and an insulation layer of foam in the middle, which traps the air.
- This will maintain water **in liquid form in sub-zero conditions from 16 to 20 hours.**
- In another innovation, **the RCF has borrowed technology from the defence services** to tackle the problem of freezing water in the supply pipelines.
- We are using heated pipes with a **distributed heating system covered by insulation.**

Udhampur-Srinagar-Baramulla Rail Link Project (USBRL)

- It is of length – **272 Km.**
- With a view to **provide an alternative and a reliable transportation system to Jammu & Kashmir**, Govt. of India planned a 272 Km. long Railway Line under this project.
- In view of the importance of the USBRL project in providing seamless and hassle-free connectivity, the Project was **declared as “National Project” in 2002.**
- The alignment of USBRL involves **construction of a large number of Tunnels and Bridges in highly rugged and mountainous terrain** with most difficult and complex Himalayan geology.
- This Project involves 38 Tunnels (combined length of 119Km), **the longest Tunnel (T-49) is having a length of 12.75 Km** and is country's longest transportation tunnel.
- There are **927 nos. of Bridges (combined length of 13 Km).**
- These bridges include **the iconic Chenab Bridge** which will be the **highest railway bridge in the world.**
- Indian railway's **first cable-stayed bridge** is also being **constructed on Anji Khad.**

137. Kaziranga sanctuary reopens with tribute to British-era officer

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- Recently, **the Kaziranga National Park and Tiger Reserve reopened** with a literary tribute to a British-era forest officer who removed its name from any hunting connotations.

Prelims Takeaway

- UNESCO World Heritage Site

Kaziranga National Park

- It is located **in the State of Assam** and covers 42,996 hectares (ha).
- It is the **single largest undisturbed** and representative area in the **Brahmaputra Valley floodplain.**
- It was declared **as a National Park in 1974.**
- It has been **declared a tiger reserve since 2007.**
- The 1,300 sq. km tiger reserve, a **UNESCO World Heritage Site**

- It is the home of the world's **most one-horned rhinos**.
- Much of the focus of conservation efforts in Kaziranga are focused on the 'big four' species— **Rhino, Elephant, Royal Bengal tiger and Asiatic water buffalo**.
- As per the figures of tiger census conducted in 2014, Kaziranga had an estimated 103 tigers
- It has the **third highest population in India** after Jim Corbett National Park (215) in Uttarakhand and Bandipur National Park (120) in Karnataka.
- National **Highway 37** passes through the park area.
- The park also has more than **250 seasonal water bodies**, besides the **Diphlu River** running through it.

138. India's first tilapia parvovirus reported in Tamil Nadu - The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- The occurrence of **tilapia parvovirus (TiPV)** has been reported for the **first time in India** at ponds in **Walajah in Ranipet district of Tamil Nadu**.
- It affects the **farm-bred tilapia** causing a **huge mortality rate**.

Prelims Takeaway

- Tilapia Parvovirus (TiPV)
- Tilapia Fish
- Invasive Alien Species

Tilapia Parvovirus (TiPV)

- It is a **small, non-enveloped, single-stranded DNA (ssDNA) virus**.
- The TiPV was **first reported in China in 2019** and Thailand in 2021.
- **India is the third country** to report the occurrence of TiPV.
- This **virus was localised** in the gills, heart, brain, liver, pancreas, spleen, intestine, kidney, eyes and muscles of **tilapia**.

Tilapia Fish

- Tilapia is a **common name used for certain species of fishes** belonging to the **family Cichlidae**.
- These are **freshwater species native to Africa**.
- It has emerged to be one of the **most productive and internationally traded food fish in the world**.
- Their **commercial advantages** include
 - **resistance to disease**
 - a diet of readily abundant **algae and zooplankton**
 - called "**aquatic chicken**" due to its **quick growth** and **low maintenance cultivation**.

Tilapia in India

- Considered as "**a poor-man's fish**", Mozambique tilapia was **introduced to Indian fresh water bodies in the 1950s** and it is called "**Jilabi**" in Tamil.
- Capable of surviving in **low-oxygen levels in water**, the fish has **turned invasive** across the country.
- In India, tilapia farming is being **carried out in different parts of Andhra Pradesh and Kerala**.

139. Some Russia-oil payments said to be held up over yuan issue- The Hindu

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- The **Centre's discomfort** over letting state-controlled **refiners pay for Russian oil imports with Chinese currency** has held up the payment for at least seven cargoes,

Prelims Takeaway

- De-dollarisation

Key Points

- India emerged as the **top importer of Russian seaborne oil** this year,
- **refiners often face problems in settling oil trade with Moscow** after the United States and European Union imposed a price cap of \$60 a barrel on Russian oil
- It is **forcing buyers to use alternatives such as Emirati dirhams** for cargoes that have gone above the cap as oil prices have risen.

- **Indian refiners began using yuan to pay** for some oil from Russian sellers, while continuing to use dollars and dirhams to settle most of their Russian oil purchases.
- The Indian government, however, **has become uncomfortable with using yuan for settlement, settlement in yuan increases costs**, as rupees first need to be converted to Hong Kong dollars and then yuan, a **process that costs 2-3% more than settling in dirham**.
- using the **yuan as benefitting China**, when ties between the two neighbours remain strained after a border clash in 2020

Why Indian not trading in rupees?

- With a high **trade gap in favour of Russia**, Moscow believes it will end up with an annual rupee surplus of over \$40 billion
- The **rupee is not fully convertible**.
- **India's share of global exports of goods also is just about 2%** and these factors reduce the necessity for other countries to hold rupees.

De-dollarisation

- **Since the dollar is largely considered the global reserve currency**, many countries have seen the U.S. sanctions as a way for America to weaponise the dollar.
- This has given rise to countries looking at de-dollarisation, which means the **replacement of the U.S. dollar with other currencies as the global reserve currency**.

140. PM Modi invites Google to 'contribute' to AI summit- Indian Express

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology

News:

- The **Prime Minister invited Google to "contribute" to the upcoming Global Partnership on AI Summit**, which will be hosted by India in December in New Delhi.

Prelims Takeaway

- Digital India Bhashini

First-ever Global AI summit

- Assuming the **chairmanship of GPAI in November**, India has gained an unprecedented chance to take the lead in emerging technology.
- This **summit marks a pivotal moment for India to showcase its capabilities in AI** and contribute significantly to shaping the global technology landscape.
- The **multitude of languages, cultures, and experiences in India enriches** the quality of datasets for AI models.
- The **primary goal of the summit is to promote** a collaborative and participatory approach to AI development.
- This **approach seeks to leverage AI's potential to enhance governance**, transform lives, and build global partnerships.
- India **aims to actively shape the direction** of technological advancements.
- The **Global IndiaAI 2023 Summit** will feature discussions on a wide array of AI applications, including healthcare, governance, and next-generation electric vehicles.
- **Global experts will also explore future trends in AI research**, AI computing systems, investment opportunities, and strategies for nurturing AI talent.
- These include **Digital India Bhashini, the India Datasets program, IndiaAI Future Design program for startups**, and the IndiaAI FutureSkills program focused on nurturing top-tier AI talent.

141. Angel tax for start-ups: What CBDT has clarified after scrutiny notices - Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- The **Central Board of Direct Taxes (CBDT)** has directed its officers to **not carry out scrutiny of angel tax provisions** for start-ups recognised by the **Department for Promotion of Industry and Internal Trade (DPIIT)**.

Prelims Takeaway

- Angel tax

What is the new tax directive on start-ups?

- Citing issuance of scrutiny notices to start-up companies under **the CASS (Computer-Assisted Scrutiny Selection)**, the **CBDT issued directive**
 - It has stated that procedure has been laid out for the assessment of such startup companies, which have been recognized by the DPIIT
- No verification is required for such start-ups** for notices related to the amended provisions for angel tax.

What is angel tax for start-ups

- Angel tax – which is income tax** at the rate of 30.6 percent – **is levied when an unlisted company issues shares to an investor** at a price higher than its fair market value.
- However **the Finance Act 2023 proposed to extend angel tax** even to non-resident investors from April 1.

What were the changes for angel tax in Budget 2023-24?

- The Finance Act, 2023, **had amended Section 56(2)(viib) of the Income-tax Act.**
- Objective:**
 - to deter the generation and use of unaccounted money** through the subscription of shares of a closely held company
 - at a value that is higher than the fair market value of the firm's shares.
- With the latest amendment**, the government had proposed to also include foreign investors in the ambit
 - meaning that when a start-up raises funding from a foreign investor, that too will now be counted as income and be taxable.
- The DPIIT-recognised startups** were **excluded** from the angel tax levy.

142. Give instances of foreign funds being transferred through RTGS, NEFT, IMPS, Delhi HC tells petitioner - Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- the Delhi High Court given directions to the **Centre to implement Uniform Banking Code for foreign exchange transactions**,
- the Court sought an affidavit from the petitioner of instances **where foreign transactions were camouflaged as domestic ones.**

Prelims Takeaway

- Foreign Exchange Management Act, 1999

Key Points

- The RBI in its response stated that **foreign transactions are covered under Foreign Exchange Management Act**
- NEFT, RTGS and IMPS are domestic payment systems** and scheduled banks within India have access to them.
- It further **stated that furnishing of PAN is mandated in the liberalised remittance scheme**
 - which permits resident individuals in India to send money abroad for permitted capital and current account transactions.

Foreign Exchange Management Act, 1999?

- The **legal framework for the administration of foreign exchange transactions in India** is provided by the Foreign Exchange Management Act, 1999.
- Under the FEMA, which came into force with effect from 1st June 2000, all **transactions involving foreign exchange have been classified either as capital or current account transactions.**
- **All transactions undertaken by a resident that do not alter his / her assets or liabilities,** including contingent liabilities, outside India are current account transactions
 - Example: payment in connection with foreign trade, expenses in connection with foreign travel, education etc.
- **Transactions which are undertaken by a resident of India such that his/her assets or liabilities outside India** are altered (either increased or decreased) is Capital Account Transactions
 - Example: investment in foreign securities, acquisition of immovable property outside India etc.

143. MoD inks deal with Cochin Shipyard for ₹313 crore for upgrade of INS Beas

Relevance: Defence

News:

- **The Ministry of Defence (MoD)** signed a contract with the state-owned Cochin Shipyard Limited (CSL) for **mid-life upgrade and re-powering** of the advanced guided missile frigate INS Beas

Prelims Takeaway
<ul style="list-style-type: none"> • Frigates • INS Beas

INS Beas

- INS Beas (F37) is a **Brahmaputra-class frigate of the Indian Navy.**
- It was built at the **Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.**
- The first was a **Leopard-class frigate commissioned in 1960** and scrapped in 1992.
- It is a versatile **warship capable of a range of missions,** including anti-aircraft, anti-submarine, and anti-ship warfare.
- It is also used for **patrolling, surveillance, and providing security to India's maritime interests.**
- The design and construction of the ship are **entirely Indian and are a modification of the Godavari-class frigate.**
- Propulsion: **2 steam turbines**
- It is capable of **reaching speeds of over 30 knots,** making it swift and agile in naval operations.
- It is fitted with an **array of modern suites** and matching weapon systems.

144. Shri Nitin Gadkari approves 7 bridge projects worth Rs 118.50 Crore in Arunachal Pradesh under the Setu Bandhan Scheme - PIB

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

News:

- Recently, **Setu Bandhan Scheme** approval was granted for **seven bridge projects in Arunachal Pradesh** under the **Central Road and Infrastructure Fund (CRIF).**

Prelims Takeaway
<ul style="list-style-type: none"> • Central Road and Infrastructure Fund • Setu Bandhan Scheme

Setu Bandhan Scheme

- **It is an initiative of the** Ministry for Road Transport and Highways.
- **Objective:** To improve inter-state connectivity, especially in rural areas at the borders where state roads do not get the required attention.
- It is aimed at replacing railway line Level Crossings (LCs) with **Road Over Bridges (ROBs)/Rail Under Bridges (RUBs)** in states.

Central Road and Infrastructure Fund

- **Established in 2000** under the **Central Road Fund Act, 2000.**
- It was previously known as **the Central Road Fund.**

- It falls under the jurisdiction of the **Ministry of Finance**.
- The fund is financed through a **cess levied along with excise duty on petrol and diesel**.
- The Central Road Fund Act, 2000, was **amended in 2018** and its objectives are as follows
 - To use proceeds of the road cess under CRIF to finance other infrastructure projects.
 - Like waterways, some portion of the railway infrastructure, and even social infrastructure, including education institutions and medical colleges.

145.PM Modi spells out ISRO goals: Space station by 2035, Indian on Moon by 2040 - Indian Express

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News:

- The Prime Minister recently announced **two new targets for ISRO** building on the success of the recent **Chandrayaan-3 and Aditya L1 Missions**.
- These targets include setting up an **Indian space station by 2035** and taking the **first Indian to the Moon by 2040**.
- He also called on the scientists to work towards a **Venus Orbiter Mission and a Mars Lander Mission**.

The Future Targets

1. Gaganyaan Mission

- A **high-level meeting was chaired by the Indian PM** to assess the progress of Gaganyaan Mission.
- The mission envisages undertaking the **demonstration of human spaceflight to Low Earth Orbit (LEO)** in the short term.
- It will lay the **foundation for a sustained Indian human space exploration program** in the long run.

2. Bharatiya Antariksha Station (Indian Space Station)

- The PM directed that India should now aim for new and ambitious goals, including **setting up the Indian Space Station by 2035**.
- The Indian space station is **likely to be much smaller**, built by combining a couple of modules similar to the **current crew module**, weighing only 20 tonnes

3. Sending first Indian to the Moon by 2040

- The Department of Space has been tasked with **developing a roadmap for Moon exploration**, including a **series of Chandrayaan missions**.
- The next Chandrayaan mission is likely a **sample return mission**.

4. Preparations for a Venus mission

- The current ISRO chief recently stated that it has already been configured.
- Probably, there would be **12 payloads**, including a **thermal camera, mass spectrometer and a cloud-monitoring camera**.

5. Other targets

- ISRO will also work on a **next generation launch vehicle, a new launch pad and human-centric laboratories and technologies**.

Prelims Takeaway

- Gaganyaan Mission
- Chandrayaan Mission
- Bharatiya Antariksha Station

146. Plea seeks stay on Jewar Airport until wetland protected, UP govt to inform about status in 4 weeks - Indian Express

Relevance: Conservation, environmental pollution and degradation

News:

- The **National Green Tribunal** recently gave the UP government four weeks to inform it about the status of the **Ramsar tag for Dhanauri wetlands**.
- This came following a petition seeking a stay on the **construction of Jewar Airport until Dhanauri Wetland is granted protection**.

Prelims Takeaway

- Dhanauri Wetland
- Ramsar Convention
- National Green Tribunal

Dhanauri Wetland

- It is a **bird-watching area** located in **Dhanauri village in Uttar Pradesh**.
- It is a **natural wetland** that hosts more than 217 bird species, including over **150 Sarus cranes**, and serves as a **vital birding and nesting site**.
- It has **received recognition as an Important Bird Area** by Bird Life International and has been documented by the **Bombay Natural History Society (BNHS)**.
- During **peak migratory seasons** (November to March), the **wetland hosts over 50,000 waterfowls**.

Significance

- Dhanauri plays a crucial role in supporting the **vulnerable Sarus crane population** (State Bird of UP).
- The wetland **fulfills two key Ramsar site criterias** out of nine
 - It hosts over 1% of the biogeographic Sarus crane population.
 - The area serves as a congregation site for 20,000+ waterfowls and various other species.

Ramsar Convention

- Also known as the '**Convention on Wetlands**', it is an **intergovernmental environmental treaty** established by **UNESCO in 1971**.
- It is **named after the city of Ramsar in Iran**, where the convention was signed that year.
- Ramsar sites are **wetlands of global significance** recognized under this treaty, especially if they **provide habitat to waterfowl (about 180 species of birds)**.

147. Amazon River falls to lowest in over a century amid Brazil drought - The Print

Relevance: Conservation, environmental pollution and degradation

News:

- Recently, the **Amazon River fell to its lowest level** in over a century.

Prelims Takeaway

- Amazon River
- Droughts

Amazon River

- It is the **world's largest river by water volume and width**.
- It is the **second-longest river in the world** after the Nile.
- It accounts for **one-fifth of the total volume of freshwater** entering the oceans globally.
- It represents about **half of the Earth's remaining rainforest**, and also constitutes its **single largest reserve of biological resources**.
- It is sometimes referred to as the "**lungs of the Earth**" due to its role in **regulating the planet's oxygen and carbon cycles**.
- **Course:**
 - Its journey begins high in the **Andes Mountains**.
 - Then **makes its way east** through thousands of miles of rainforests and lowlands.
 - It empties into the **Atlantic Ocean on the northeastern coast of Brazil**.
- **Drainage:**
 - It has the **largest drainage area of any river system**.
 - Its watershed spans the countries of **Brazil, Peru, Ecuador, Colombia, Venezuela and Bolivia**.

- **Tributaries:** The Rio Negro, the Madeira River, the Xingu River etc.

148. Rare bird from arctic tundra brings cheer to top birders - The Hindu

Relevance: Conservation, environmental pollution and degradation

News:

- Recently, a **rare bird from the arctic tundra, Buff-breasted sandpiper**, was sighted in Kannur, Kerala.

Prelims Takeaway

- Buff-breasted Sandpiper
- Arctic Tundra

Buff-breasted Sandpiper

- It is one of the **most delicately beautiful of the shorebirds**.
- Unlike most shorebirds, **they forage in dry, grassy habitats, not wetlands**.
- It breeds in the **open arctic tundra of North America**
- It is a **very long-distance migrant**, spending the **non-breeding season mainly in South America**, especially Argentina.
- It **migrates mainly through central North America** and is uncommon on the coasts.
- The male Buff-breasted Sandpipers **gather in groups on display territories called "leks"**.
 - There, they flash their eye-catching underwings to compete for females' attention.
- **IUCN Status:** Near Threatened

Arctic Tundra

- It is the **northernmost biome**, which is a **vast, dry, rocky place with few trees**.
- It **covers the land north of the Arctic Circle** up to the polar ice cap.
- It **reaches as far south as the Hudson Bay area of Canada** and the **northern part of Iceland**.
- One **important characteristic** of the tundra is the **permafrost**.
 - The word "permafrost" is short-form for the word "permanently frozen".
- The ground in the arctic tundra **tends to be rocky** and the **soil has few nutrients**.
 - This is because the organic matter there breaks down very slowly.
- Despite the lack of trees, this biome is still **considered a major carbon sink**.
 - This is due to the large amounts of organic matter found in deposits of peat and humus.

149. India will explore building large language models' - The Hindu

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News:

- India will set up a **"high-powered committee"** to explore the development of **large language models, or LLMs**
- This **tools harness artificial intelligence** to create applications that can understand and process human language

Prelims Takeaway

- Department for Promotion of Industry and Internal Trade

Key Points

- LLMs are a cornerstone technology underlying several pieces of **'intelligent' software and help make possible applications such as ChatGPT**.
- The office of the Principal Scientific Adviser had put out a **draft National Deep Tech Start-up Policy** for public comment on July 31.
- The purpose of the policy is **to "ensure India's position in the global deep tech value chain"**, in areas such as semiconductors, artificial intelligence, and Space technology.

U.S.-India collaboration

- **India and the U.S.** were at the best point in their relationship in many years, making it an ideal time for both countries to **collaborate on deep tech**.
- **'Deep tech'** is a buzzword in tech and **start-up circles**.
- India's draft policy document **on deep tech cites Startup India's database**,
- it claims that **there are 10,298 start-ups recognised by the Department for Promotion of Industry and Internal Trade**
 - These are classified across various sub-sectors within the larger deep tech space as of May 2023.

150. Centre raises MSP for Rabi crops, farmers unhappy- The Hindu

Relevance: Major crops-cropping patterns in various parts of the country, – different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

Prelims Takeaway

- The Commission for Agricultural Costs and Prices

News:

- The **Cabinet Committee on Economic Affairs (CCEA)** has increased the Minimum Support Prices (MSP) for all Rabi crops for the financial year 2024-25.

Minimum Support Prices (MSP)

- MSP is a form of government intervention **to insure the farmers against a steep decline in the prices** of their goods and to help them prevent losses.
- The government of India **sets the MSP twice a year for 24 commodities**.
- This is done by the **government to protect the farmers against a fall in prices** in a year of bumper production.
- When the **market price falls below the declared MSP**, the government would purchase the entire quantity from the farmers at MSP.

Objective:

- Support farmers from distress sales
- To procure food grains for public distribution
- **The Commission for Agricultural Costs and Prices (CACP) decides the minimum support price**

Pros of MSP

- It considers various factors when fixing the price and **does not leave the farmer at the mercy of the market**.
- It has a heavy influence on market prices and also **helps the farmer grow production and match up with other sectors in terms of income**.

Cons of MSP

- Hiking the MSP without investing in infrastructure is **just a short-term play**.
- MSP covers **numerous costs such as the cost of sowing (A2) and labor (FL)**.
 - These considerations are controversial with suggestions that it should be based on comprehensive costs (C2), which also include land rent costs.
- Too much of a hike on MSP either paves way for **inflationary effects on the economy**, with a rise in prices of foodgrains and vegetables
- MSP is notified for 23 crops, **but effectively ensured only for two-three crops**.

Seeking more

Farmers' organisations have criticised the increase as 'meagre'; they point to a mismatch between the support prices and costs

- They highlight the increase in diesel and fertilizer prices that spur input costs

- Farmer representatives also lament lack of govt participation in actual procurement after MSP is announced



- Highest increase in MSP compared with last year is for lentils (masur) at ₹425 per quintal

151. Ayodhya Ram temple trust receives FCRA licence to accept foreign donations- The Hindu

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- The **Ayodhya Ram temple** trust recently received a **license to accept foreign donations** under the **Foreign Contribution Regulation Act (FCRA)**.
- Enacted during the **1976 emergency** amid apprehensions that **foreign powers were interfering in India's affairs**.
- It sought to **regulate foreign donations to individuals and associations** so that they functioned "in a manner consistent with the **values of a sovereign democratic republic**".

Prelims Takeaway

- Foreign Contribution Regulation Act
- Ayodhya Ram Temple
- NGOs

FCRA Registration

- NGOs that want to receive foreign funds **must apply online in a prescribed format** with the required documentation.
- The registrations are granted to individuals or associations that have **definite cultural, economic, educational, religious and social programs**.
- Following the application, the MHA makes **inquiries through the Intelligence Bureau** into the antecedents of the applicant and accordingly processes the application.

FCRA Requirements

- Broadly, it **requires every person or NGO** seeking to receive foreign donations to be **registered under the Act** to
 - Open a bank account for the receipt of the foreign funds in **State Bank of India, Delhi**
 - Utilize those funds only for the **purpose for which they have been received and as stipulated in the Act**.
- They are also **required to file annual returns**, and they **must not transfer the funds to another NGO**.

Validity of FCRA Approval

- Once granted, FCRA registration is **valid for five years**.
- NGOs are expected to apply for **renewal within six months** of the date of expiry of registration.
- Once expired, the NGO is **no longer entitled to receive foreign funds** or **utilize its existing funds without permission** from the ministry.

152. India likely to sign deal with U.S. for 31 MQ-9B drones by February 2024 - The Hindu

Relevance: Defence

News:

- According to defense sources, the deal for **31 MQ-9B Unmanned Aerial Vehicles (UAVs)** with the US is expected to be **concluded by February 2024**.

MQ-9B Armed Drones

- It is a variant of the **MQ-9 "Reaper"** which was used to launch a **modified version of the Hellfire missile**.
 - The missile eliminated al-Qaeda leader Ayman al-Zawahiri in Kabul.
- The MQ-9B has **two variants** viz. **SkyGuardian and SeaGuardian**.
- The drone can operate at **over 40,000 feet**, giving the **Indian military surveillance capacity in the high-altitude Himalayan border areas**.
- The Predator also has the **maximum endurance of 40 hours**, making it **useful for long-hour surveillance**.

Prelims Takeaway

- MQ-9B Armed Drones
- Make in India
- QUAD

- **Equipped with advanced features** such as automatic take-off and landing, detect and avoid system, anti-spoofing GPS and encrypted communication links.

Significance for India

- Provide India with a **strategic edge over its adversaries**.
 - India will be able to **conduct long-range surveillance** and **precision strikes without risking its manned aircraft or pilots**.
- **Boost India's defence cooperation with the US**, which has emerged as a key partner for India in the Indo-Pacific region.
- **Strengthen India's role in the Quad grouping** of democracies along with the US, Japan and Australia.
- **Create opportunities for India's defence industry**, as it will involve **technology transfer and joint production** under the Make in India initiative.

153. Lao PDR becomes second country in 2023 after Bangladesh to eliminate lymphatic filariasis - Down to Earth

Relevance: Health

News:

- According to the **World Health Organisation (WHO)**, **Lao People's Democratic Republic** became the second country in 2023 after Bangladesh to **eliminate lymphatic filariasis**.
- This is the **country's second neglected tropical disease (NTD) to be eliminated**, following the **elimination of trachoma as a public health hazard in 2017**.

Prelims Takeaway

- Lymphatic Filariasis
- Neglected Tropical Disease (NTD)
- World Health Organisation (WHO)

Lymphatic Filariasis

- Commonly known as **elephantiasis**, it is considered as a **Neglected Tropical Disease (NTD)**.
- It **impairs the lymphatic system** and can lead to the **abnormal enlargement of body parts**, causing pain, severe disability and social stigma.
- It is the **second most disabling disease** after mental health.

Cause

- It is a **vector-borne disease**, caused by **infection with parasites** classified as **nematodes (roundworms) of the family Filarioidea**.
- There are **3 types of thread-like filarial worms** which causes lymphatic filariasis
 - Wuchereria Bancrofti is responsible for 90% of the cases.
 - Brugia Malayi causes most of the remainder of the cases.
 - Brugia Timori also causes the disease.

Transmission

- **Mosquitoes** are infected with microfilariae by **ingesting blood when biting an infected host**.
- When infected mosquitoes bite people, **mature parasite larvae are deposited** on the skin, from where **they can enter the body**.

Treatment

- The WHO recommends **three drug treatments** to accelerate the global elimination of lymphatic filariasis.
- The treatment, known as **IDA**, involves a combination of **ivermectin, diethylcarbamazine citrate and albendazole**.

Global Initiatives

- **WHO's New Roadmap for 2021-2030**
 - To prevent, control, eliminate and eradicate a set of 20 diseases, termed neglected tropical diseases, by 2030.
- **Global Programme to Eliminate Lymphatic Filariasis (GPELF) by WHO**
 - To stop transmission of infection with Mass Drug Administration (MDA).
 - To alleviate suffering among people affected by the disease through morbidity management and disability prevention (MMDP).

154. Why reforms have been proposed for World Bank, other Multilateral Development Banks; what they say-Indian Express

Relevance: Important International institutions, agencies and fora- their structure, mandate.

News:

- A G20 expert panel on strengthening Multilateral Development Banks (MDBs), wants the institutions to shift from financing individual projects to prioritising programmes
- Reforms focus on long-term transformation plans, as identified by national governments.

Prelims Takeaway

- World Bank

What are Multilateral Development Banks?

- Multilateral Development Banks are institutions whose members include multiple developed and developing countries
 - It have to fulfil certain lending obligations to facilitate developmental objectives.
- They provide financing and technical assistance to countries and organisations undertaking projects
 - across sectors including transport, energy, urban infrastructure, and waste management.

Why are experts advocating for reforms within MDBs?

- A reformed MDB ecosystem can equip stakeholders to better deal with global challenges in effective ways.
- These recommended reforms are to “help address multiple coordination failures among domestic and international stakeholders, public and private.
- Given that MDBs need to ramp up financing to \$390 billion by 2030
- The private sector can play a pivotal role in making that happen by reversing the current trend of “disappointingly low” private financial flows to EMDEs.

How have Multilateral Development Banks traditionally lent in countries such as India?

- MDBs have played a crucial role in India’s development journey by financing key infrastructure projects with longer gestation periods.
- The World Bank, established in 1944, has committed to lending worth \$97.6 billion in India, including all active and closed projects.
- Of the total commitments, \$18.7 billion (19 per cent) have been committed
 - to projects in the public administration sector
 - \$14.8 billion (15 per cent) to the agriculture, fishing and forestry sector
 - \$10.6 billion (11 per cent) to the transport sector.
- The Manila-based Asian Development Bank, formed in 1969, has cumulatively committed to assistance worth \$59.7 billion in India for project and technical assistance.
- The Beijing-headquartered Asian Infrastructure Investment Bank (AIIB), which was formed in 2016, has approved financing worth \$9.9 billion in India.
- Of the total 42 projects for which AIIB has approved financing, 29 are sovereign projects and 13 are non-sovereign projects.

155. Centre says measures in place to check price rise-The Hindu

Relevance: Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.

News:

- The Centre decided to additionally sell 50 lakh metric tonnes (LMT) of wheat and 25 LMT of rice through the Open Market Sales Scheme (OMSS) from the Food Corporation of India stocks.
- The Centre hopes that the measure will ensure adequate domestic availability and check the prices of rice, wheat and atta.

Prelims Takeaway

- Open Market Sale Scheme
- Food Corporation of India

Food Corporation of India

- The Food Corporation of India was **set up under the Food Corporations Act 1964**, in order to fulfil following objectives of the Food Policy.

Objective:

- Effective price support operations for **safeguarding the interests of the farmers.**
- Distribution of foodgrains throughout the country for a **public distribution system.**
- Maintaining satisfactory level of **operational and buffer stocks of foodgrains to ensure National Food Security**
- FCI also **conducts e-auction** as one of the methods to dispose of its surplus food grains.

Open Market Sale Scheme (OMSS)

- FCI sells surplus stocks of wheat and rice at predetermined prices** through e-auction in the open market from time to time to enhance the supply of food grains.
- The purpose of **OMSS is to dispose of surplus stocks of wheat and rice held by FCI**, and to regulate the prices of wheat in the open market.
- FCI conducts **weekly auctions for the OMSS** for wheat on the platform of the **National Commodity and Derivatives Exchange Limited (NCDEX).**
- NCDEX is a commodity exchange platform in India that provides a platform for trading in various agricultural and other commodities.

156. India's first regional rapid train to be named 'Nam0 Bharat', to be inaugurated by PM Modi - Indian Express / Ghaziabad-Meerut RRTS Corridor: PM Modi inaugurates India's first Regional Rapid Transit System - The Mint

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News

- India** is set to **inaugurate** its **first regional rapid train** connecting Delhi and Meerut, named "Nam0 Bharat." The train service, **part of the Delhi-Ghaziabad-Meerut Regional Rapid Transit System (RRTS)** corridor, marks a significant development in urban transportation.

Prelims Takeaway

- RRTS
- RapidX
- Nam0Bharat

Inauguration and Launch

- Prime Minister** Narendra Modi is scheduled to **inaugurate** the priority section of the **Delhi-Ghaziabad-Meerut RRTS corridor.**
- The inauguration will also **include** the flagging off of the "**RapidX train**" connecting Sahibabad and Duhai Depot.

"Nam0 Bharat" Train

- Originally announced as "**RapidX**," the train is set to be **renamed "Nam0 Bharat"** on the eve of its inauguration.
- The train is a **part of the country's first Regional Rapid Train network.**

Key Features of "Nam0 Bharat"

- The "Nam0 Bharat" train is **manufactured indigenously and designed** for a speed **potential of 180 kmph**, with an **operational speed potential of 160 kmph.**

Commencement of Operations

- The **17-km priority section** of the 82-km-long first RRTS corridor will **begin passenger operations from 21 Oct.**
- The corridor will have **five stations:** Sahibabad, Ghaziabad, Guldhar, Duhai, and Duhai Depot.
- The **train service will operate from 6 am to 11 pm**, with a starting frequency of 15 minutes, which can be increased to every 5 minutes.

Delhi-Meerut Connectivity

- The **Delhi-Ghaziabad-Meerut RRTS corridor**, developed at a cost of over Rs 30,000 crore, will connect Delhi to Meerut in **less than an hour of travel time.**
- The corridor will **pass through urban centers** like Ghaziabad, Muradnagar, and Modinagar.

Conclusion:

- The **inauguration** of "Namo Bharat" and the Delhi-Ghaziabad-Meerut RRTS corridor represents a **significant step** in enhancing **urban transportation infrastructure** and **connectivity in India**.
- This **development** is expected to **provide state-of-the-art, rapid transportation** for commuters in the region.

157. Microalgae are adapting to warming climate, declining nutrient levels in seas with novel strategy- Down to earth

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- **Microalgae** appear to rely on a unique strategy to cope with **global warming**, according to a new study.

Prelims Takeaway

- Microalgae

Key Points

- Microalgae, which form the **base of the food chain** in the ocean and capture carbon dioxide from the atmosphere
- As climate change reduces the availability of **nutrients in the sea, marine microalgae or eukaryotic phytoplankton fire up a protein called rhodopsin**.
- It is related to the **protein in the human eye** responsible for vision in dim light.
- This **light-responsive protein** is helping the microalgae flourish with the help of sunlight in place of traditional chlorophyll.
- **Microbial rhodopsins**, per the study, are proposed to be major light capturers in the ocean.
- Estimates suggested they **may absorb as much light as chlorophyll-based photosynthesis in the sea**, which also captures light to generate energy and food.
- However, their biological role in these organisms was unclear before the study.
- The **warmer the surface water gets, the lower are the nutrients** in these surface water layers
- There is **less mixing between the surface waters and nutrient-rich deeper** waters as the oceans warm.
- So **nutrients become scarce at the surface**, impacting the primary producers such as microalgae that are present in the top layer.
- **Algae starve and, therefore, produce less food** and capture less carbon dioxide from the atmosphere.
- In these areas, **the capacity of algae to make food and take up carbon dioxide** should be much more reduced, the researchers said.
- This is akin to **reduced crop yield** on land if iron- and nitrogen-rich fertilisers are scarce.

158. Conduct digital crop survey from July 2024: Centre to states- Indian Express

Relevance: Major crops-cropping patterns in various parts of the country, – different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

News

- The **Indian government** plans to **digitize the crop survey** process to **enhance the accuracy and timeliness** of **agricultural production** estimates.
- The move **addresses the current manual system**, which often **results in delays and errors**.

Introduction of the Digital Crop Survey System

- The **Centre** is urging states and Union Territories to **adopt the Digital Crop Survey system**, commencing in **July** of the **next year**.
- The Economics, Statistics and Evaluation Division (**ESED**) under the Ministry of Agriculture and Farmers' Welfare has **formulated guidelines** for agricultural production estimates and **shared** them with states and UTs.

Guidelines for States and UTs

- The guidelines **require states** and **UTs** to **automate and digitize** the process of **crop area enumeration** at the **field level** using a **GPS-enabled mobile application**.
- **Data collected** on crop sown will be **aggregated** at the **village level** and **shared** with the Department of Agriculture & Farmers' Welfare (DA&FW) through APIs.

Transition from Manual System

- The **current collection** and **compilation of crop statistics** in **most states** is **entirely manual**, resulting in **delays and manual errors**.
- A **few states**, such as Karnataka, Telangana, and Andhra Pradesh, have **adopted digital data** collection systems for crop area and data collection directly from the field.

Need for Technological Intervention

- The move to **digitize the system** was **prompted** by the need to **reform the existing production estimation system** through technological intervention.
- **Concerns** have been raised about the **reliability of agricultural production** data under the current manual system.

Timeline Changes for Estimate Releases

- The **Ministry** has **revised the timeline** for estimate **releases**, eliminating the fourth phase that used to be released in August.
- **Final estimates** covering all states and seasons (kharif, rabi, summer) will **now be released in September-October**, a **shift** from the **previous release in February** of the following year.

Conclusion

- India's move to **digitize** the **crop survey process** aims to **improve** the **accuracy, efficiency, and timeliness** of agricultural **production estimates**, **addressing** the existing **challenges** in the manual system.

159. From Nov. 1, only electric, CNG, BS-VI diesel buses to run in NCR-The Hindu

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

News

- The **Commission for Air Quality Management** has introduced a significant **initiative** to **promote cleaner** and more **sustainable public transport** in the **Delhi-NCR region**.
- Starting from **November 1, 2023**, only electric vehicles (EVs), Compressed Natural Gas (CNG) buses, and **BS-VI diesel-compliant buses** will be allowed to operate between Delhi and NCR states.
- This move **aims** to **reduce emissions** and **enhance air quality**.

Directives to NCR States

- The central **air quality panel** has issued **directives** to Haryana, Rajasthan, and Uttar Pradesh to **implement a comprehensive plan** for **more eco-friendly inter-city and inter-state bus services** serving Delhi and other cities/towns in NCR.

Haryana

- All **bus services** between **Haryana** and **Delhi** must be **operated exclusively** using **EVs, CNG, or BS-VI diesel buses** from November 1, 2023.

Rajasthan

- **Bus services** between any **NCR city/town** in Rajasthan and Delhi, as well as to any **other city/town** in NCR, must use **only EVs, CNG, or BS-VI Diesel buses** from November 1, 2023.
- **Bus services** from non-NCR areas of **Rajasthan to Delhi** will **exclusively use EVs, CNG, or BS-VI Diesel buses** from January 1, 2024.

Uttar Pradesh

- All bus services between **NCR city/town in Uttar Pradesh** and **Delhi** must **exclusively operate EVs, CNG, or BS-VI Diesel buses** from November 1, 2023.
- **Bus services** within **eight NCR districts** of UP will use **BS-VI diesel-compliant buses** from April 1, 2024.

- Buses operating between **non-NCR areas of UP to Delhi** and NCR areas of **other states** will use **BS-VI diesel-compliant buses** from July 1, 2024.

Transition Phases

- These **directives apply** to both **state public sector units** and **private entities**.
- The **transition to cleaner buses throughout NCR** is expected to be **completed** by **July 1, 2024**.
- **Strict compliance** will be ensured **through monitoring** by the **transport department and traffic police** of Delhi and NCR states.

Three-Tier Approach

- The plan **outlines a three-tier approach**, aiming to **convert** the entire **NCR's bus fleet** to **electric vehicles** in the long term and focusing on EVs and CNG buses in the medium term.

Conclusion:

- The move to **transition to cleaner and more sustainable bus services** in the Delhi-NCR region **represents a significant step towards reducing emissions** and improving air quality.
- The directive will contribute to more eco-friendly and efficient public transportation.

160.ASTRONOMERS DETECT 8 BN-YR-OLD 'FAST RADIO BURST': WHAT IS IT? - Indian Express

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News:

- Astronomers detected an **intense flash of radio waves** coming from what looks like a **merger of galaxies** dating to about **8 billion years ago**.
- This represents the **earliest documented occurrence** of a phenomenon known as a **fast radio burst**, which remains a perplexing mystery.
- It was detected using the **Australian SKA Pathfinder**, a radio telescope in the state of Western Australia.

Prelims Takeaway

- Fast Radio Bursts
- Electromagnetic Spectrum

Fast Radio Bursts

- A **bright and brief burst of electromagnetic radiation** (light) seen in **radio-wave frequencies**.
- They usually last for a **very short period of time**.
- They **reach earth from faraway galaxies**, emitting as much energy in a millisecond as the sun does over weeks.
- **Some FRBs repeat**, but the vast majority happen once and disappear forever.

Source of FRBs

- Scientists don't know for sure **what causes fast radio bursts**.
- However, the current prevailing theory is that **at least some FRBs are emitted by neutron stars**.
 - These stars form when a **supergiant star collapses**, going from eight times the mass of our sun (on average) to a superdense core only 20–40 kilometers across.
- **Magnetars are neutron stars with extremely strong magnetic fields** and these have been observed to emit FRBs.

Significance of studying FRBs

- Can help to **detect and measure the immense amount of matter** believed to populate the expanses of space between galaxies.
- As these radio waves zip through the cosmos, they can **flag the presence of intergalactic plasma**.

161. Rate cuts not on agenda, RBI remains 'extra vigilant' on inflation, says Das - Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- Recently, the **Governor of the Reserve Bank of India (RBI)** mentioned that interest rate cuts are not on their agenda.
- He also stated that the **central bank is “extra vigilant” about inflation.**
- There is a **need for a sustained decrease in inflation** and the RBI wants to reduce it to **4 percent.**

Prelims Takeaway

- Monetary Policy Committee
- Inflation Targeting
- Inflation

Inflation

- A **long-term increase** in the **general price level** of goods and services in a given economy.
- It considers the **pricing of most everyday or standard products and services**, such as food, clothes, housing, recreation, transportation, consumer staples, etc.
- It is **positive** when it helps **improve consumer demand** and **consumption**, and **operate economic growth.**
- Even inflation is meant to keep **deflation** in check and is a **drag** on the economy.

Inflation Targeting

- It is a **central banking policy** that focuses on **altering monetary policy to attain a set annual inflation rate.**
- It assumes that **preserving price stability**, achieved by managing inflation, is the greatest way to **generate long-term economic growth.**
- Under the RBI Act, 1934, the **Central Government, in consultation with the RBI**, determines the **inflation target.**
 - This is decided in terms of the **Consumer Price Index (CPI), once in five years.**
- It provides for the constitution of a **six-member Monetary Policy Committee (MPC)** to determine the **policy rate required to achieve the inflation target.**
- Currently, the RBI aims to **keep inflation at 4%** but will tolerate inflation between the **range of 2% to 6%.**

Monetary Policy Committee (MPC)

- Under **Section 45ZB of RBI Act, 1934**, the central government is empowered to constitute a **six-member Monetary Policy Committee (MPC).**
- **Objective:** To determine the Policy Rate required to achieve the inflation target
- The decision of the Monetary Policy Committee shall be **binding on the Bank.**
- **Composition:** The MPC shall consist of 6 members viz.
 - RBI Governor as its ex-officio chairperson
 - Deputy Governor in charge of monetary policy
 - An officer of the Bank to be nominated by the Central Board
 - Three persons to be appointed by the Central Government
 - They must be persons of ability, integrity and standing, having knowledge and experience in the field of economics or banking or finance or monetary policy.

162. Gaganyaan Mission: ISRO is set for first test flight today - The Hindu

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News:

- Recently, the **Indian Space Research Organisation (ISRO)** conducted the **Gaganyaan's first Flight Test Vehicle Abort Mission-1 (TV-D1)**.
- It will demonstrate the performance of the **Crew Escape System**.

Prelims Takeaway

- Gaganyaan Mission
- Test Vehicle Abort Mission-1

Test Vehicle Abort Mission-1 (TV-D1)

- It will evaluate the **crew module's readiness for the Gaganyaan mission**.
- It is a **single-stage liquid rocket** developed specifically for this abort mission.
- The payloads consist of the **Crew Module (CM)** and **Crew Escape Systems (CES)** with their fast-acting solid motors, along with **CM fairing (CMF)** and **Interface Adapters**.
- This flight will **simulate the abort condition** during the **ascent trajectory** corresponding to a Mach number of 1.2 encountered in the Gaganyaan mission.

Key Features

- **Cost-Effective Testing:** The TV-D1 mission employs a **low-cost Test Vehicle**, optimized for system testing, instead of the **more expensive GSLV Mk III rocket** used in previous tests.
- **Innovations:** It uses **existing liquid propulsion technology** but includes innovations such as the **throttleable and restartable L110 Vikas engine**.

Stages of TV-D1 Mission

- The mission involves key stages, including the **separation of the Crew Escape System from the Test Vehicle** and the **subsequent separation of the crew module**.
- **Parachutes will be deployed for a safe descent** over approximately seven minutes.
- The **Indian Navy** will play a crucial role in **recovering the crew module from the Bay of Bengal**.
- The TV-D1 mission serves as a significant milestone, marking the **integration of a near-complete system for flight testing**.

163. Tej now extremely severe cyclone over the Arabian Sea; yellow alert issued for eight districts in Kerala - The Hindu

Relevance: Disaster and disaster management.

News:

- **Cyclone Tej Intensifies** into Extremely Severe Cyclone, **Weather Alerts Issued**

Prelims Takeaway

- Cyclone

Cyclone Tej Strengthens in the Arabian Sea

- Cyclone Tej, initially a very severe cyclone, intensified into an **extremely severe cyclone over the Arabian Sea**.
- The cyclone is currently moving northwest and is expected to make landfall on the Yemen coast near Al Ghaidah as a very severe cyclonic storm
- wind speeds of 125-135 kmph gusting to 150 kmph.

Weather Alerts for Kerala

- **Kerala** is likely to experience **isolated heavy rainfall due to the influence of weather** systems in the Arabian Sea and the Bay of Bengal.
- A **yellow alert** has been issued for eight districts from Kollam to Palakkad, warning of isolated heavy rains

- The **usual northeast monsoon rain in the state will be absent** for the next few days due to the prevailing weather conditions in the Bay of Bengal.

Cyclonic Activity in the Bay of Bengal

- A **depression forming over the Bay of Bengal is expected to intensify** into a deep depression within 24 hours and subsequently develop into a cyclonic storm
- The cyclonic system is **projected to move towards the Andhra coast** within the next 12 hours
- It was followed by a **re-curve towards the northeast, heading for Bangladesh** and the West Bengal coast over the next three days.

Safety Measures for Fishermen

- Fishermen have been **advised not to venture into the southwest and west-central Arabian Sea** due to the forecast of gale wind speeds reaching up to 150-160 kmph

164. Gaganyaan test flight successful -The Hindu

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News:

- **ISRO Successfully Launches Gaganyaan Test Vehicle After Initial Delay**

Prelims Takeaway

- TV-D1 Mission

Initial Delays and Nerve-Wracking Moments

- On October 21, ISRO scientists **launched Gaganyaan's first Flight Test Vehicle Abort Mission-1 (TV-D1)** from Sriharikota.
- The launch faced a two-hour delay and nervous moments as **the TV-D1's engine initially failed to ignite.**

Successful Accomplishment of TV-D1 Mission

- ISRO Chief announced that the **TV-D1 mission was successfully accomplished.**
- The mission aimed to **demonstrate the performance of the Crew Escape System (CES)** for the Gaganyaan program.

Safety of the Launch Vehicle

- It was assured that the **launch vehicle remained safe** and that ISRO would analyze the anomalies.
- A new **launch date would be scheduled** once the analysis was completed.

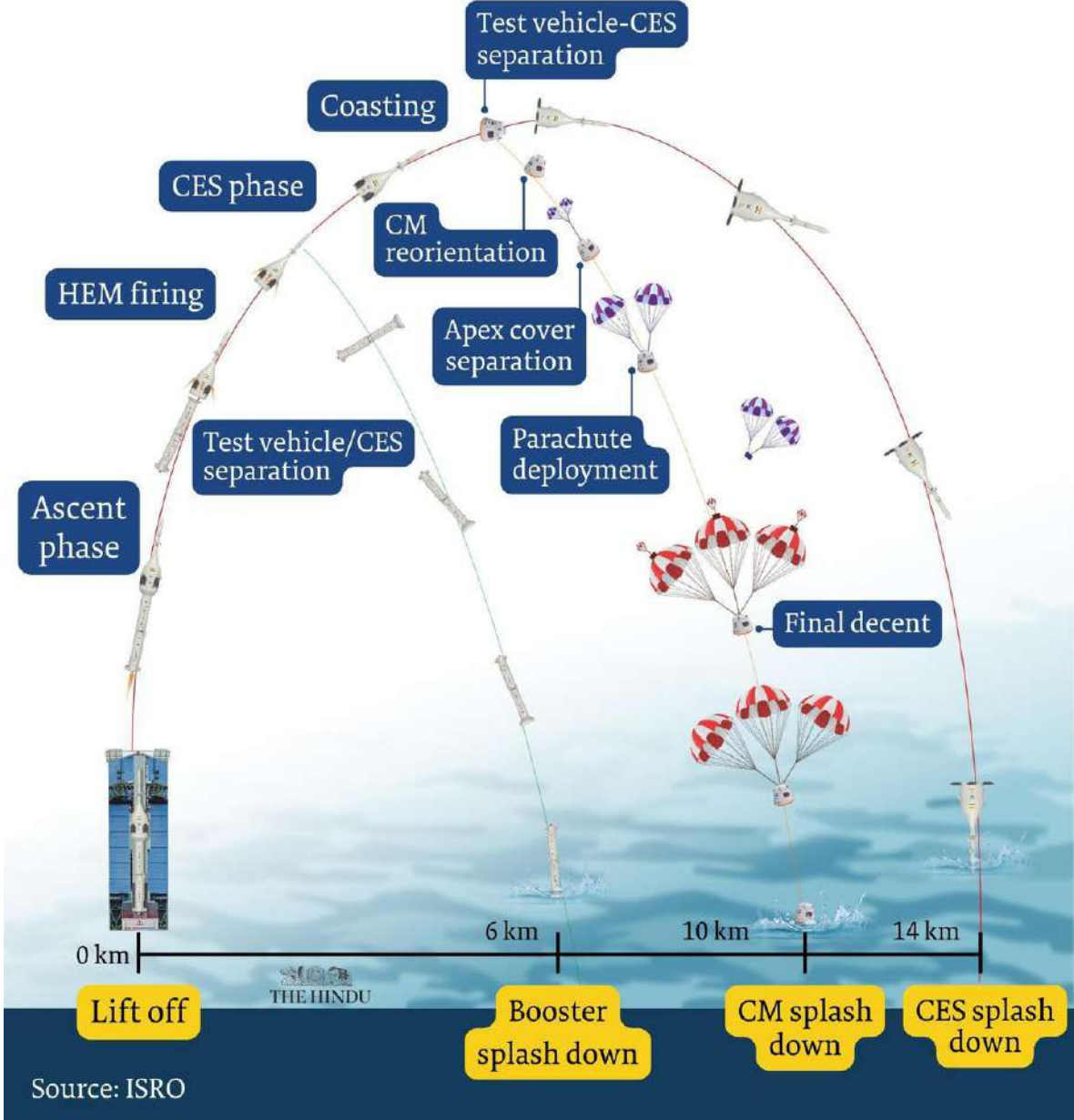
Successful Launch and Payload Splashdown

- Finally, the vehicle **successfully took off** and the payloads later splashed into the sea as planned.

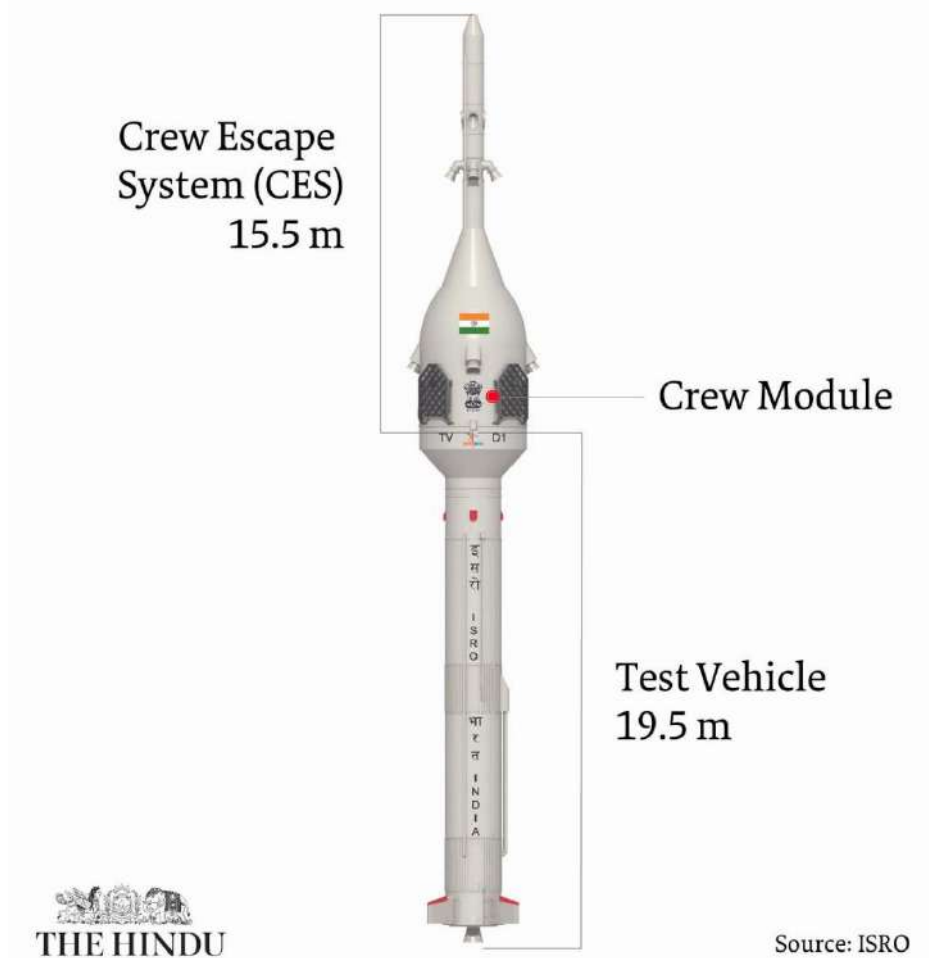
Objective of the Mission

- The mission aimed to demonstrate **the safety and capabilities of the Crew Escape System (CES)** for the Gaganyaan program.
- It included **evaluating test vehicle sub-systems, CES, separation systems, Crew Module (CM) characteristics,** and deceleration systems at higher altitudes.
- The mission ensured the **CES's ability to take the CM to safety in case of an emergency** that would require an abort.

Maiden test flight of Gaganyaan mission



Gaganyaan's Flight Test Vehicle Abort Mission-1 (TV-D1)



165. NGT pulls up Punjab, Delhi over bad air, violation of GRAP norms - The Hindu

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- NGT Takes Cognizance of Rising Air Pollution in Delhi and Punjab

Prelims Takeaway

- Smog Tower

NGT's Reaction to Newspaper Reports

- **The National Green Tribunal (NGT)** has taken suo moto cognizance of newspaper reports on **increasing air pollution in Delhi and Punjab**.
- The tribunal has **directed the concerned authorities to provide an action taken report** and a plan of action to address this issue.

Stubble Burning Contributes to Air Pollution

- NGT noted that stubble burning during autumn is a significant factor contributing to air **pollution in the northern region, especially in Delhi** and its surrounding areas.
- **The report highlighted that Punjab had witnessed 656 farm fire incidents**, representing a 63% increase from the previous year.

Directive for Identifying Violators and Imposing Penalties

- The NGT emphasized the need for authorities to be vigilant in identifying violators and taking remedial measures, including imposing penalties.

Specific Directives to Punjab Pollution Control Board

- The Punjab Pollution Control Board (PPCB) has been instructed to **prepare and submit an area-wise Crop Residue Management Plan** to reduce stubble burning incidents.
- Additionally, the authorities have been asked to submit an **action taken report for Air Quality Management in the National Capital Region (NCR)** and adjoining areas.

Citing Deteriorating Air Quality

- The Air Quality Index (AQI) had increased from 177 to 212, falling into the "poor" category, which can cause breathing discomfort with prolonged exposure.

issues with Smog Tower in Connaught Place

- The NGT noted reports of the **₹22.9 crore smog tower at Connaught Place** remaining non-functional for the past seven months.
- Expert opinions indicated that the **tower's installation was a waste of money** and did not improve air quality.

Violations in Construction Activities

- violations of environmental norms in construction activities in Delhi was noted.

Next Steps

- Respondents are expected to file their action taken reports to maintain acceptable air quality and safeguard public health, especially as the winter season approaches.

166. Army's Project Udbhav to tap indigenous military knowledge - The Hindu

Relevance: Various Security forces and agencies and their mandate.

News:

- Indian Defence Minister Launches 'Project UDBHAV'

Prelims Takeaway

- Project UDBHAV

Key points

- Hon'ble Raksha Mantri **inaugurated 'Project UDBHAV'** during the Indian Military Heritage Festival.
- The project is a collaborative effort between the **Indian Army and the United Services Institution of India (USI) to explore ancient Indian military wisdom.**

Project UDBHAV's Objective

- The project aims to **address contemporary security challenges** with a holistic approach, synthesizing age-old wisdom and contemporary military pedagogy.

Incorporating Ancient Wisdom

- The project acknowledges **India's rich heritage of intellectual texts, spanning centuries,**
- It aims to **comprehend their enduring relevance and applicability** in modern times.
- It will explore ancient texts like **Chanakya's Arthashastra, Thirukkural, and others, emphasizing principles** of strategic partnerships, ethics in warfare, and statecraft.

Interdisciplinary Research and Knowledge Enrichment

- 'Project UDBHAV' will integrate ancient wisdom with modern **military pedagogy through interdisciplinary research, workshops, and leadership seminars.**
- It aims to foster a **deeper understanding of strategic thinking, statecraft, and warfare,** enriching military training curricula.

Publication and Institutionalization

- This initiative marks a new era for the Indian Army, aligning **historical military wisdom with contemporary warfare and diplomacy.**

167. Will the Sikkim flood impact hydel projects? - The Hindu

Relevance: Disaster and disaster management.

News:

Prelims Takeaway

- Teesta river

- The **recent floods in the Teesta River** in Sikkim and West Bengal were triggered by a **Glacial Lake Outburst Flood (GLOF)**
- It was **caused by the sudden release of water from a glacier-fed lake** formed on, within, or beneath a glacier.

Key Highlights

- satellite images indicate that **a large chunk of ice may have fallen from a glacier into the lake**
- It is creating waves that **breached the moraine dam and resulted in GLOF**, causing flash floods downstream.

Lingering Risks in Sikkim

- The **risk from GLOFs in Sikkim has not been entirely eliminated.**
- Satellite images of South Lhonak lake suggest the **lake has not substantially drained or dewatered.**
- The **presence of water under the ice remains a concern**, indicating a continuing risk.

Hydel Power Dam Collapse and Impact

- The collapse of the **hydel power dam at Chungthang** exacerbated the destruction caused by the floods.
- The **Chungthang dam was part of the 1,200 MW Teesta Stage III hydro power project.**
- While it was approved as a concrete gravity dam, **it was constructed as a rock-filled dam**, making it vulnerable to major floods.
- As a result of the floods, all operational hydel power projects on the Teesta River in Sikkim have practically ceased functioning
 - Including the Teesta-V Power Station (510 MW) and the Dikchu Hydroelectric Project (96 MW).
 - This has halted the generation of approximately 1,806 MW of electricity. The total financial damage is yet to be quantified.

Calls for Rethinking Hydel Power Projects

- scientists are urging a **reconsideration of proposed hydel power projects.**
- While Union Minister for Power and Renewable Energy maintains that these **floods will not slow India's reliance on hydropower**, there is growing concern about the safety of such projects.
- There are **87 operational hydroelectricity projects (HEP)** across the Himalayan belt with an installed capacity of 22,982 MW.
- **Sikkim alone has a hydro power potential** of 4,248 MW, with 53.7% already developed and 24.4% under construction.
- **Activists are calling for the cancellation of the proposed Teesta IV project** and a review of the upcoming Teesta VI project.
- **The Sikkim government has initiated an inquiry** into potential criminal irregularities in the construction of the Teesta III dam project.

Growing Concern for Himalayan Infrastructure

- Glaciologist **highlights recent floods in the Himalayas**, including Kedarnath in 2013, Rishi Ganga in 2022, and the Sikkim floods in 2023.
- These incidents, triggered by various climatic factors, **raise concerns about infrastructure development in the Himalayas.**
- **considering climate assessment reports** and designating mountain regulation zones to limit construction in vulnerable areas was suggested.

168. What are dust suppressants & have they worked in the past? - Indian Express

Relevance: Conservation, environmental pollution and degradation

News:

- Dust suppressants are set to be employed in Delhi **to combat pollution caused by dust.**

Dust Suppressants

- Dust suppressants are **typically salts of calcium or magnesium that can absorb moisture.**
- The “dust suppressant powder” when mixed along with water, is **sprayed on roads to keep the dust down for longer.**

CPCB Study: Effectiveness of Dust Suppressants

- Use of dust suppressants, when mixed with water, is **more effective in controlling pollution** compared to conventional water spraying methods.
- It led to a **notable 30% reduction in dust concentration**, particularly PM10, PM2.5, and PM1, **for up to six hours.**
- These findings were observed at **various construction sites and roads in Delhi.**

Magnesium Chloride Hexahydrate

- Delhi Public Works Department (PWD) in 2019** highlighted the enhanced efficiency of dust suppressants, particularly **those containing "magnesium chloride hexahydrate flakes."**
- These suppressants, when used in water, proved **more effective in reducing particulate matter emissions** compared to plain water sprinkling.
- The **suppressant with bio-additives** was found to reduce dust for up to five to six hours due to **magnesium chloride's moisture-absorbing properties.**

Regulatory Measures

- In 2019, the Delhi Pollution Control Committee issued directives **mandating the use of dust suppressants by construction agencies** to control dust emissions.
- Road-owning agencies were also urged to **apply these suppressants on dusty patches.**

Prelims Takeaway

- Dust Suppressants
- Central Pollution Control Board

169. New Laboratory of Advance Synthesis and Characterisation develops probe stations for universities to probe opto-electronic properties in range of materials - PIB

Relevance: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News:

- New Laboratory Develops Cutting-Edge LASC Probe Stations for Opto-Electronic Research**

Prelims Takeaway

- Laboratory of Advanced Synthesis and Characterization

Key Highlights

- A new **Laboratory of Advanced Synthesis and Characterization (LASC) in Gujarat** is making significant strides in the development of LASC probe stations.
- These stations are **designed for researchers in India** and abroad to investigate the opto-electronic properties of various materials, including semiconductors, thin films, LEDs, and solar cells.

Versatile Capabilities for Opto-Electronic Research

- LASC's probe stations offer a broad range of capabilities that enable researchers **to study the opto-electronic properties of materials**
- This comprehensive approach empowers researchers to gain in-depth **insights into their materials and effectively optimize their properties.**

Enhancing Researcher Flexibility and Cost-Efficiency

- By developing these probe stations in-house, **LASC is providing Indian researchers with greater design flexibility at reduced costs.**

- This enables researchers to modify their experimental setups as needed, **a level of flexibility previously unavailable with imported systems.**

Key Features Setting LASC Probe Stations Apart

- The core elements that distinguish LASC probe stations from available imported systems include:
 - **Peltier Elements:** These solid-state devices transfer heat when subjected to an electrical current.
 - **Zero Welding:** This feature helps achieve a high vacuum level.
 - **Enhanced Control:** LASC systems offer superior control over opto-electronic functions.
 - **User-Friendly Design:** The systems are user-friendly and feature tungsten tips, which provide exceptionally low resistance for high-temperature measurements.

Successful Delivery and Expansion

- LASC has successfully delivered probe systems **to more than ten Indian universities, two in Europe, and several in the Middle East.**
- This underscores LASC's commitment **to advancing opto-electronic research** and enhancing research capabilities around the world.

170. Reserve Bank of India's \$5 billion swap maturity causes flutter, but no major turbulence - Indian Express

Relevance: Economy

News:

- Last year, the Reserve Bank of India (RBI) executed a **\$5 billion dollar/rupee swap to provide banks with dollar liquidity.**
- Now, **the RBI is withdrawing this liquidity**, requiring banks that entered the swap to return the dollars.

Prelims Takeaway
<ul style="list-style-type: none"> • Dollar-Rupee Swap • Reserve Bank of India

Dollar-Rupee Swap

- It's a forex tool whereby the **central bank uses its currency to buy another currency** or vice versa.
- In a Dollar-Rupee buy/sell swap, the **central bank buys dollars** (US dollars or USD) from banks **in exchange for Indian Rupees** (INR).
- It immediately gets into an opposite deal with banks **promising to sell dollars at a later date.**

Surge in Demand for Cash Dollars

- The maturity of the RBI's swap **led to a surge in demand for cash dollars**, resulting in a **drop in the overnight swap rate.**
- The overnight swap rate fell to 0.14 paisa on Monday indicating **high demand for dollars.**
 - This rate reflects the cost of borrowing dollars relative to the rupee.

India's Current Scenario

- The **fall in the swap rate** suggests a **shortage of dollars.**
 - Banks are **willing to lend rupees at a lower rate to acquire dollars.**
- The decline in the cash swap rate has led to a **drop in rupee forward premium.**
- The **rupee itself remained stable**, indicating that the swap maturity did not lead to significant disruptions.
- The maturity of the RBI's \$5 billion swap **did not cause major disruptions in the premium and spot forex markets.**

Short-Term Dollar Shortage

- The current dollar shortage **appears to be short-term.**
- However, if **global dollar shortages worsen and geopolitical risks increase**, the RBI may intervene through **sell-buy swaps to manage dollar liquidity.**

171. Central govt surpasses 50% of budgeted capex so far in FY24- Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- Government **Achieves Over 50% of Capital Expenditure Target** in FY 2023-24

Prelims Takeaway

- Fiscal consolidation

Progress in Capital Expenditure

- The **Indian government has successfully crossed the Rs 5-lakh-crore mark**, equivalent to over 50% of its budgeted target
 - for capital expenditure in the ongoing financial year 2023-24.
- This **achievement reflects substantial progress** in capital investment.

Maintaining Fiscal Consolidation Glide Path

- **The government aims to uphold its fiscal consolidation** glide path while discussing pre-budget matters with various ministries.
- Additional demand for funding may emerge from key government schemes such as:
 - The Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS)
 - Expenditures on fuel and fertilizer subsidies, which have become more crucial due to global geopolitical tensions.

Monitoring Government Bond Yields

- Although **there has been a recent spike in government bond yields** influenced by surges in US Treasury yields and geopolitical concerns,
- the government views this development **as not of major concern.**
- It is **closely monitoring the situation**, ready to take appropriate remedial measures if bond yields surpass tolerance levels.

Budgeted Capital Expenditure and Fiscal Deficit Data

- The government **had set a budget target of Rs 10 lakh crore for capital expenditure** in the current fiscal year
 - It represents a 36% increase from the previous financial year.
- **The fiscal deficit for April-August stood at Rs 6.43 lakh crore**, equivalent to 36% of the full-year target, based on the latest CGA data.
- the government's achievements in capital expenditure and positive revenue and spending trends **signal progress toward fiscal consolidation**
- It shows **meeting fiscal deficit targets** in the current financial year.

172. Farmers will get 50% of profit through coop export body: Amit Shah- Indian Express

Relevance: Major crops-cropping patterns in various parts of the country, – different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

News:

- **National Cooperative Exports Limited (NCEL) Secures Orders** and Aims for Greater Success

Prelims Takeaway

- National Cooperative Exports Limited

Key Highlights

- **The National Cooperative Exports Limited (NCEL)**, established as an umbrella organization for cooperative sector exports, **has made remarkable strides in its early days.**

Orders and Negotiations

- **NCEL has secured orders worth Rs 7,000 crore**, and negotiations are underway for orders worth Rs 15,000 crore.
- These orders **indicate a promising start** for the organization.

Direct Benefits for Farmers

- A major highlight of NCEL's approach is its **commitment to benefit farmers**.
- **At least 50% of export profits will be channeled directly to farmers** through NCEL, who will receive the funds in their bank accounts.
- This initiative **aims to empower** and support farmers.

NCEL's Comprehensive Role

- NCEL, registered under the Multi-State Co-operative Societies Act, 2002, **is evolving to become a comprehensive export ecosystem**.
- Its responsibilities **encompass procurement, storage, processing, marketing, branding, labelling, packaging**, certification, and research and development.

Leveraging Collaborative Efforts

- NCEL is set to **strengthen its collaborative efforts** by connecting with the Ministry of Commerce and Industry, the Ministry of External Affairs, and Indian embassies abroad
- These connections **will help NCEL expand its reach and influence**.
- **NCEL's initial achievements and ambitious plans** demonstrate its potential to play a vital role in **promoting cooperative sector exports**, benefiting both the industry and farmers.

173. Bannerghatta National Park encroachment: Supreme Court committee seeks Karnataka govt's response - Indian Express

Relevance: Conservation, environmental pollution and degradation

News:

- Recently, the **Supreme Court-appointed Central Empowered Committee (CEC)** directed the chief secretary of Karnataka to submit a response on the issue of **encroachment of the eco-sensitive zone (ESZ) of the Bannerghatta National Park**.

Prelims Takeaway

- Eco Sensitive Zones (ESZs)
- Bannerghatta National Park

Eco Sensitive Zones (ESZs)

- The **National Wildlife Action Plan** of MoEFCC stipulated that state governments should **declare land falling within 10 km of the boundaries of national parks and wildlife sanctuaries as ESZs** under the **Environmental (Protection) Act, 1986**.
- While the **10-km rule is implemented as a general principle**, the **extent of its application can vary**.
- **Areas beyond 10 km** can also be **notified by the Union government as ESZs**, if they hold **larger ecologically important "sensitive corridors"**.

Activities Around ESZs

- **Prohibited Activities:** Commercial mining, saw mills, industries causing pollution, establishment of major hydroelectric projects (HEP), commercial use of wood.
- **Regulated Activities:** Felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, widening of roads.
- **Permitted Activities:** Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities.

Bannerghatta National Park

- **Location:** near Bangalore, Karnataka, in the hills of the **Anekal range**.
- Founded in 1971, the park was given the **status of a national park in 1974**.
- In 2002, a portion of the park became a biological reserve, the **Bannerghatta Biological Park**.
- It is the **first biological park in India** to have a **fenced, forested elephant sanctuary**.
- In 2006, **India's first butterfly enclosure** was inaugurated at the park.
- **Suvarnamukhi stream**, the main source of water for the animals of the park, runs through the centre of the park.
- It also acts as an **important corridor for the elephants migrating from the Eastern Ghats to the Western Ghats**
- **Vegetation:** Dry Deciduous Scrub Forests, Southern Tropical Dry Deciduous Forests and Southern Tropical Moist Mixed Forests.

- **Flora:** Narcissus latifolia, Schleicheria oleosa, Sandalwood, Neem, Tamarind, Bamboo, Eucalyptus etc.
- **Fauna:** Prime habitat for several species, including the endangered Asian Elephant, Indian gaur, Tiger, Sambar deer, Spotted deer etc.

174. NCERT material on Chandrayaan draws ire for 'mixing science with mythology'

The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- Reading material suggested by the **National Council of Educational Research and Training (NCERT) on Chandrayaan-3** for schoolchildren has drawn the ire of rationalists
- The material **mixed science with mythology.**

Prelims Takeaway

- Chandrayaan-3

Key Highlights

The Issue at Hand

- Reading material recommended by the **National Council of Educational Research and Training (NCERT) on Chandrayaan-3**, aimed at schoolchildren, has sparked controversy
 - for allegedly "mixing science with mythology."

Criticism from Educationists and Student Organizations

- Critics have **questioned the use of ancient knowledge and mythology** in today's scientific achievements
- They have suggested that such references **hinder progress.**
- They emphasize the **need to encourage rational and scientific thinking** among students.

Demands for Withdrawal

- Critics argue that this approach is detrimental to scientific thinking and progress, and they call for the withdrawal of the reading module **to promote rational and scientific temper among students.**

175. Food labels to have QR code to help the visually disabled -The Hindu

Relevance: Food processing and related industries in India- scope and significance, location, upstream and downstream requirements, supply chain management.

News:

- **The Food Safety and Standards Authority of India (FSSAI)** has recommended the use of **quick response (QR) codes** on food products

Prelims Takeaway

- Food Safety and Standards Authority of India

Key Highlights

- The Food Safety and Standards Authority of India (FSSAI) has **recommended the use of quick accessibility by persons with visual disabilities**
- stating that this would **ensure access to safe food for all**, including those with special needs.
- The FSSAI under its Food Safety and Standards (Labelling and Display) Regulations, 2020 has **comprehensively outlined the information to be included on the labels of food products.**
- This **includes product name, shelf life, nutrition facts, vegetarian/non-vegetarian logos, ingredient lists, allergen warnings, and other product-specific labelling requirements.**
- The information is aimed **at empowering consumers** to make informed choices when selecting food products.
- The FSSAI said that to enhance accessibility, **food business operators were encouraged to incorporate provisions that facilitate easy access to nutritional information** for visually impaired individuals.

- These QR codes should encompass comprehensive **details about the product**, including, but not limited to, ingredients, nutritional information, allergens, manufacturing date,

176. 'AI to help construction industry face challenges' -The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- **Transforming** the Construction Industry with New **Technologies**

Prelims Takeaway

- Artificial Intelligence

Introduction to Technological Transformation

- A white paper from an advisory firm discusses the potential for emerging technologies like :
 - Artificial Intelligence (AI)
 - 3D printing
 - robotics to revolutionize the construction industry, which is among the world's oldest and largest sectors.

Growth Prospects for the Construction Industry

- The construction industry, contributing 13% of global GDP, is **set to experience significant growth**, with an estimated Compound Annual Growth Rate (CAGR) of 11%.
- It is expected to expand from \$8.2 trillion to \$17 trillion by 2029, driven by factors like : government initiatives
 - lower interest rates
 - renewable energy demand
 - public-private partnerships
 - new-age technology
 - higher disposable income.

AI's Pivotal Role in Industry Transformation

- emphasizes the **critical role of AI** in reshaping the construction sector.
- **AI has the potential to address** various industry challenges and provide significant advantages:
- Throughout all project stages, from **design and financing to construction, operations**, and changes in business models.

Productivity Boost Through AI

- AI is estimated to enhance industry productivity **by an annual increase of 1% to 1.5%**.
- This boost in productivity is **crucial for addressing persistent challenges** in the construction industry, including labor shortages, an aging workforce
- In summary, the construction industry, **a significant contributor to global GDP**, is on the brink of transformation through the integration of new technologies such as AI, 3D printing, and robotics.
- These innovations hold the potential to alleviate industry challenges and substantially boost productivity, **making the construction sector more efficient and competitive**.
- The industry's growth prospects are also highlighted, further **underscoring the importance of technological adoption in this sector**.

177. Apparel and textile production witness steep declines as export orders diminish - The Hindu

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- **India's Garment Manufacturing** Faces Sharp **Contraction Amid Export Decline**

Prelims Takeaway

- Bureau of Indian Standards

Shrinking Output in the Garment Manufacturing Sector

- **India's garment manufacturing output declined** by 22.6% year-on-year in the April-August period.
- **This drastic reduction is primarily due to a steep decline in exports** and a slump in both domestic and global demand.

- The textile industry also experienced a **decline of nearly 2%** during the same period compared to the previous year.

New Sourcing Standards and Their Impact

- One key reason was the **Quality Control Order**, recently introduced by the government,
 - which mandated a Bureau of Indian Standards (BIS) certification for man-made fibers, including imports.
- This made it **challenging for textile manufacturers** to source raw materials internationally while complying with the government's specifications.

Adaptation in the Garment Industry

- Most garment exporters reduced worker shifts and **limited overtime production but emphasized that there were no job losses.**
- The recent duty drawback announcement is **expected to help revive exports.**

Slow Domestic Market

- In summary, India's garment manufacturing sector is **grappling with a significant reduction in output due** to declining exports and subdued domestic and global demand.
- **Challenges in sourcing materials and a sluggish domestic market** are contributing to this contraction, while industry leaders hope for a revival in exports.

178. India to outpace Japan as second-largest economy in Asia by 2030: S&P Global Market Intelligence- Indian Express

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- India's gross domestic product (GDP) is **expected to rise to USD 7.3 trillion by 2030**
- **it will surpass Japan to become the second largest economy** in the Asia-Pacific region, S&P Global Market Intelligence said in a recent article.

Prelims Takeaway

- FDI

Key Highlights

India's Ascension in the Asia-Pacific Region

- The projection **positions India to become the second-largest economy** in the Asia-Pacific region, surpassing Japan and Germany.
- As of the end of 2022, **India's GDP had already outgrown that of the UK and France**, making it the third-largest economy in the Asia-Pacific and the fifth-largest globally.

India's Continued Rapid Economic Expansion

- The article highlights India's impressive economic growth, **particularly in 2021 and 2022, which has continued into 2023.**

Attractiveness for Multinational Investments

- India is positioned as one of the **world's fastest-growing economies** in the coming decade, attracting multinational investments across various industries.
- The country's strong economic outlook, **favorable demographics, and rising urban household incomes** have accelerated foreign direct investment (FDI) inflows over the past decade.

Key Drivers of India's Economic Growth

- Several key factors are driving India's economic growth.
- A large and fast-growing middle class is significantly **contributing to increased consumer spending.**
- **India's domestic consumer market, combined with its substantial industrial sector**, makes it an attractive investment destination for various multinational companies, spanning manufacturing, infrastructure, and services.

Digital Transformation and E-Commerce Growth

- The ongoing **digital transformation in India is poised to bolster the growth** of e-commerce, reshaping the retail consumer market in the coming decade.
- This transformation is **luring global technology and e-commerce giants to India's domestic market.**
- By 2030, over 1.1 billion Indians are projected to have internet access, **more than doubling from the estimated 500 million internet users in 2020.**

Strong Momentum in FDI Inflows

- India has maintained strong momentum in FDI inflows over the past five years, even during the pandemic years of 2020-2022.

179. Losses from extreme events over 31 years were \$3.8 trillion- The Hindu

Relevance: Conservation, environmental pollution and degradation, environmental impact assessment.

News:

- **The year 2023 marked the conclusion of the warmest decade** on record, characterized by an increasing frequency of severe disaster events.
- The world **witnessed unprecedented extreme weather events** and large-scale disasters, further exacerbated by ongoing conflicts and the lingering COVID-19 pandemic.

Prelims Takeaway

- Cyclones

Vulnerability of Agricultural Sector

- **Agricultural activities** and livelihoods are **highly dependent on environmental conditions**, natural resources, and ecosystems.
- The **agricultural sector faces mounting threats**, including flooding, water scarcity, drought, and environmental degradation.
- Examples include the **\$4 billion in agricultural sector damages** caused by exceptional monsoon rains in Pakistan in 2022
- over \$21.4 billion in crop and **rangeland losses in the U.S. in the same year.**

Impact of Disasters on Agriculture

- Data from 88 **Post-Disaster Needs Assessments (PDNAs)** conducted from 2007 to 2022 in 60 countries indicate that
 - Agricultural losses constitute an average of 23% of the overall impact of disasters across all sectors.

Key Insights on Losses

- PDNAs reveal that more than **65% of losses attributed to droughts** affect the agricultural sector,
 - Floods, storms, cyclones, and volcanic activities each contribute roughly 20%.

Regional Distribution of Losses

- From 1991 to 2021, **Asia bore the largest share of economic losses (45%)**, followed by Africa, Europe, and the Americas with comparable orders of magnitude.
- When assessing losses relative to agricultural value added, low-income countries experienced losses more than double those of upper-middle-income countries

Cost of extreme events

The charts were sourced from a report published by the Food and Agriculture Organization titled "The Impact of Disasters on Agriculture and Food Security 2023"



Chart 1: The chart shows the number of disasters by EM-DAT^a grouping and total economic losses in \$ billion

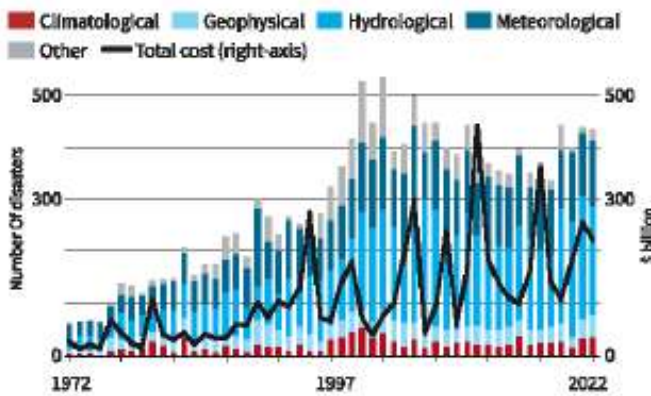


Chart 2: The chart shows the share of loss in agriculture by hazard type. About 65% of losses were caused by droughts

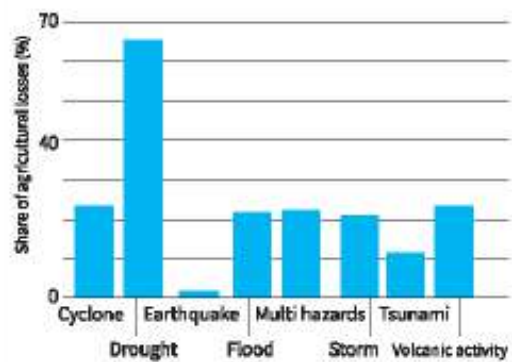


Chart 3: The chart shows the estimated loss in various product groups (in million tonnes) between 1991 and 2021

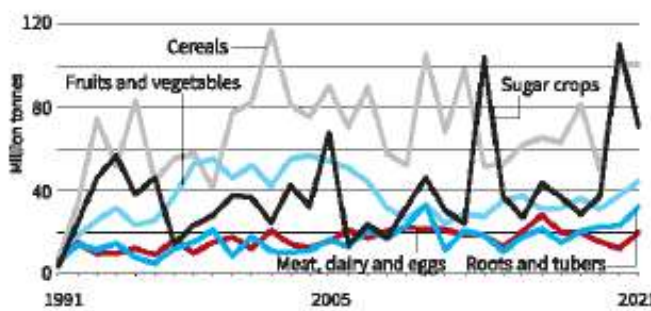


Chart 5: The chart shows total agricultural losses as a share of agricultural GDP by country groups (1991-2021)

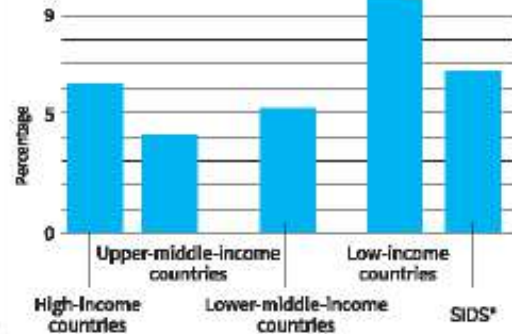
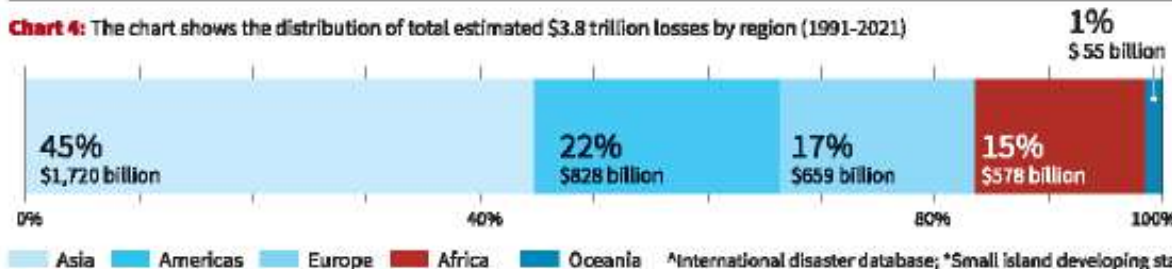


Chart 4: The chart shows the distribution of total estimated \$3.8 trillion losses by region (1991-2021)



^aInternational disaster database; ^{*}Small island developing states

180. ISA to release report on global adoption of solar technology in November - The Hindu

Relevance: Conservation, environmental pollution and degradation

News:

- The **International Solar Alliance (ISA)** is set to produce its **first "global solar stock-take report"**.
- Here, the countries will **report on actions taken to transition away from fossil fuels and combat global warming**.
- This initiative is inspired by the **United Nations Conference of Parties' "Global Stocktake"** scheduled in Dubai.

Prelims Takeaway

- International Solar Alliance
- Solar Energy
- Global Stocktake Report

Global Solar Stock-Take Report

- The ISA, **driven by India and France**, will release a report in mid-November **to assess the progress** made by member countries **in solar technology adoption**.
- This report is part of the ISA's efforts **to expand the use of solar energy worldwide**.

Solar Investment Growth

- **Investment in solar energy has been substantial**, with approximately \$300 billion in 2020 and \$380 billion in 2022.
- However, **much of the manufacturing is concentrated in China**, and the stocktake will explore ways to diversify manufacturing locations.

Global Solar Facility (GSF)

- The ISA has established the GSF to **increase solar installations in Africa and expand into West Asia, Latin America, and the Caribbean**.
- The GSF **includes three funds** namely
 - a payment guarantee fund
 - an insurance fund to mitigate project risks
 - an investment fund for technical assistance

Global Solar Capacity

- As of 2022, global solar photovoltaic installations reached **1,133 gigawatts (GW)**, with 191 GW added in 2022.
- **China**, a non-ISA member, **accounts for nearly a fourth of this capacity**, followed by the United States and India.

Solar's Role in Energy Transition

- The ISA focuses **exclusively on renewables and solar energy**, emphasising its **reliability, dependability, and availability throughout the year**.
- The Indian Minister for Power and Renewable Energy believes that **solar energy plays a critical role in achieving universal energy access**.

181. Centre approves ₹22,303-cr. subsidy on key fertilizers - The Hindu/ Centre approves Rs 22,303 cr fertiliser subsidy for rabi season - Indian Express

Relevance: Issues related to direct and indirect farm subsidies and minimum support prices

News:

- The Union Cabinet recently approved a **Rs 22,303 crore subsidy on P&K fertilisers** for the current Rabi season.
- **Objective:** To ensure farmers continue to get soil nutrients at reasonable rates despite high global prices.

Prelims Takeaway

- Fertilizer Subsidy
- Nutrient Based Subsidy Scheme

Fertilizer Subsidy

- The government pays a **subsidy to fertiliser producers** to make this critical ingredient in agriculture affordable to farmers.
- This allows farmers to **buy fertilisers at below-market rates**.

- The **difference** between the cost of production/import of a fertiliser and the actual amount paid by farmers is the **subsidy portion borne by the government**.

Subsidy on Urea

- The Centre pays **subsidies on urea to fertiliser manufacturers** on the basis of cost of production at each plant and the units are required to sell the fertiliser at the **government-set Maximum Retail Price (MRP)**.

Subsidy on Non-Urea Fertilisers

- The MRPs of non-urea fertilisers are **decontrolled or fixed by the companies**.
- The Centre, however, **pays a flat per-tonne subsidy** on these nutrients to ensure they are **priced at "reasonable levels"**.
- **Examples of non-urea fertilisers:** Di-Ammonium Phosphate (DAP), Muriate of Potash (MOP).
- All Non-Urea based fertilisers are regulated under **Nutrient Based Subsidy Scheme**.

182. In a first, Army gets vertical wind tunnel to train special forces - The Hindu

Relevance: Defence

News:

- Recently, the **Army's Special Forces Training School (SFTS)** in Bakloh, Himachal Pradesh received the Army's **first Vertical Wind Tunnel (VWT)**.

Prelims Takeaway

- Vertical Wind Tunnel

Purpose of the VWT

- It will **enhance the training infrastructure** for special forces and combat free-fallers.
- It is designed to **refine the Combat Free Fall (CFF) skills of armed forces personnel**.
- It **serves as a freefall simulator**, generating a controlled column of air at specific velocities to simulate various CFF conditions.
- This enables trainees to **practice and enhance their skills in conditions similar to real-life freefalls**.

Advantages

- The integration of the VWT into the SFTS curriculum offers several advantages.
- It allows for the simulation of different freefall scenarios, essential for **evaluating individual responses in an airborne operating environment**.
- The system **helps reduce instability during freefall and parachute deployment**, aiding trainees in acclimating to freefall conditions.

183. Contours of joint theatre commands ready, await Govt nod before tweaks - Indian Express

Relevance: Defence

News:

- India's Armed Forces have reached the **final stages of developing the structure for integrated theatre commands** which includes a plan to appoint theatre commanders.
- These commanders will **operate under a national defense committee**, with the possibility of the committee **being led by the Defense Minister**.
- The integrated theatre commands **aim to bring together the Army, Navy and Air Force resources** to enhance jointness and operational efficiency.

Prelims Takeaway

- Integrated Theatre Commands

Key Points

1. Theaterization Plans

- India is working on theaterization plans **to integrate its armed forces and streamline their operations.**
- These plans seek to **create specific theater commands** that will **handle operations in distinct geographic regions.**

2. Defense Committee

- The proposed national defense committee, likely to be **led by the Defense Minister, will oversee the work of theater commanders.**
- **Members of the Chiefs of Staff Committee (COSC)** are also expected to be part of this committee.
 - The COSC includes the three service chiefs and the Chief of Defense Staff (CDS).

3. Roles of Service Chiefs

- Earlier discussions suggested that **the service chiefs would primarily focus on raising, training, and sustaining their respective services.**
- On the other hand, **operational roles would be entrusted to theater commanders.**
- However, there is ongoing discussion about **retaining some operational roles for the service chiefs.**

4. Theater Command Locations

- Three theater commands are **set to be established initially**
 - One facing Pakistan
 - Another opposite China
 - A maritime theater command to address maritime threats beyond India's coastal borders
- These theater commands are likely to be **located in Jaipur, Lucknow and Karwar** respectively.
- India may integrate existing tri-service agencies such as **cyber, space, and special operations into a fourth theater command** in the future.

5. Enhancing Jointness

- Efforts to promote jointness among the Army, Navy, and Air Force are already underway, with **limited cross-postings and restructuring.**

184. Nearly half a million Indians migrated to OECD countries in 2021: Report - Down to Earth

Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

News:

- Recently, the '**International Migration Outlook 2023**' report was released highlighting key trends in international migration.
- According to it, **India witnessed the highest migration flows to the Organisation for Economic Co-operation and Development (OECD) countries in 2021 and 2022.**

Key Highlights

1. India Leads Migration to OECD Countries

- In 2021, **India was the top country of origin for new migrants to OECD countries** with 0.41 million new migrants.
 - The OECD is an association of 38 member countries, primarily rich developed nations that attract migrant workers and students.
- Partial data suggests that **India maintained this position in 2022 as well.**
 - China and Romania were distant second and third, respectively.
- **India has been the main source of new citizens in OECD countries since 2019,** despite a recent 15% decrease compared to 2019.

Prelims Takeaway

- International Migration Outlook 2023
- Organisation for Economic Co-operation and Development (OECD)

- In 2021, 0.13 million Indian citizens acquired the nationality of an OECD country, with the **majority becoming citizens of the United States, Australia, and Canada.**
- 2. Climate-Induced Displacement**
 - Policy responses to **displacement influenced by climate change have gained attention** from policymakers and the international community.
 - However, few OECD countries have introduced **explicit policies to address climate-induced displacement.**
 - 3. Refugee Inflows:** Due to the **Russia-Ukraine war**, the OECD saw record-high inflows of refugees from Ukraine.
 - 4. Worker Migration:** In terms of workers, migration flows from **India, Uzbekistan and Turkey rose sharply**, making them primary countries of origin after Ukraine.

185. A new genus of anaerobic lignocellulose-degrading bacteria with hydrogen production capability found in a hot spring from Maharashtra - DST

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- Recently, researchers discovered a **new genus of anaerobic bacteria** in the **hot spring of Aravali, Maharashtra, India.**
- These bacteria are **capable of breaking down lignocellulosic waste and producing hydrogen gas as a byproduct.**
- This finding holds the potential to **contribute to clean and renewable energy sources.**

Prelims Takeaway

- Sporanaerobium hydrogeniformans
- Renewable Energy

Sporanaerobium hydrogeniformans

- It belongs to the **Lachnospiraceae family**, known for its efficient **polysaccharide degradation abilities.**
- It can **break down cellulose and xylan**, key structural components of **lignocellulosic agricultural waste.**
- It is of **industrial interest** due to its **production of thermostable hydrolytic enzymes.**
 - This makes it a candidate for **biohydrogen generation from agricultural waste**, aligning with India's waste-to-energy legislation.
- This bacterium **can use hexose and pentose sugars concurrently**, a characteristic rare among bacteria.
 - This makes it essential for **industrial biofuel production.**
- It possesses a special metabolic route for **converting a variety of simple and complex substrates into hydrogen and ethanol.**
- The discovery opens up possibilities for **research into renewable hydrogen production**, potentially reducing reliance on fossil fuels.
- It highlights the **importance of studying microorganisms in extreme environments** like hot springs, where unique and valuable species may be found.

186. India's green hydrogen move may worsen pollution if steps are not in place, says study - The Hindu

Relevance : Indigenization of technology and developing new technology.

News :

- India's plans to produce 'green hydrogen' where the gas is produced **without resulting in fossil fuel emissions.**
- The process **might end up worsening** pollution if proper checks and balances are not in place.
- A study has been **presented by** environmental and energy think-tank, Climate Risk Horizons (CRH).

National Green Hydrogen Mission

- India's National Green Hydrogen Mission, **expects to manufacture** five million tonnes by 2030.

- The mission is **piloted** by the Ministry of New and Renewable Energy (MNRE).
- This **would require** the installation of **renewable energy capacity** worth 125 GW (1 GW is 1,000 megawatts) and the use of 250,000 gigawatt-hr units of power.
- This requirement is **equivalent to** about 13% of India's present electricity generation.

The Present Status of the Renewable Energy Capacity of India

- As of August 2023, India's total renewable energy (RE) **capacity** (excluding hydropower dams bigger than 25 MW) **stood at** 131 GW.
- The 2030 green hydrogen plan thus envisages **adding an equivalent RE** capacity by 2030.
- This is **over and above** the 500 GW of RE capacity that India has committed to install by 2030 as part of its Nationally Determined Contribution under the Paris Agreement.
- To put that in perspective, India **installed only** 15 GW of new solar and wind capacity in 2023, against the 45 GW per year needed to reach the 2030 target.

Using coal-based power

- The MNRE has **defined green hydrogen** as hydrogen produced in a way that emits **no more than 2 kg of carbon dioxide per kg** of such hydrogen.
- **Currently**, producing 1 kg of 'grey hydrogen', as it is known, ends up emitting **9 kg of carbon dioxide**.
- While a **detailed methodology** is awaited, the definition as it stands leaves a lot to interpretation.
- The main concern is **that if electrolyzers**, which split water to produce hydrogen and oxygen, **were run 24x7**, they would be expected to operate even at night when no solar power is available.
- This would then **mean tapping into conventional** coal-fired electricity.
- India's coal-powered grid in general, it will in fact **increase carbon emissions**, since about 70% of the electricity on the grid is coal-generated more in non-daylight hours when solar generation is nil.
- The vast majority of **projects have not disclosed** their source of electricity. It is also not clear **if those few projects that have committed** to meet 100% of their requirement from these sources.

Costly Diversion

- AS per report, another challenge is that India's standards **allow the use of biomass** or the production of green hydrogen
- This **also results in** carbon emissions when burnt.
- Moreover, **diverting scarce renewable energy capacity** towards the production of green hydrogen might mean inadequate clean electricity being made available for consumers.
- India's **ambitious renewable energy target** of 450 GW by 2030 already requires huge investment.
- The green hydrogen mission **will require an additional** 125 GW of RE.
- The MNRE needs to **guard against the risk** that **finance** for RE projects that would otherwise decarbonise the electricity grid will instead be diverted to produce green hydrogen.
- This would :
 - delay India's **journey to net zero**
 - undermine a **nascent industry**.
 - deny States and electricity consumers the **cost benefits** that cheap renewable energy has to offer.

Expectations for Future

- Several large power utilities in India have announced **ambitious plans** to scale up green hydrogen production.
- The Centre's green hydrogen mission has **committed nearly** ₹20,000 crore to develop and expand the industry.

187. Punjab farm fires down by 53%, but air quality likely to worsen in Capital - The Hindu/ City's AQI may hit 'very poor', brace for worse this weekend - Indian Express

Relevance: Conservation, environmental pollution and degradation

News:

- According to the Centre's **Air Quality Early Warning System**, Delhi's air quality remained in the 'poor' category for the fourth day in a row.
- It is expected to **deteriorate further over the weekend.**

Prelims Takeaway

- National Air Quality Index
- Graded Response Action Plan

The Reasons

- Delhi experiences a significant increase in air pollution **due to the prevailing northwest wind direction.**
- The **rising number of farm fires in Punjab and Haryana** is expected to contribute to Delhi's pollution levels.

National Air Quality Index

- Launched in **2014** with outline '**One Number - One Color - One Description**' for the **common man to judge the air quality** within his vicinity.
- **Developed by the CPCB** in consultation with **IIT-Kanpur** and an expert group comprising **medical and air-quality professionals.**
- The **measurement** of air quality is based on **eight pollutants**
 - Particulate Matter (PM10)
 - Particulate Matter (PM2.5)
 - Nitrogen Dioxide (NO2)
 - Sulphur Dioxide (SO2)
 - Carbon Monoxide (CO)
 - Ozone (O3)
 - Ammonia (NH3)
 - Lead (Pb)
- AQI has **six categories of air quality** namely **Good, Satisfactory, Moderately Polluted, Poor, Very Poor and Severe.**

Graded Response Action Plan

- Formulated in **2016** and notified in 2017 for **Delhi and the National Capital Region (NCR).**
- These are **institutionalised measures** to be taken when air quality deteriorates, hence works only as an **emergency measure.**
- It includes the measures to be taken by **different government agencies**
 - To prevent worsening of Air Quality of Delhi-NCR
 - To prevent PM10 and PM2.5 levels from going beyond the 'moderate' national Air Quality Index (AQI) category.
- If air quality reaches the **severe+ stage**, GRAP talks about **shutting down schools** and **implementing the odd-even** road-space rationing scheme.

188.ISRO to hold more tests for Gaganyaan in coming months - The Hindu

Relevance:Achievements of Indians in science & technology; indigenization of technology and developing new technology.

News:

- Following the recent **successful Test Vehicle-D1 (TV-D1) mission**, ISRO has planned **additional test missions for the Gaganyaan program**.

Prelims Takeaway
<ul style="list-style-type: none"> • Gaganyaan Mission • Test Vehicle-D1 Mission • ISRO

Upcoming Test Missions

- They include **TV-D2, the G-X unmanned orbital demonstration flight, Integrated Air-Drop Test (IADT)** and a **Pad Abort Test**.
- **The G-X mission**
 - It will feature an **unmanned crew module with a service module**, along with the **'female' robot astronaut Vyommitra**.
 - It will **test control systems, a "reduced version" of the life support system, thermal protection systems, and parachute systems**.
- **The TV-D2 mission**
 - It will demonstrate **in-flight abort capability** under different initial conditions compared to the launch vehicle.
 - It will have a **control system for reorienting the crew module's attitude** after separation.

Reusing TV-D1 Crew Module

- TV-D1 demonstrated the **in-flight abort of the Crew Escape System (CES)** at 1.2 Mach speed and **crew module recovery from the sea**.
- ISRO is exploring the **possibility of reusing the TV-D1 crew module** recovered from the sea after a parachute-assisted splash-down.

189.Tax base widens, trend of migration of individuals towards higher income: CBDT - Indian Express/ 'Super rich' incomes' share ebbing amid middle-class mobility: CBDT - The Hindu

Relevance: Economy

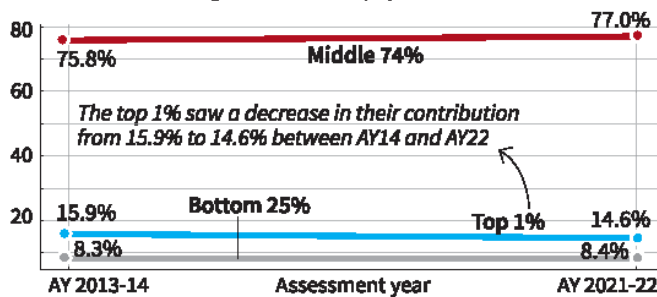
News:

- **Individual tax returns increased** to 6.37 crore in Assessment Year (AY) 2021-22 from 3.36 crore in AY 2013-14, marking a **90% increase over nine years**.
- The Central Board of Direct Taxes (CBDT) attributes this growth to **measures taken by the Income Tax Department** and suggests **robust growth in the gross total income of individuals**.

Prelims Takeaway
<ul style="list-style-type: none"> • Central Board of Direct Taxes (CBDT) • Income Inequality

Marginal shift in contributions

There has been a subtle change in the gross total income contributions among individual taxpayers



Income Groups and Trends

- Returns filed in the **income range of Rs 5-10 lakh and Rs 10-25 lakh by individual taxpayers increased** by 295% and 291% from AY 2013-14 to AY 2021-22, respectively.
- This indicates a **positive trend of migration to higher income groups** among individual taxpayers.

CBDT Response on Income Inequality

- The proportionate contribution of gross total income of the **top 1% individual taxpayers decreased** from 15.9% in AY 2013-14 to 14.6% in AY 2021-22.
- The contribution of the gross total income of the **bottom 25% individual taxpayers increased** from 8.3% in AY 2013-14 to 8.4% in AY 2021-22.
- The **average gross total income for individual taxpayers increased** from about Rs 4.5 lakh in AY 2013-14 to about Rs 7 lakh in AY 2021-22, a 56% increase.

190. India hosting meeting of the United Nations Forum on Forests to deliberate on forest fires and forest certification - PIB

Relevance: Conservation, environmental pollution and degradation

News:

- The Ministry of Environment, Forest and Climate Change is organising a **Country-Led Initiative (CLI) event** as part of the **United Nations Forum on Forests (UNFF)**.

Prelims Takeaway

- United Nations Forum on Forests
- Sustainable Forest Management
- Forest Certification

United Nations Forum on Forests (UNFF)

- UNFF focuses on **managing, conserving, and sustainably developing various types of forests worldwide**.
- It was **established in 2000** by the **UN Economic and Social Council of the United Nations (ECOSOC)**.
- The forum has **universal membership**, and is **composed of all Member States of the United Nations and specialised agencies**.
- **India is a founding member** of UNFF.

Purpose of the Country-Led Initiative (CLI)

- The CLI aims to **contribute to UNFF discussions** regarding **implementation of Sustainable Forest Management (SFM) and the UN Strategic Plan for Forests (UNSPF)**.
- It facilitates the **exchange of best practices** among UNFF member states for SFM and UNSPF implementation.
- Thematic areas of discussion, this year, include **forest fires and forest certification**.

Forest Fires

- The world has experienced a significant increase in the scale and duration of wildfires, impacting biodiversity, ecosystems, human well-being, livelihoods, and national economies.
- Approximately 100 million hectares, or 3% of the world's forest area, are affected by fires annually.
- Forest fires have led to unhealthy air quality, loss of human lives, and significant property damage.

UN Forest Instrument and Concerns

- The UN Forest Instrument **promotes sustainable forest management through voluntary instruments** like certification systems.

- Forest Certification Is a mechanism for forest monitoring, tracing and labelling timber, wood and pulp products and non-timber forest products.
- It is a process through which quality of management from environmental, social and economic perspectives is judged against a series of agreed standards.
- Some countries view certification measures and requirements **as trade challenges or market barriers**.
- Others see it as **essential for Sustainable Forest Management** and preventing degradation or deforestation.
- A concern is that most consumer markets **recognize certification from select certifying bodies**, disadvantaging others.

191. Dark pattern sales by airlines, online agents deemed 'cybercrime' - The Hindu

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News:

- The Consumer Affairs Secretary recently stated that **online malpractices by airlines, travel portals are "cybercrime"** and amounted to "**dark patterns**".

Prelims Takeaway

- Dark Patterns
- e-commerce

Dark Patterns

- Also known as **deceptive patterns**, they refer to **design elements that manipulate users into making unintended purchases**.
- These patterns **often exploit cognitive biases** and employ tactics such as **false urgency, forced actions, hidden costs etc**.
- They can range from **overtly noticeable tricks to more subtle methods** that users may not immediately recognize.

Types of Dark Patterns

- **False urgency:** Creates a sense of urgency or scarcity to pressure consumers into making a purchase or taking an action.
- **Basket sneaking:** inclusion of additional items at the time of checkout without the consent of the user.
- **Confirm shaming:** using a phrase, video, audio or any other means to create a sense of fear or shame or ridicule or guilt in the mind of the user.
- **Forced action:** Pushes consumers into taking an action they may not want to take, such as signing up for a service in order to access content.
- **Subscription traps:** Easy to sign up for a service but difficult to quit or cancel; option is hidden or requires multiple steps.
- **Bait & switch:** Advertising a certain product/ service but delivering another, often of lower quality.
- **Nagging:** Users face an overload of requests, information, options, or interruptions; unrelated to the intended purchase of goods or services, which disrupts the intended transaction.
- **Disguised ads:** Designed to look like content, such as news articles or user-generated content.
- **Interface interference:** The design element that manipulates the user interface
- **Drip pricing:** Practice where elements of prices are not revealed upfront

192. Launch of Reference Fuels fosters vision of AtmaNirbhar Bharat: Petroleum Minister Hardeep S Puri - PIB

Relevance: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

News:

- Recently, the Union Minister of Petroleum & Natural Gas launched the '**Reference Gasoline and Diesel Fuels**' produced by IndianOil for the **first time in India**.

Prelims Takeaway

- Reference Fuels
- AtmaNirbhar Bharat

Reference Fuels

- Reference fuels are **premium, high-value products** that are **used for calibration and testing of vehicles** by automobile manufacturers and testing agencies.
- **IndianOil** has successfully commenced the **production of Reference Gasoline and Diesel Fuels** for the first time in India.
- These indigenously developed products **will lead to import substitution** at better price and a **shorter lead time** for the vehicle manufacturers.
 - The demand for Reference Fuels in India **is currently met by imports from other countries**.
- **Reference Gasoline fuels** will be available in **E0, E5, E10, E20, E85, and E100** from Flagship Paradip Refinery.
- **Reference diesel fuel** shall be available in **B7 grade** from Panipat Refinery.

Energy Security Strategy

- He also discussed the **four-pronged energy security strategy**, guided by the Prime Minister's vision.
- It **includes**
 - diversifying energy supplies
 - increasing exploration and production
 - transitioning to a gas-based economy
 - promoting green hydrogen and electric vehicles

193. Punjab farm fires down by half than last yr - Indian Express

Relevance: Conservation, environmental pollution and degradation

News:

- Recently, Punjab recorded **approximately 50% fewer stubble burning incidents** during 2023 compared to the same timeframe in 2022.

Prelims Takeaway

- Stubble Burning
- Ex-situ Stubble Management

Stubble Burning

- It is a method of **removing paddy crop residues from the field to sow wheat** from the last week of September to November.
- It is a process of **setting on fire the straw stubble**, left after the harvesting of grains, like paddy, wheat, etc.
- It is usually required in areas that use the **combined harvesting method** which leaves crop residue behind.
- It is a common practice in **October and November across North West India**, but primarily in Punjab, Haryana, and Uttar Pradesh.

Ex-situ Stubble Management

- The reduction in farm fires this year is attributed to the ex-situ stubble management program, **encouraging industries to use stubble as a fuel**.

- The program aims to **manage around 4.5 million tonnes of paddy stubble** through ex-situ methods.
- This approach involves **clearing stubble from the fields using cutter, rake, and baler machines**, which is then transported to various industries.

In-situ vs Ex-situ Methods

- In-situ stubble management involves **incorporating stubble into the soil** during wheat sowing or **allowing it to decompose gradually**.
- Ex-situ methods involve **removing stubble from the fields** and **using it as a resource**.

Government Initiatives

- The Punjab government has been **distributing stubble management machines under the Crop Residue Management (CRM) scheme** since 2018, focusing on both in-situ and ex-situ methods.
- However, there is a **growing emphasis on promoting ex-situ methods**, driven by increased demand for stubble from various industries.

194. Studies provide insight into the internal structure of Mars - The Hindu

Relevance: Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.

News:

- According to studies, **Mars's liquid iron core** is likely to be **surrounded by a fully molten silicate layer**.
- These results offer a **new interpretation of the interior of Mars**, suggesting its **core is smaller and denser** than previously proposed.

Prelims Takeway

- Interior Structure of Mars

Seismological Study of Mars

- In 2019, a seismological study of Mars was conducted using the **InSight Mars Lander and its Seismic Experiment for Interior Structure (SEIS) instrument**.
- Data from **three years of seismic activity on Mars**, including events caused by **meteorite impacts**, were analyzed in these studies.

Previous Findings

- In 2021, an analysis of the **InSight lander's SEIS project** suggested the **presence of a large but low-density core on Mars**.
- The core was **composed of liquid iron and lighter elements** like sulphur, carbon, oxygen, and hydrogen.
- This finding raised questions as **it indicated a higher proportion of lighter elements** than expected during Mars's early formation.

New Studies

- Researchers from the **Institute of Geochemistry and Petrology** and **Université Paris Cité** conducted new studies.
- They combined seismic data with simulations and geophysical models to **reevaluate the size and composition of Mars's core**.

Revised Core Composition

- The two studies propose that **Mars's liquid iron-nickel core** is surrounded by a 150 km-thick layer of **near-molten silicate rock**.
- This contradicts earlier interpretations where the **top of this layer was considered the surface of the core**.
- This revision suggests a **higher core density** than previously estimated, which **aligns better with existing knowledge** of chemical abundances on Mars.

Implications

- The presence of a **near-molten silicate layer** indicates that **its temperature is at least 2,000 Kelvin**.

- This suggests that Mars's interior was **likely more turbulent following its formation**, rather than a calmer process of heat transportation and dissipation into space.

195. IITM Pune demonstrates cloud seeding can produce rainfall - The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.
News:

- A **cloud seeding experiment, conducted in Solapur city**, which experiences low rainfall due to its location on the leeward side of the Western Ghats, **achieved an 18% relative enhancement in rainfall.**
- This experiment is known as the **Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX phase-4).**

Prelims Takeway

- CAIPEEX phase-4
- Cloud Seeding

Objective of the Experiment

- To investigate the **effectiveness of hygroscopic cloud seeding in deep convective clouds** and develop a **cloud seeding protocol.**
- The experiment utilized two aircraft to study cloud parameters and seed clouds.

Important Findings

- Cloud seeding is an **effective method for increasing rainfall in specific conditions.**
- It identified certain cloud characteristics, such as **liquid water content and vertical motion**, that indicate a **cloud's potential to produce rain.**

Seeding Process

- Targeted clouds were **those with a depth of over one kilometer** and likely to **evolve into deep cumulus clouds.**
- The clouds were seeded using **calcium chloride flares**, which **release particles at the base of warm convective clouds** during their growing stage.
- The **base of convective clouds** is typically found at
 - Altitudes of 500-1,500 meters during the summer monsoon period
 - Around 2,000 meters or higher during monsoon breaks.

Impact and Cost-Benefit Analysis

- Cloud seeding can **contribute to increasing rainfall by 18%**, partially addressing water requirements.
- **Estimated cost** of producing water through cloud seeding was **18 paise per litre**, with potential for **significant cost reduction when using indigenous seeding aircraft.**
- For regions like Solapur with limited water supply, the **additional water generated through cloud seeding can be highly beneficial.**

196. Developed countries to overshoot carbon emissions goal, says study - The Hindu

Relevance: Conservation, environmental pollution and degradation
News:

- An analysis by the Council for Energy Environment and Water (CEEW) reveals that **developed countries are on track to emit 38% more carbon in 2030** than their commitments.
- It highlights that the **United States, Russia, and the European Union are responsible for 83% of this overshoot.**

Prelims Takeway

- Nationally Determined Contributions (NDCs)
- Paris Agreement

Shortcomings in Nationally Determined Contributions (NDCs)

- The NDCs of developed countries **fall short of the global target** of **reducing emissions to 43% below 2019 levels** necessary to limit temperature rise to 1.5°C.
- Instead, **developed countries' combined NDCs only amount to a 36% reduction.**

Historical Emission Reductions and Pandemic Impact

- Developed countries were obligated to reduce emissions
 - by 5% from their 1990 levels between 2008 and 2012
 - by 18% from 2013 to 2020

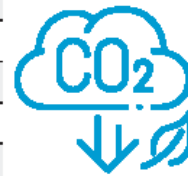
- While they **achieved a 20% reduction**, a substantial portion of these cuts was due to the **unplanned impact of the COVID-19 pandemic**, which led to a **global economic slowdown**.

Missing targets

Developed countries are projected to emit 38% more carbon in 2030 than they have committed to

Party	2030 NDC target	Projected 2030 reduction
U.S.	50%	22%
Russia	70%	48%
Japan	46%	45%
U.K. and Northern Ireland	68%	56%
Canada	40%	30%
EU	55%	44%
Norway	55%	57%
Kazakhstan	15%	14%

■ Japan and Kazakhstan are set to miss their target by one percentage point



2030 Targets and the Net Zero Goal

- Many developed countries have pledged to **achieve net-zero carbon emissions by 2050**.
- To reach this goal, they **need steady, measurable emissions reductions** each decade until 2050.
- The study reveals that **developed countries** are likely to **achieve only an 11% reduction by 2030**, falling far short of the necessary 43%.
 - This is based on the current emissions trajectories,

Impact on Developing Countries

- This shortfall in emissions reductions **places a heavier burden on developing countries** to address climate change.
- The **financial support promised by developed countries** to aid renewable energy infrastructure in developing nations **has not materialized**.
 - This is leading to **challenges in achieving emission reduction targets**.

Recommendations

- Developed countries should **create clear year-on-year reduction plans** to meet their targets during the critical decade leading to 2030. To build trust, developed nations need to **remain committed to the Paris Agreement** and **not postpone deep emission cuts** until after 2030.

197. Chinese vessel begins research off the coast of Sri Lanka amid India's concerns - The Hindu

Relevance: India and its neighbourhood- relations.

News:

- Chinese **research vessel** Shiyan 6 has arrived at Sri Lanka's' coast.
- It is set to **begin its two-day research** off the Sri Lankan coast
- This has led to the **raising of the concerns** by India and the United States.

Prelims Takeaway

- SAGAR
- Strings of Pearl

Background

- The research will be pursued off Sri Lanka's **western coast**.
- **In collaboration** with Sri Lanka's National Aquatic Resources Research and Development Agency (**NARA**) and the University of Ruhuna.

- It is marine scientific research. Earlier the Sri Lankan Authority said that the vessel was at the Colombo port for “replenishment”.
- Both, India and the US **raised concern** over the vessel’s visit

Visits by Various Countries on Sri Lanka’s Ports

- In September 2023, ‘INS Delhi’, India’s **first indigenously built destroyer** undertook a goodwill visit to Sri Lanka.
- In October 2023 ‘ROKS Gwanggaeto the Great’ of the **Korean Navy** and Japan Maritime Self-Defense Force (**JMSDF**) **destroyer** AKEBONO (DD 108) arrived at the Trincomalee harbour.
- Trincomalee **harbour** is **located** on Sri Lanka’s north-eastern coast, on an official visit.

No Transparency of Sri Lanka on Chinese Marine Visit

- Sri Lankan **assured** Standard Operating Procedure (**SOP**) would be followed to clear visits of foreign vessels.
- The **SOP to vet** foreign warships, aircraft, and Marine Scientific Research (MSR) ships, earlier approved by the Cabinet and later subject to revisions.
- This procedure has **not been followed** in the case of the visit of the Chinese Vessel on Sri Lankan Port.

India’s concern in Sri Lanka in the backdrop of China-India relations.

- The Chinese “Forum on the Development of Indian Ocean Island Countries” **sounded in opposition** to India’s SAGAR (Security and Growth for All in the Region) initiative.
- China has **formal control** over Sri Lanka’s Hambantota port as a part of a 99-year lease.
- A Special Economic Zone **around the** Colombo port city and a new economic commission are funded by China.
- Through **leasing of ports** the Chinese navy to have a permanent presence in the Indian Ocean.
- This Chinese strategy to encircle India is referred to as the Strings of Pearls Strategy and can be executed through such ports.

198.FM urges closer global cooperation to halt smuggling, nab masterminds - The Hindu/ FM calls for inter-govt cooperation to curb smuggling, catch masterminds - Indian Express

Relevance: Role of external state and non-state actors in creating challenges to internal security.

News:

- Finance Minister called for **intergovernmental cooperation** to curb smuggling
- This will help in **catching the “brain”** behind such activities instead of smaller fry.
- FM also demanded that **antiques** from museums across the world **should be returned** to their respective countries.

Prelims Takeaway

- World Customs Organization
- Global Conference on Cooperation in Enforcement Matters

India’s Voice on Smuggling Matters.

- Technology and actionable information **are important tools** in curbing smuggling.
- Smuggling **endangers** wild flora and fauna.
- The issue was **discussed** at the Global Conference on Cooperation in Enforcement Matters organised by the Directorate of Revenue Intelligence (DRI).
- The **nature** of smuggled or illegally traded goods has not changed over the last 50-60 years
- It **includes** precious metals, narcotics, and precious reserves from forest or marine life.
- The World Customs Organisation **can play in curbing** smuggling.
- Gold, cigarettes, narcotics, antiques and wildlife materials **are priority smuggling items.**

Way Forward

- Smuggling is a **multidimensional** issue with a detrimental impact on the economy of a country and national security,
- Sharing intelligence, increasing communication, and implementing joint operations to identify and intercept smuggled goods can **help in stopping** it.

199. Researchers identify a new mushroom species from the Western Ghats - The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.

News:

- Recently, a **new mushroom species** has been found on the campus of the **Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI)** in Palode, India.

Prelims Takeaway

- Candolleomyces albosquamosus
- Western Ghats

Candolleomyces albosquamosus

- Researchers identified and described the new species as a **member of the Candolleomyces genus**, a relatively **small genus with only 35 recognized species globally**.
- The newly discovered species, named **Candolleomyces albosquamosus**, is **characterized by**
 - its small size
 - honey-yellow cap with white woolly scale-like structures
 - cylindrical white stem i.e. 'stipe'
- It reaches a **height of approximately 58 mm**.
- The honey-yellow coloured pileus **turns brownish-gray or brownish-beige with age**.
- Its habitats include **dead logs or bamboo culms** in the natural forest.

Significance of the Discovery

- The discovery is important not just **because a new species was found**, but also because mushrooms play a crucial role in the **decomposition of plant litter in tropical forests**, especially in the Western Ghats region.
- This discovery sheds light on the **rich biodiversity of the Western Ghats** and **encourages further exploration of fungal diversity** in the region.

200. LAUNCH OF 25T BOLLARD PULL TUG 'MAHABALI' - PIB

Relevance: Indigenization of technology and developing new technology.

News:

- Recently, the **Indian Navy** commissioned **Mahabali Tug** at Shoft Shipyard Pvt. Ltd., Gujarat.

Prelims Takeaway

- Mahabali Tug
- Indian Register of Shipping
- Bollard Pull tug

Mahabali Tug

- India **has launched** the 25 ton Bollard Pull Tug named "Mahabali".
- The tug is **indigenously developed by** Shoft Shipyard located in Bharuch, Gujarat.

Features of the Tug

- It is **one of three** such tugs commissioned by India.
- It is a **collaborative effort** between the Ministry of Defence and the Shipyard.
- It is within the **classification** rules set forth by the Indian Register of Shipping (IRS).

Significance of the Tug

- It **will aid** naval ships and submarines during berthing and unberthing operations,
- It **will help** marine vessels in navigating through confined waters.
- It is **equipped** to enhance firefighting capabilities for ships.
- It can **aid in** limited Search and Rescue Operations.

Quick Look

1. Kaimur Wildlife Sanctuary

- It is the largest sanctuary located in the Kaimur District of Bihar nestled in the Vindhyaachal hill ranges.
- It forms a very important catchment for the Kav, Sone and Durgawati river systems with important tributaries.
- Vegetation: This region has a thick covering of mosaic prairie, tropical dry deciduous backwoods, and swampy bogs.
- Fauna: The main animals found are Bengal tigers, Indian leopards, Indian boars, sloth bears, sambar deers, chitals, four-horned antelope and nilgais.
- Flora: The plants found here include Salai (*Boswellia Serrata*), Siddha, Indian Rosewood (*Sheesham*), Jamun, Teak, Koraiya, Saal, and Jheengarare some species of plant life.

2. Kalakkad-Mundanthurai Tiger Reserve

- It is located in the Southern Western Ghats in the Tirunelveli and Kanyakumari districts of Tamil Nadu.
- This reserve is a mixture of three main sanctuaries viz. Kalakad Sanctuary, Mundanthurai Sanctuary and a part of Kanyakumari Sanctuary.
- It is also known as the “River Sanctuary”, with as many as 14 rivers originating from this Tiger Reserve.
- Terrain: Undulating with several valleys and porous rocks.
- Its vegetation varies from thorny shrub jungles to lush evergreen forests.
- In addition to forests, savannah woodlands, and grasslands, there are tea and coffee plantations within the reserve.
- Flora: Important species include *Sarcandra*, *Paphiopedulum druryi*, *Hopea parviflora*, *Hopea utilis*, *Calophyllum elatum*, *Cullenia exarillata*, etc.
- Fauna: Tiger, leopard, rusty spotted cat, wild dog, sloth bear, elephant, gaur, sambar, spotted deer, mouse deer, nilgiri langur, slender loris, bonnet macaque, lion tailed macaque, etc.

3. Badis limaakumi

- It is a new badis fish species discovered in Nagaland.
- It is locally known by many names, like “Tepdang” or “Aknghashi (Chungli)” or “Aokngatsu (Mongsen)” or “Sempi” etc.
- It appears black in its natural habitat but undergoes a remarkable colour change when placed in an aquarium or different environments.
- Key Features
 - It has a comparatively large and slender body.
 - Absence of blotches on the sides and fins, as well as on the cleithrum.
 - Large number of lateral-line scales.

4. Sela Tunnel Project

- It is located in the West Kameng district of Arunachal Pradesh.
- Once completed, the Sela tunnel will be the world's longest bi-lane tunnel at an altitude above 13,000 feet.
- It will ensure all-weather connectivity between Guwahati in Assam and Tawang in Arunachal Pradesh.
- It is being excavated below the Sela Pass on the NH-13 component of the Trans-Arunachal Highway system.
- It is being built by the Border Roads Organisation (BRO) under Project Vartak and the tunnel's construction commenced on April 1, 2019.

5. Pygmy Hog

- It is the smallest and rarest species of wild pig in the world.
- It is one of the very few mammals that build its own home, or nest, complete with a 'roof'.
- It is an indicator species as its presence reflects the health of its primary habitat, tall and wet grasslands.
- It prefers undisturbed patches of grassland dominated by early succession riverine communities, typically comprising dense tall grass intermixed with a wide variety of herbs, shrubs and young trees.
- Currently, the viable population of this pig in the wild is in the Manas Tiger Reserve in Assam.
- Conservation status
 - IUCN: Critically Endangered
 - The Wildlife Protection Act, 1972: Schedule I

6. Seamount

- It is an underwater mountain formed through volcanic activity recognised as hotspots for marine life.
- Like volcanoes on land, seamounts can be active, extinct, or dormant volcanoes.
- These are formed near mid-ocean ridges, where the earth's tectonic plates are moving apart, allowing molten rock to rise to the seafloor.
- Some seamounts have also been found near intraplate hotspots and oceanic island chains with volcanic and seismic activity called island arcs.
- These are formed when molten rock comes up from below the tectonic plate.

7. National Service Scheme

- It is a Central Sector Scheme of the Government of India.
- It provides an opportunity to the student youth of the 11th & 12th Class of schools at +2 Board level and student youth of Technical Institution, Graduate & Post Graduate at colleges and University level of India to take part in various Government led community service activities & programmes.
- Nodal Ministry: Ministry of Youth Affairs & Sports.

8. Sanwariya Seth Temple

- The temple is dedicated to Lord Krishna, specifically to his beloved child form known as "Sanwariya Seth" or "Shyam Seth."
- It is located in the village of Mandaphia in the Chittorgarh district of Rajasthan.
- The temple follows the traditional architecture of Rajasthan, known for its intricate carvings, domes, and vibrant colours.
- The main structure of the temple is built using white marble.
- The temple is adorned with intricate carvings on the walls, pillars, and ceilings.
- The temple features multiple domes that are adorned with decorative elements.
- The temple has a prominent spire, or shikhar, which is a tall, tapering structure that rises above the main sanctum.

9. United Nations Conference on Trade and Development (UNCTAD)

- It is the UN's leading institution dealing with trade and development.
- It is a permanent intergovernmental body established by the United Nations General Assembly in 1964.
- It supports developing countries to access the benefits of a globalised economy more fairly and effectively.
- It provides economic and trade analysis, facilitates consensus-building and offers technical assistance to help developing countries use trade, investment, finance, and technology for inclusive and sustainable development.
- Its Headquarter is located in Geneva, Switzerland.

10. Green Ammonia

- It is produced by using hydrogen from water electrolysis and nitrogen separated from the air.
- These are then fed into the Haber process (also known as Haber-Bosch) which is powered by sustainable electricity.
- In the Haber process, hydrogen and nitrogen are reacted together at high temperatures and pressures to produce ammonia, NH₃.
- Green ammonia production is where the process of making ammonia is 100% renewable and carbon-free.
- Uses: Fuel for engines such as locomotives and shipping, replacing diesel and marine fuel oil.

11. Golden Temple

- Guru Ramdas Sahib, the 4th of 10 Sikh gurus, started the construction of the temple and its pool in the 1500s as a place of worship for all.
- The temple has been renovated many times, adding features such as the marble inlays along the floor.
- Maharaja Ranjit Singh, founder of the Sikh Empire of India (1799-1849) had the temple's upper floors covered in 750 kilos of pure gold.
- The Sikh scripture, the Guru Granth Sahib, is housed within the golden temple of Harmandir Sahib.

12. Panchnama

- It literally means "record of observation by five people".
- It is a document having legal bearings that records evidences and findings that an officer makes at the scene of an offence/crime.
- However, it is not only the recordings at the scene of a crime
- it can be anywhere that may be related to the crime/offence and from where incriminating evidence is likely to be collected.
- The word Panchnama is not used as such or defined particularly anywhere in any book of law
- It can be read into Section 100 under Chapter VII of The Code of Criminal Procedure, 1973 (Cr.P.C.), which mandates an Investigating Officer to prepare PANCHNAMA.

13. AUKUS

- Established in 2021, the AUKUS is intended to be a strategic partnership among Australia, the United Kingdom (UK), and the United States
- The objective is to bolster their allied deterrence and defense capabilities in the Indo-Pacific.
- The trilateral partnership, which builds on their decades-long security cooperation, has two pillars.
- Pillar I revolves around the acquisition and development of conventionally armed nuclear-powered submarines for the Royal Australian Navy;
- Pillar II calls for collaboration on advanced capabilities that will involve technology and information sharing;

14. Controller General of Accounts (CGA)

- CGA, in the Department of Expenditure, Ministry of Finance, is the Principal Accounting Adviser to the Government of India.
- It was established in October 1975 to administer matters pertaining to the departmentalisation of the accounts of the Union.
- It is responsible for establishing and managing a technically sound management accounting system.
- The Office of CGA prepares monthly and annual analysis of expenditure, revenues, borrowings, and various fiscal indicators for the Union Government.
- It further formulates policies relating to general principles, forms, and procedures of accounting for the Central and State Governments.

15. Nagorno-Karabakh Region

- It is a mountainous and heavily forested region that under international law is recognised as part of Azerbaijan.
- Ethnic Armenians who constitute the vast majority of the population there reject Azeri rule (the legal system of Azerbaijan).
- After Azerbaijan's troops were pushed out of the region following a war in the 1990s, these ethnic Armenians have been in administrative control of Nagorno-Karabakh, with support from Armenia.

16. Glacial lake outburst floods or GLOF

- Glacial lakes are large bodies of water that sit in front of, on top of or beneath a melting glacier.
- As they grow larger, they become more dangerous because glacial lakes are mostly dammed by unstable ice or sediment composed of loose rock and debris.
- In case the boundary around them breaks, huge amounts of water rush down the side of the mountains, which could cause flooding in the downstream areas.
- This is called glacial lake outburst floods.

17. Hyponatremia

- This is a condition when the concentration of sodium in the blood is lower than what is needed for the body to function normally.
- This dip in sodium can affect blood pressure, muscle and nerve functioning.
- This is because the body will become overwhelmed with fluid, causing cells to swell and organs to malfunction.
- The symptoms include confusion, headache, fatigue, nausea, lethargy, thirst and dizziness.
- If the counts are under 120 mEq/L, then it can lead to seizures and other issues such as cerebral edema and permanent brain injury.

18. Hojagiri Dance

- Hojagiri is a folk dance, performed in the state of Tripura by the Reang people.
- The dance is performed by women and young girls, about 4 to 6 members in a team, singing, balancing on an earthen pitcher and managing other props.
- It is attractive due to its melodious songs accompanied by bamboo flute, cymbals and the khamb.
- The dance is performed on the occasion of Hojagiri festivals or Laxmi Puja, held on the following full moon night of Durga Puja.
- The male members participate in singing the lyrics, playing the Kham and Sumui (Kshumu).
- Required for the dance are, a BAILING, a wide circular rice cleaning article made of cane, a pitcher or kalash, a bottle, a household traditional lamp, a plain dish and a handkerchief for each performer.
- The whole of the Huk or Jhum cultivation is exhibited through this dance.

19. United Nations Convention against Transnational Organised Crime

- Often known as the Palermo Convention, it is a multinational treaty against transnational organised crime that was established by the United Nations in 2000.
- It has a total of 147 signatories and 190 parties to the convention.
- The Convention is further supplemented by three Protocols
 - The Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children
 - The Protocol against the Smuggling of Migrants by Land, Sea and Air
 - The Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition
- India signed the UN Convention against Transnational Organized Crime (UNTOC) and its three Protocols on December 12, 2002.
- The Central Bureau of Investigation (CBI) is the nodal agency for all dealings with UNTOC.

20. Exercise SAMPRITI 2023

- It is an annual joint military exercise between India and Bangladesh.
- It was started in Jorhat, Assam in 2009, the exercise has witnessed ten successful editions till 2022.
- This exercise, alternatingly organised by both countries, signifies strong bilateral defence cooperation initiatives.
- It underscores the importance of enhancing interoperability between the two armies, sharing tactical drills, and promoting best practices.
- It will witness participation by personnel from diverse units such as artillery, engineers and other supporting arms and services from both sides.
- It will include a Command Post Exercise (CPX) and a Field Training Exercise (FTX), culminating in a Validation Exercise.
- It promises to further enhance defence cooperation between India and Bangladesh, fostering deeper bilateral relations, cultural understanding, and mutual benefits from shared experiences in Sub Conventional Operations.

21. Exlusome

- It is a newly discovered organelle in mammalian cells located within the cell plasma.
- It is made up of DNA rings known as plasmids.
- This is peculiar because eukaryotic cells usually keep most of their DNA in the cell nucleus, where it is organized into chromosomes.
- However, in the exlusome, it is organized into plasmids -small, circular DNA strands that can replicate independently of chromosomes and are usually found in bacteria and other microscopic organisms.

22. Swavlamban 2.0'

- The Navy has surpassed its target set last year to develop 75 futuristic technologies in partnership with domestic Micro, Small and Medium Enterprises (MSME) and startups which are going to be launched as 'Swavlamban 2.0'.
- Technologies included: Technologies are being progressed across the spectrum, including
- Blue-green lasers for underwater applications;
- Autonomous weaponised swarms and underwater swarm drones;
- Multiple firefighting aids; introduction of Artificial Intelligence (AI) for various uses and the development of an ultra-endurance small drone for maritime missions.

23. Swamp deer

- The swamp deer also called as barasingha is a deer species distributed in the Indian subcontinent.
- It belongs to the family Cervidae (order Artiodactyla), found in open forests and grasslands of India and Nepal.
- It eats predominantly wetland plants and herbaceous plants which are common in this deer's natural habitat.
- Its population is now restricted to isolated and scattered locations in Nepal, Assam and the northern areas of India.
- It is now extinct in both Bangladesh, and in Pakistan
- There are three subspecies of swamp deer found in the Indian Subcontinent.
- The western swamp deer found in Nepal,
- Southern swamp deer found in central and north India and
- Eastern swamp deer (*Rucervus duvaucelii ranjitsinhi*) found in the Kaziranga and Dudhwa National Parks.

24. Dynamic Injunction

- An injunction is an official order given by a law court, usually to stop someone from doing something.
- However, in most cases, such injunctions are granted by the court only after the court identifies the work and determines the plaintiff's copyright in that work.
- To avoid this cumbersome process and grant protection to copyrighted works in a timely manner, courts sometimes rely on the concept of dynamic injunctions.
- A dynamic injunction is passed to protect copyrighted works even before they are publicly released, distributed, or created.
- It ensures that no irreparable loss is caused to its authors and owner, owing to the imminent possibility of such works being uploaded on rogue websites or their newer versions immediately after their creation or release, given the challenges posed by online piracy.

25. Chenab Bridge

- Located between Bakkal and Kauri in the Reasi district of Jammu and Kashmir.
- It is the highest single-arch railway bridge in the world.
- It is part of the Udhampur-Srinagar-Baramulla Rail Link project.
- The bridge has been designed with a life span of 120 years.
- It has been designed to withstand high wind speeds of up to 266 Kmph.
- It is capable of withstanding the nation's maximum intensity zone-V earthquake forces.

26. Very Short-Range Air Defence (VSHORAD) Missile system

- It is a Man Portable Air Defence System (MANPAD) specially designed to counter low-altitude aerial threats over short distances.
- These are short-range, lightweight, and portable surface-to-air missiles that can be fired by individuals or small groups.
- It has been designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad, in collaboration with other DRDO laboratories and Indian industry partners.
- The use of VSHORAD missiles in India is primarily by the Indian Army.
- Features
 - It is designed to provide short-range air defense capabilities to protect ground forces and critical assets from aerial threats, including helicopters and low-flying aircraft.
 - The missile incorporates many novel technologies, including a Dual-band IIR Seeker, a miniaturized Reaction Control System, and integrated avionics.
 - It is propelled by a dual-thrust solid motor.
 - Its portability enables their quick deployment over difficult terrain.

27. Unlawful activities (Prevention) Act

- UAPA passed in 1967, aims at effective prevention of unlawful activities associations in India.
 - Unlawful activity refers to any action taken by an individual or association intended to disrupt the territorial integrity and sovereignty of India.
- The Act assigns absolute power to the central government.
- Under UAPA, both Indian and foreign nationals can be charged.
- It will be applicable to the offenders in the same manner, even if crime is committed on a foreign land, outside India.
- The 2004 amendment added "terrorist act" to the list of offences.

- Unlawful Activities (Prevention) Amendment Bill, 2019 designated individuals as terrorists on certain grounds provided in the Act.
- The Act empowers the Director General of National Investigation Agency (NIA) to grant approval of seizure or attachment of property when the case is investigated by the said agency.
- It empowers the officers of the NIA, of the rank of Inspector or above, to investigate cases of terrorism in addition to those conducted by the DSP or ACP or above rank officer in the state.

28. Enforcement Directorate (ED)

- Established in the year 1956 as an 'Enforcement Unit' under the Department of Economic Affairs, Ministry of Finance.
- Renamed as 'Enforcement Directorate' in 1957.
- Under the administrative control of the Department of Revenue (Ministry of Finance) for operational purposes.
- Responsible for enforcement of the Foreign Exchange Management Act 1999 (FEMA), and certain provisions under the Prevention of Money Laundering Act 2002 (PMLA).

29. BlueWalker 3 satellite

- Launched in September 2022, it is a prototype satellite, part of a satellite constellation planned by its owner AST SpaceMobile.
- It was one of the brightest objects in the night sky, outshining all the brightest stars.
- It is the largest-ever commercial communications array deployed in low-Earth orbit.
- It is designed to communicate directly with cellular devices via 3GPP standard frequencies at 5G speeds.
- It uses wavelengths close to those that radio telescopes observe in, the satellite could also hamper radio astronomy.

30. Yak Churpi

- 'Yak Churpi,' has been granted the coveted Geographical Indication (GI) tag.
- It is a dairy product made from the milk of the indigenous Arunachali yak breed.
 - It is reared by tribal yak pastoralists known as Brokpas who migrate along with their yaks to higher reaches during summers and descent to mid-altitude mountainous regions during winters.
 - These remarkable yaks are primarily found in the West Kameng and Tawang districts of the state.
 - Arunachali yaks are also the only registered yak breed in India
- Churpi is a naturally fermented dairy product and rich in protein content.
- It is an essential dietary staple for tribal communities inhabiting the cold and mountainous regions of Arunachal Pradesh.
- This GI tag is going to serve the cause of yak conservation and yak pastoralists' socio-economic upliftment.

31. Ichamati River

- It is a trans-boundary river that flows through India and Bangladesh and acts as a boundary between the two nations.
- It is now in three parts: The longer part flows from the Mathabhanga River, a distributary of the Padma.

- After flowing for 208 km, it joins the Kalindi River near Hasnabad in North 24 Parganas and Debhata in Satkhira District.
- Ichhamati River and its tributaries form a large oxbow lake complex in North 24-Parganas district near Bangaon.

32. Kolleru Lake

- It is the largest freshwater lake in India located in Andhra Pradesh between the Krishna and Godavari deltas.
- The lake serves as a natural flood-balancing reservoir for these two rivers.
- The lake is fed directly by water from the seasonal Budameru and Tammileru streams.
- It serves as a habitat for migratory birds.
- The lake was designated as a wildlife sanctuary in November 1999 under India's Wildlife (Protection) Act, 1972.
- It was also designated a wetland of international importance in November 2002 under the international Ramsar Convention.

33. Eco Sensitive Zones (ESZs)

- The National Wildlife Action Plan of MoEFCC stipulated that state governments should declare land falling within 10 km of the boundaries of national parks and wildlife sanctuaries as ESZs under the Environmental (Protection) Act, 1986.
- While the 10-km rule is implemented as a general principle, the extent of its application can vary.
- Areas beyond 10 km can also be notified by the Union government as ESZs, if they hold larger ecologically important "sensitive corridors".
- Activities Around ESZs
 - Prohibited Activities: Commercial mining, saw mills, industries causing pollution, establishment of major hydroelectric projects (HEP), commercial use of wood.
 - Regulated Activities: Felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, widening of roads.
 - Permitted Activities: Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities.

34. Watermeal

- An aquatic plant in the Araceae family, it is the smallest flowering plant in the world and appears as small green seeds.
- It is often referred to as "duckweed" because it is a favourite food of ducks.
- It flourishes in temperate, subtropical, and tropical locations and grows on the surface of lakes, ponds, and marshes.
- Features
 - It is a very tiny (less than 1 millimeter) light green, free-floating, rootless plant.
 - It is branchless and also has no leaves.
 - It consists of a single, oval, or spherical frond that floats on the surface of still or slow-moving water bodies.
 - It also produces the world's smallest fruit, called a utricle.
 - It is a complete protein, meaning that it contains all nine essential amino acids.
 - In some cases, watermeal can become invasive and form dense mats that cover the entire surface of a water body.

35. Epithemis wayanadensis

- Recently, a new dragonfly species has been discovered in the verdant landscapes of Wayanad and it has been given the scientific nomenclature Epithemis wayanadensis.
- It is also known as Red-rumped Hawklet.
- It starts flying exclusively during the month of October.
- This newfound species is distinguished by its darker pigmentation, a restricted red coloration on the abdomen, and the absence of the yellow antehumeral stripe.
- This is the first instance of an Indian dragonfly being documented with genetic evidence substantiating morphological distinctions.

36. Bekal Fort

- Built in the 17th century, it is the largest and best preserved Fort in the whole of Kerala.
- It is exquisitely designed and built with dark maroon laterite stones.
- Originally constructed by the rulers of the ancient Kadampa Dynasty, the Fort changed hands over the years to the Kolathiri Rajas, the Vijayanagara Empire, Tipu Sultan and finally, the British East India Company.
- The most prominent structure inside the fort is the observation tower built by Tipu Sultan.
- The fort is endowed with impressive walls and ramparts which are again interrupted by massive bastions.
- A unique and eye-catching feature is a lone bastion, projecting out into the sea.
- It offers a superb view of the Arabian Sea from its tall observation towers, which were occupied by gigantic cannons till a few centuries ago.

37. Halo Orbit

- NASA says a spacecraft can “orbit” about an unstable Lagrange point with a minimum use of thrusters for stationkeeping.
- Such an orbit is known as a halo orbit as “it appears as an ellipse floating over the planet”.
- A halo orbit, however, isn’t the usual orbit because the unstable Lagrange point doesn’t exert any attractive force on its own.

38. The Alpide Belt

- It spans over 15,000 km, roughly following the boundary of the Eurasian and African tectonic plates.
- It spans from the Middle East to the Himalayas and Indonesia.
- It extends from the Himalayas in the east, through the Mediterranean region and across to the Azores in the Atlantic Ocean.
- Tectonic plates are formations of the Earth’s crust that move slowly, often creating pressure and friction between each other.

39. Gangetic River Dolphin

- It is a freshwater species and one of the few river dolphins found in the world.
- It inhabits the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India, and Bangladesh.
- It has been recognized as India's National Aquatic Animal.
- Features
 - It has a long thin snout, rounded belly, stocky body and large flippers.
 - It feeds majorly on fishes and is usually found in counter-current systems of the main river channel.
 - Its eyes lack lens, and as a result, this species is also referred to as the "blind dolphin".
 - They have a highly developed bio-sonar system that facilitates them to hunt for fish even in murky waters.

- Being a mammal, the Ganges River dolphin cannot breathe in the water and must surface every 30-120 seconds.
- Because of the sound it produces when breathing, the animal is popularly referred to as the 'Susu'.
- Conservation status
 - IUCN: Endangered
 - Wildlife (Protection) Act: Schedule I
 - CITES: Appendix I

40. Indo-Tibetan Border Police

- Indo-Tibetan Border Police is one of the Central Armed Police Forces of India.
- It is a specialized mountain force and most of the officers and men are professionally trained mountaineers and skiers.
- It was raised in 1962, in the wake of the Sino-Indian War of 1962 for deployment along India's border with China's Tibet Autonomous Region.
- ITBP was initially raised under the CRPF Act, however, in 1992, the Parliament enacted the ITBPF Act and the rules there under were framed in 1994.
- Nodal Ministry: Ministry of Home Affairs.

41. Reticulated python

- It is a member of the family Pythonidae.
- These snakes come in a wide variety of color patterns, and many of the variations can be based on their location.
- It is a heavy-bodied, very long snake with a proportionately large head.
- Like most other python species, it has heat-sensing pits.
- The pits are deep and well-developed, located on the front upper and lower labials and the lower rear labials.
- This species, despite its striking color patterns, camouflages well within its environment.
- It's an example of disruptive coloration, a type of camouflage where the animal's pattern helps break up the outlines of its body. This pattern helps this giant snake disappear into the brush and allows it to ambush its prey.
- This species has a broad range across southeastern Asia, including the Nicobar Islands, Myanmar, across to Indochina, Philippines, and Malaysia.
- These tropical snakes are classically associated with lowland rainforests and wetlands.
- IUCN: Least concern

42. Exercise CHAKRAVAT

- It is an Annual Joint Humanitarian Assistance and Disaster Relief HADR Exercise (AJHE)
- Since its first edition in 2015, the Annual Joint HADR Exercise, CHAKRAVAT has transformed itself into a multi-agency endeavour.
- It involves participation of all three Services, Paramilitary Forces, as well as several disaster response organisations, NGOs, academic institutions and international organisations.
- The 2023 edition would further synergise efforts at the national level among all stakeholders, as well as witness participation from eight countries of the Indian Ocean Region.

43. International Big Cat Alliance (IBCA)

- It was launched by India on April 9, 2023, for the conservation of seven big cats, namely Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, and Puma harbouring our planet.

- It is open to 97 'range' countries, which contain the natural habitat of these big cats, as well as other interested nations, international organizations, etc.
- It will provide a platform for the member nations to share knowledge and expertise and extend support to recovery efforts in potential habitats.
- Its major activities will include advocacy, partnership, knowledge e-portal, capacity building, eco-tourism, partnerships between expert groups, and finance tapping.

44. Satellite Spectrum

- The Satellite or orbit spectrum is a segment of radio spectrum made available when satellites are placed into orbit.
- This spectrum is part of the broader radio frequency spectrum, which encompasses all electromagnetic frequencies used for various wireless communications and broadcasting purposes.
- This spectrum is a limited resource for every country, utilised by firms to implement satellite broadcasting, communication satellites, and weather satellite services.
- This spectrum is divided into many different frequency bands. The choice of bands depends on many factors, including the specific applications.
- The frequency is an integral part of the satellite's construction and doesn't change after launch.

45. Curative Petition

- It is the last resort to the highest court that can be petitioned for redressal of grievances in court, and its ruling is final.
- It is a way to ask the court to review and revise their own decision, and it is filed after a review petition is dismissed or used.
- It is the final and last option for the people to acquire justice, as mentioned and promised by the Constitution of India.
- It is meant to ensure there is no miscarriage of justice and to prevent abuse of process.

46. Indian Ocean Rim Association

- It was established in 1997 as an intergovernmental organisation of States on the rim of the Indian Ocean.
- It has members from Africa, West Asia, South Asia, Southeast Asia, Europe and Oceania.
- The Association's membership has expanded to 23 member states and 11 dialogue partners.
- Asia.
- Its apex body is the Council of Foreign Ministers (COM) which meets annually.
- IORA has identified six priority areas namely: Trade and Investment, Maritime Safety and Security, Fisheries Management, Disaster Risk Management and Blue Economy.
- The secretariat is based in Ebène Mauritius and is overseen by a secretary-general who is appointed for a three-year period.

47. Protection of Children from Sexual Offences (POCSO) Act

- It is the first comprehensive law(enacted in 2012) in the country dealing specifically with sexual abuse of children, and is administered by the Ministry of Women and Child Development.
- It was intended to protect children from sexual assault, sexual harassment, and pornographic violations, as well as to establish Special Courts for such trials.
- In 2019, the Act was amended to strengthen the penalties for specified offences in order to deter abusers and promote a dignified upbringing.

48. Oslo Accords

- In the early 1990s, the Oslo Accords led to the establishment of the Palestinian Authority (PA) and partial Israeli withdrawal from certain areas in the West Bank and Gaza Strip.
- However, the peace process stalled, leading to frustration and violence, culminating in the Second Intifada (2000-2005).
- During this period, Hamas intensified its suicide bombings and rocket attacks against Israeli civilians.

49. Gaza Strip and Golan Heights

- The Gaza Strip is located between Israel and Egypt. Israel occupied the strip after 1967, but relinquished control of Gaza City and day-to-day administration in most of the territory during the Oslo peace process.
- In 2005, Israel unilaterally removed Jewish settlements from the territory, though it continues to control international access to it.
- The Golan Heights is a strategic plateau that Israel captured from Syria in the 1967 war. Israel effectively annexed the territory in 1981.
- In 2017, the USA officially recognized Jerusalem and Golan Heights as a part of Israel.

50. Al Aqsa Mosque and Sheikh Jarrah

- It is one of the holiest structures in the Islamic faith known by Muslims as Haram al-Sharif, or the Noble Sanctuary, and by Jews as the Temple Mount.
- The site is part of the Old City of Jerusalem, sacred to Christians, Jews and Muslims.
- Sheikh Jarrah is a neighborhood located north of the Old City in East Jerusalem.
- Hundreds of thousands of Palestinians were forced out of their homes when the State of Israel was created in historical Palestine in 1948.
- Twenty-eight of those Palestinian families moved to Sheikh Jarrah in East Jerusalem to settle there.

51. Critical Minerals

- A mineral is critical when the risk of supply shortage and associated impact on the economy is (relatively) higher than other raw materials.
- These minerals are essential for economic development and national security,
- These are essential for the advancement of many sectors, including hightech electronics, telecommunications, transport, and defence.
- It forms part of multiple strategic value chains, including -
- Clean technologies initiatives such as zero-emission vehicles, wind turbines, solar panels
- Information and communication technologies, including semiconductors
- Advanced manufacturing inputs and materials such as defence applications, permanent magnets, ceramics.

52. The Information Technology Act, 2000

- It was enacted by the Indian Parliament in 2000.
- It is the primary law in India for matters related to cybercrime and e-commerce.
- The act was enacted to give legal sanction to electronic commerce and electronic transactions, to enable e-governance, and also to prevent cybercrime.
- Under this law, for any crime involving a computer or a network located in India, foreign nationals can also be charged.
- The law prescribes penalties for various cybercrimes and fraud through digital/electronic format. It also gives legal recognition to digital signatures.

53. Government Scheme(s) for PVTGs

- Ministry of Tribal Affairs implements a scheme in the name of 'Development of Particularly Vulnerable Tribal Groups (PVTGs)'.
- It is a Centrally Sponsored Scheme having a provision of 100% Central assistance to 18 states and Union territory of Andaman & Nicobar Islands.
- The scheme of Development of PVTGs aims at socio-economic development of PVTGs in a comprehensive manner, while retaining their culture and heritage.
- As a part of the scheme, State Governments undertakes projects that are tailored to cater to sectors like education, health and livelihood schemes for the PVTGs.

54. Severe Acute Malnutrition (SAM)

- It is defined by a very low weight for height, by visible severe wasting, or by the presence of nutritional oedema.
- In children aged 6–59 months, an arm circumference less than 110 mm is also indicative of severe acute malnutrition.
- At present, there are ~7.7% SAM children in India.

55. The Protection of Children from Sexual Offences (POCSO) Act

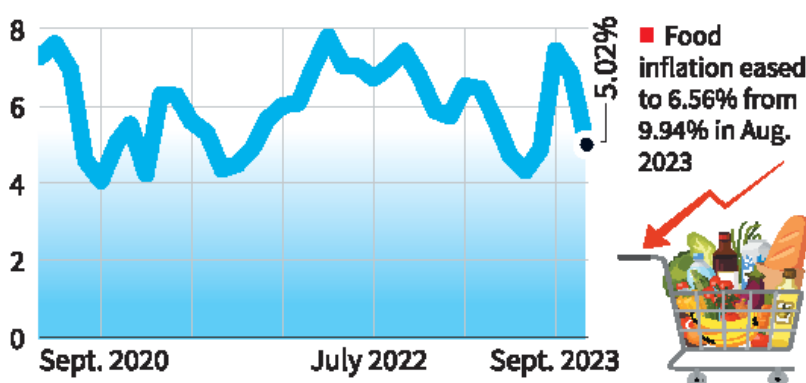
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- In 2019, the Act was amended to strengthen the penalties for specified offences in order to deter abusers and promote a dignified upbringing.

56. Retail Inflation

- India's retail inflation eased from 6.83% in August to 5.02% in September, breaking a two-month streak over the tolerance threshold of the Reserve Bank of India, with the rise in food prices easing to 6.6% from almost 10%.

Sigh of relief

India's retail inflation eased to 5.02% in September from 6.83% in August, going below RBI's 6% tolerance limit after two months, aided by lower food inflation and LPG price cuts



57. World Arthritis Day

- To help spread awareness about the existence and impact of rheumatic and musculoskeletal diseases (RMDs), October 12 is marked as World Arthritis Day.
- Arthritis refers to joint pain or joint disease, the inflammation or swelling of one or more joints.
- As per a 2022 paper in the Osteoarthritis and Cartilage journal, 62.35 million people in India had osteoarthritis as of 2019.

58. ICRISAT

- It is a non-profit, non-political public international research organisation that conducts agricultural research for development in Asia & sub-Saharan Africa.
- It helps farmers by providing improved crop varieties and hybrids and also helps smallholder farmers in the drylands fight climate change.
- It conducts research on five highly nutritious drought-tolerant crops: chickpea, pigeonpea, pearl millet, sorghum, and groundnut.
- It has been awarded 2021 Africa Food Prize for the Tropical Legumes Project that has improved food security across 13 countries in sub-Saharan Africa.
- It is headquartered in Hyderabad, Telangana State, in India, with two regional hubs (Nairobi, Kenya and Bamako, Mali).

59. Prosopis juliflora

- It is a shrub or small tree in the family Fabaceae, a kind of mesquite.
- It is native to Mexico, South America and the Caribbean.
- It is one of the most invasive species in arid and semi-arid areas.
- It was brought to Delhi by the British in the 1920s, when the national capital was being built.
- In India it is known locally by many names such as Bellary jaali, seemai karuvelam, seemai jaali, gando baval, vilayati kikar.
- It has a very wide ecological adaptability which can grow on soils from sand dune to clay soil, and from saline to alkaline soil type.
- It can grow below 200 to above 1500 m above sea level, and with a mean annual rainfall ranging from 50 to 1500 mm
- It is considered as an Invasive plant.

60. Diverse Epigenetic Epidemiology Partnership (DEEP)

- It is an integrated genomics and epigenomics study to understand the genetics behind Non-Communicable Diseases (NCDs) in diverse populations
- The project is to uncover the effects of genomic and environmental diversity in disease risk observed in people across the world It is a five-year international project.
- Researchers will be studying individuals representing diverse genetic and environmental contexts and learn which DNA methylation patterns contribute to their disease risk in each context
- The study will develop software and infrastructure and conduct advanced statistical analyses to build new resources.

61. International Criminal Court (ICC)

- Governed by an international treaty called 'The Rome Statute', the ICC is the world's first permanent international criminal court.
- It investigates and, where warranted, tries individuals charged with the gravest crimes of concern to the international community: genocide, war crimes,
- Through international criminal justice, ICC aims to hold those responsible for their crimes and to help prevent these crimes from happening again.
- India is not a party to Rome Statute along with US and China.

62. Indra Sawhney Judgment

- The V.P. Singh government implemented 27% OBC reservation for public services in 1990.
- The Supreme Court upheld the government's decision in the Indra Sawhney & others versus Union of India judgment in 1992.
- The court made a significant observation that Identification of a group by any criteria other than caste, such as, occupation cum social cum educational cum economic criteria ending in caste may not be invalid.
- This cleared the way for OBC reservation in public employment and educational institutions in India.

63. Mandal Commission Report

- The report of the Backward Classes Commission headed by B.P. Mandal submitted to the President of India in 1980.
- The report had the dictum inscribed at the outset, "There is equality only among equals. To equate unequals is to perpetuate inequality."
- The Mandal Commission report had concluded from the caste/community-wise population figures of the 1931 census.
- It estimated the combined population of Hindu and non-Hindu OBCs to be 52% of India's population.
- The commission had also arrived upon a crucial conclusion, that caste is also a class of citizens.
- And if the caste as a whole is socially and educationally backward, reservation can be made in favour of such a caste on the ground that it is a socially and educationally backward class of citizens within the meaning of Article 15(4).
- Article 15(4) of the Constitution enables the State to make special provisions for the advancement of socially and educationally backward classes of citizens.

64. Holodomor

- It is a man-made famine that occurred in the Soviet republic of Ukraine from 1932 to 1933, peaking in the late spring of 1933.
- It left an estimated 3.9 million people dead.
- The primary victims of the Holodomor (literally "death inflicted by starvation") were rural farmers and villagers, who made up roughly 80 percent of Ukraine's population in the 1930s.
- It was part of a broader Soviet famine (1931-34) that also caused mass starvation in the grain-growing regions of Soviet Russia and Kazakhstan.
- In 2006, by the Law of Ukraine "On the Holodomor of 1932-1933 in Ukraine", the Holodomor was recognized as genocide of the Ukrainian nation.

65. Aerosols

- They are tiny solid or liquid particles suspended in air or as a gas.
- Aerosols can be natural, such as fog or gas from volcanic eruptions, or artificial, such as smoke from burning fossil fuels.
- Aerosol particles are either emitted directly to the atmosphere (primary aerosols) or produced in the atmosphere from precursor gases (secondary aerosols).
- Aerosol particles are tiny, but numerous, and often comprise of a number of inorganic and organic substances.

- True aerosol particles range in diameter from a few millimicrometres to about 1 micrometre (equal to 10⁻⁴ cm).
- Particles with a diameter of less than 0.1 micrometre are sometimes referred to as Aitken nuclei.
- Visible forms of atmospheric aerosol plumes include smoke, smog, haze and dust.

66. David's Sling

- It is an Israeli medium-range air defence system designed to defeat short-range ballistic missiles, large-caliber rockets and cruise missiles.
- It occupies the middle part of Israel's sophisticated and multi-layer air-defence network, between the point-defence Iron Dome and upper-tier Arrow systems.
- Features
 - It incorporates a vertical missile firing unit, a fire control radar, a battle management/operator station, and the Stunner interceptor.
 - Each firing unit can hold up to 12 missiles.
 - It is designed to intercept ballistic and cruise missiles at ranges of 40 to 300 km.
 - Unlike Iron Dome's, Stunner has no warhead, defeating targets by striking them directly.

67. Amur Falcon

- Locally known as Akhuipuina, it is a small raptor of the falcon family.
- The bird arrives mainly in Manipur and Nagaland.
- They breed in south-eastern Siberia and Northern China and migrate long distances in large flocks to winter in Southern and East Africa.
- Threats: Illegal trapping and killing during migration, habitat loss from agricultural practices and land reclamation.
- It is protected under the Wildlife Protection Act 1972.
- In 2018, the forest department started a conservation programme by radio-tagging the birds to study their migratory route.
- IUCN Status: Least Concern

68. Saraswati Samman Award

- It is given annually for outstanding literary works in 22 Indian languages in the last 10 years.
- It was instituted by the K. Birla Foundation.
- It is among the highest recognitions in the field of Indian literature.
- The selection follows a rigorous three-tier process leading up to a final decision by Chayan Parishad.
- It carries a citation, a plaque and prize money of 15 lakh rupees.

69. Deepfake

- The term deepfake originated in 2017, when an anonymous Reddit user called himself "Deepfakes".
- This user manipulated Google's open-source, deep-learning technology to create and post pornographic videos.
- The videos were doctored with a technique known as face-swapping. The user Deepfakes replaced real faces with celebrity faces.

70. Hailstorm

- Hail is a type of solid rain made up of balls or lumps of ice.
- Storms that produce hail that reaches the ground are known as hailstorms.
- They typically last for no more than 15 minutes but can cause injuries to people and damage buildings, vehicles, and
- They are most common in the midlatitudes.
- Hailstorms can sometimes be accompanied by other severe weather events, such as cyclones and tornadoes.

- The size of hailstones can vary widely, from small pellets less than 1/4 inch in diameter to larger stones measuring several inches in size.

71. Jaderi namakatti

- These are clay sticks that are white in colour, usually available in finger-like shape with a smooth texture.
- Jaderi is a small village in Tiruvannamalai district of Tamil Nadu.
- There are around 120 families in Cheyyar taluk whose primary occupation has been the making of namakatti for more than hundreds of years now.
- Namakatti is made up of the rich deposit of hydrous silicate minerals that form fine grain particles of clay.
- The clay is processed and shaped in a finger like structure.
- The production of namakatti depends on the climatic condition as it needs a lot of sunlight to dry.
- It is used to adorn the foreheads of idols, men, and temple elephants as well as traditionally to treat stretch marks caused by by childbirth.

72. Fast Radio Bursts

- A fast radio burst is a bright and brief burst of electromagnetic radiation (light) seen in radio-wave frequencies.
- They usually last for very short period of time.
- Some FRBs repeat, but the vast majority happen once and disappear forever.
- They reach earth from faraway galaxies, emitting as much energy in a millisecond as the sun does over weeks.
- Scientists don't know for sure what causes fast radio bursts.
- However, the current prevailing theory is that at least some FRBs are emitted by neutron stars.
- These stars form when a supergiant star collapses, going from eight times the mass of our sun (on average) to a superdense core only 20–40 kilometers across.

73. Pallikaranai marshland

- It is a freshwater marsh and partly saline wetland situated about 20 kilometres south of the city of Chennai, Tamil Nadu.
- On its eastern periphery, the Marsh is flanked by the Buckingham Canal.
- The diverse ecosystem of the marshland supports some 115 bird species, ten mammals, 21 reptiles, ten amphibians, 46 fish, nine molluscs, five crustaceans, and seven butterfly species.
- These include notable species such as Russell's viper (*Daboia siamensis*) and birds such as the glossy ibis (*Plegadis falcinellus*), grey-headed lapwings (*Vanellus cinereus*)
- Apart from its biodiversity value, the wetland also plays a vital role in the prevention of flooding for the city of Chennai
- The site is threatened by invasive and non-native species, household sewage, urban wastewater and droughts.

74. Sinai Peninsula

- It is a triangle-shaped peninsula located in northeastern Egypt.
- It serves as a land bridge connecting Asia and Africa.
- Area: 23,500 square miles (61,000 square km).
- It is the sovereign territory of Egypt.
- The peninsula is bordered to the north by the Mediterranean Sea and to the east by Israel and the Gaza Strip.
- To the west of the Sinai Peninsula is the Suez Canal, across which lies the African part of Egypt.
- The Sinai is bordered to the southwest by the Gulf of Suez and to the immediate south by the Red Sea.

- The Gulf of Aqaba borders the Sinai in the southeast.
- Egypt shares maritime borders in the Sinai with Jordan and Saudi Arabia.

75. Jericho Missile System

- Jericho is Israel's original ballistic missile programme, initiated in the 1960s and named after the biblical city located in the West Bank.
- This programme was initially a collaboration with the French aerospace company Dassault, but when France withdrew in 1969, Israel continued its development.
- It had a weight of 6.5 tonnes, a length of 13.4 metres, and a diameter of 0.8 metres.
- It had a range of 500 kilometres and could carry a 1,000-kilogram payload, though it had a 50 percent chance of hitting within a 1,000-metre radius of its target.
- It was retired in the 1990s.

76. Mt. Vesuvius

- It is an active volcano that rises above the Bay of Naples on the plain of Campania in southern Italy.
- It is the only active volcano in mainland Europe.
- The volcano is classified as a complex stratovolcano because its eruptions typically involve explosive eruptions as well as pyroclastic flows.
- It is most famous for the 79 AD eruption that destroyed the Roman cities of Pompeii and Herculaneum.
- It is part of the Campanian volcanic arc, a line of volcanoes that formed over a subduction zone created by the convergence of the African and Eurasian plates.
- Under Vesuvius, the lower part of the subducting slab has torn and detached from the upper part to form what is called a "slab window."
- This makes Vesuvius' rocks slightly different chemically from the rocks that erupted from the other Campanian volcanoes.

77. Bright Transient Survey Bot

- It is a machine-learning algorithm which has been trained by using over 1.4 million images from nearly 16,000 sources.
- It detected the newly discovered supernova named SN2023tyk in data from the Zwicky Transient Facility (ZTF)
- This new system not only allows automation of the entire search for new supernovae across the night sky but also eliminates human error and dramatically increases speed.
- It searched, detected, confirmed, classified, and announced the findings without any human intervention.

78. Chakmas

- Chakmas are one of the largest ethnic groups native to the Chittagong Hill Tracts (CHT) region of southeastern Bangladesh.
- They have their own age-old culture, language, and scripts.
- They primarily live in the Chittagong Hills Tracts of Bangladesh, the Chin and Arakan provinces of Myanmar, in the northeastern Indian states of Mizoram, Tripura, and Arunachal Pradesh, and a few families in West Bengal.
- The majority of Chakmas practise Theravada Buddhism, tinged with aspects of animism and Hinduism.
- The Chakmas worship Hindu deities like Lakshmi, who is worshipped as the Goddess of the Harvest.

- Chakmas are divided into clans (gojas), which are further subdivided into subclans (guttis).
- Members of the same subclan are forbidden to marry each other.
- The Chakmas speak a dialect of Bengali (Bangla) and use the standard Bengali alphabet.
- They practice shifting cultivation called JUM.
- They grow paddy, maize, cotton, sesame, etc. in their JUM, along with vegetables and spices.

79. Money Laundering Act (PMLA), 2002

- The PMLA was enacted in response to India's global commitment (Vienna Convention) to combat the menace of money laundering.
- These include
 - United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances 1988
 - Basle Statement of Principles, 1989
 - Forty Recommendations of the Financial Action Task Force on Money Laundering, 1990
 - Political Declaration and Global Program of Action adopted by the United Nations General Assembly in 1990.
- It is a criminal law enacted to prevent money laundering and to provide for confiscation of property derived from, or involved in, money-laundering and related matters.
- The provisions of this act are applicable to all financial institutions, banks (Including RBI), mutual funds, insurance companies, and their financial intermediaries.

80. Saptakoshi High Dam

- It is a multipurpose project proposed to be constructed on the Saptakoshi River of Nepal (known as Koshi River in India).
- The project is primarily aimed at controlling floods in southeast Nepal and northern Bihar and generating hydropower.
- It is a bilateral project of the Indian and Nepalese governments under the Koshi agreement.
- The proposed place lies 1.6 km upstream from Barahakshetra Temple in the Sunsari district of Nepal.

81. Sustainable Development Goals (SDGs)

- The SDGs/Global Goals were adopted by the United Nations in 2015
- Objective: it is a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.
- The SDGs framework sets targets for 231 unique indicators across 17 SDG goals
- It is related to economic development, social welfare, and environmental sustainability, to be met by 2030.
- Countries have committed to prioritise progress for those who are the farthest behind.
- The creativity, technology, and financial resources from all of society are necessary to achieve the SDGs in every context.

82. Rafah Crossing

- The crossing is at the south end of the Gaza Strip, a narrow slither of land that is home to 2.3 million people.
- It is wedged between Israel, Egypt, and the Mediterranean Sea.
- The crossing is controlled by Egypt.
- It is the only likely route for humanitarian aid to enter Gaza via Rafah from Egypt's Sinai Peninsula region.

- There are only two other border crossings: Erez, a border crossing with Israel in north Gaza, and Kerem Shalom, a commercial crossing between Israel and Southern Gaza.

83. RISC-V technology

- It is an open-source technology that is pronounced "risk five".
- It is an open-source instruction set architecture (ISA) used for the development of custom processors targeting a variety of end applications.
- It is considered the fifth generation of processors built on the concept of the reduced instruction set computer (RISC).
- It was begun as a project at UC Berkeley to create an open-source computer system based on RISC principles.
- It was initially designed for academic use. The standard has evolved and is now managed by RISC-V International.

84. Muthuvan Tribe

- These people live in the border hill forests of Kerala and Tamil Nadu.
- They speak slightly different dialects and call each other Malayalam Muthuvan and Pandi Muthuvan.
- They are animists and spirit worshippers and also worship the forest gods.
- They believe that the spirits of their ancestors were the first migrants to the hill forests.
- They are known for coexisting with wildlife with their traditional knowledge.
- These tribal people follow a unique system of governance called the 'Kani System'.
- Under this system, each village is headed by a 'Kani', who is responsible for the administration of the village.
- They are experts in traditional medicines, which are extremely effective, and the medicine is kept confidentially and passed down through generations.

85. Orionid meteor shower

- It is an annual phenomenon that lights up the night sky every October.
- It is produced when Earth passes through the debris left behind by Halley's Comet, officially known as 1P/Halley.
- This comet, which orbits the sun approximately every 76 years, expels dust particles from its nucleus, creating a trail of debris in its path.
- Each year, our planet intercepts this path in late October, resulting in the Orionid meteor shower.
- Halley's Comet, measuring about five by nine miles in size, loses between three to ten feet of material on each passage through the inner solar system.
- The Orionids are viewable in both the Northern and Southern hemispheres during the hours after midnight.

86. Ethics Committee in Parliament

- The genesis of formation of the Ethics Committee in Parliament can be traced to a resolution adopted at the Presiding Officers Conference held in New Delhi in October, 1996.
- Each house of the parliament has its own ethics committee.

Ethics committee in Lok Sabha

- It was first constituted in 2000.
- Composition: It consists of not more than fifteen members and nominated by the Speaker.
- Term: They shall hold office for a term not exceeding one year.

Ethics committee in Rajya Sabha

- It was constituted in 1997.
- Composition: It consists of 10 members nominated by the Chairman of Rajya Sabha.
- Term: They shall hold office for a term not exceeding one year.
- Functions

- To oversee the moral and ethical conduct of the Members;
- To examine the cases referred to it with reference to ethical and other misconduct of the Members.
 - Any person or member may make a complaint relating to unethical conduct of a member to the committee.
 - In the case of the Ethics Committee only an MP can be examined for misconduct.

87. Kati Bihu

- It is celebrated in the state of Assam.
- Kati means to cut and this day marks the time of relocation of rice saplings.
- It is also known as Kongali Bihu. (Kongali means poor)
- There are another two Bihu festivals celebrated in Assam - Bhogali or Magh Bihu is observed in January and Rongali or Bohag Bihu is observed in the month of April.

Significance

- During this month, there are not so many things to eat.
- They celebrate this festival by lighting the earthen lamps or candles and lit their house with lighting.
- Lighting diya near Tulsi plant is one of the main part of the festival. They worship Tulsi plant on this auspicious day.
- People also light a special lamp called "Akash Banti" (Sky candle) in their paddy fields.
- These lamps are fueled by **mustard** oil and are kept high on the tip of bamboo poles.
- People believe that these lighted lamps will guide their ancestors towards heaven.

88. TV-D1 Mission

- Test Vehicle Abort Mission-1 (TV-D1) will evaluate the crew module's readiness for the Gaganyaan mission.
- It is a single-stage liquid rocket developed specifically for this abort mission.
- The payloads consist of the Crew Module (CM) and Crew Escape Systems (CES) with their fast-acting solid motors, along with CM fairing (CMF) and Interface Adapters.
- This flight will simulate the abort condition during the ascent trajectory corresponding to a Mach number of 1.2 encountered in the Gaganyaan mission.

89. Niemann-Pick Disease

- It is a rare genetic disorder in which sphingomyelin accumulate in lysosomes inside cells.
- This disease involves dysfunctional metabolism of sphingolipids.
- The three most commonly recognized forms are Niemann-Pick Types A and B and Type C.
- This disease can affect the brain, nerves, liver, spleen, bone marrow and, in severe cases, lungs.
- People with this condition experience symptoms related to progressive loss of function of nerves, the brain and other organs.
- It can occur at any age but mainly affects children.

Causes:

- It is inherited in an autosomal recessive pattern, which means both copies of the gene, must be defective to cause the disease.
- Most often, the parents of a child with an autosomal recessive disorder are carriers: they have one copy of the altered gene, but are not affected because the other copy produces the enzyme.
- If both parents are carriers, each pregnancy has a 25% chance of producing an affected child.

90. Automated Permanent Academic Account Registry (APAAR)

- APAAR, dubbed 'One Nation, One Student ID', is an Education Ecosystem Registry, or an 'EduLocker'.
- The APAAR will give each student enrolled from pre-primary to higher education, a unique identification number.
- This will be in addition to the already existing Aadhaar ID that every individual has.

- Upon enrolling in APAAR, each student's identity will be authenticated through their Aadhaar ID or other officially recognised documents, and a distinct identification number will be generated for them.

91. Sahyadri Tiger Reserve (STR)

- Location: Sahyadri Ranges of the Western Ghats in Maharashtra.
- The reserve spreads over Koyna Wildlife Sanctuary, forming the northern portion, and Chandoli National Park, forming the southern part of the reserve.
- Includes the area around the Koyna Dam, the Warna River, and many other small rivers and streams.
- The most distinct feature of the Tiger Reserve is the presence of numerous barren rocky and lateritic plateaus, locally called "Sadas".
- Vegetation: Moist evergreen, semi-evergreen, moist and dry deciduous vegetation.
- There are many medicinal and fruit-bearing trees along with the commercial hardwood trees in the reserve.
- The main carnivores are the tiger, leopard, and some lesser cats along with the wolf, jackal, and wild dog.

92. Operation Nanhe Faristey

- Launched on Indian Railways
- Under this drive, children in need of care & protection who came into contact with Indian Railways were rescued and handed over to concerned authorities before being restored to their families.

93. Yuva Sangam

- Objective: To strengthen people-to-people connections between youth belonging to different States/UTs of India.
- Interested youth in the age group of 18-30 years, mainly students, NSS (National Service Scheme)/NYKS (Nehru Yuva Kendra Sangathan) volunteers, employed/self-employed persons, etc. may register through the YUVA SANGAM portal.
- It focuses on experiential learning and imbibing knowledge of the rich diversity of India on a first-hand basis.
- It is an on-going cultural exchange with the celebration of diversity at its core wherein participants gain an immersive experience of diverse facets of life, natural landforms, development landmarks, recent achievements, and youth connect in the host state.

94. Siena Galaxy Atlas

- It is a digital atlas that was created to get to know our universe better through several of the known galaxies.
- It was created using data from three astronomical surveys collected between 2014 and 2017 at Cerro Tololo Inter-American Observatory (CTIO) and Kitt Peak National Observatory (KPNO).
- Together, these surveys are known as the DESI Legacy Surveys.
- It is dependent on state-of-the-art digital images captured by advanced technology, unlike previous atlases, which relied on antiquated equipment and photographic plates.
- As it is built on the images captured with highly sensitive instruments, it boasts the most accurate data.
- It is also the first cosmic atlas to feature the light profiles of galaxies- a curve that describes how the brightness of the galaxy changes from its brightest point to its dimmest.

95. Someshwara Inscription

- This inscription is very significant in the study of Tuluva history and culture.
- It has two panels on the top, and in between the two panels, the first line is engraved.
- The rest of the inscription written below the panels is in Kannada script and the language of 12th century characters announcing the death of Alupendra I.
- The human figures shown in the inscription represent Kulashekara Alupendra himself.

96. Chanakya Defence Dialogue

- It will serve as a regular forum, bringing together top minds from the global defence and strategic sectors to facilitate the exchange of insights and ideas.
- It aims to integrate intelligence, strategy, and expertise, fostering discussions on topics such as Neighbourhood Forces, the evolving impact of emerging technologies on defense and security etc.
- The Indian Army is collaborating with the renowned think tank, Centre for Land and Warfare Studies (CLAWS), to organise the event.
- This gathering will draw participants from a diverse range of nations, including Australia, France, Japan and the United States.
- Discussions will revolve around a broad spectrum of security challenges and strategies, focusing particularly in the pivotal regions of South Asia and the Indo-Pacific.
- Additionally, cooperation in defence technology, military exercises, and nuclear proliferation concerns will be discussed.

97. Indian Institute of Corporate Affairs

- It was registered as a society on September 12, 2008, under the Societies Registration Act, 1860.
- It is an institution established by the Ministry of Corporate Affairs (MCA) of the Government of India.
- It is an autonomous body that acts as a think-tank and a Centre of Excellence to support the growth of the corporate sector in India through an integrated and multi-disciplinary approach.
- It offers its capacity-building and advisory solutions through various Schools and Centres.
- The School of Business Environment at IICA works in the areas of Environmental-Social Governance (ESG), Corporate Social responsibility (CSR), and Business & Human Rights (BHR).

98. Paintbrush Swift Butterfly

- Recently, the paintbrush swift butterfly has been photographed and documented for the first time in Himachal Pradesh's Chamba district.
- It is a butterfly species of the Hesperiiidae family.
- It is identified based on two separated spots in the upper forewing cell.
- The species' larvae feed on bamboo and some other grass species.
- Its habitat is distributed in northeast, central and south India, and rare in Uttarakhand.
- Threats: Habitat loss and scarcity of larval host plants, an increase in pesticide use, deforestation, and climate change.
- Conservation status: Schedule IV of the Wildlife (Protection) Act, 1972.

99. Edakkal Caves

- These caves are located 3,900 feet above sea level in the majestic Ambukuthi Hills.
- The unique, intricate stone carvings date back to the Neolithic and Mesolithic ages.
- The caves are two natural formations that are believed to have been formed by a large split in a huge rock.
- These feature Neolithic-era pictorial writings believed to date to at least 6,000 BCE.

- Human figures, animals, tools, vehicles, day-to-day occurrences, and scripts in different languages have been discovered here.
- The diversity of the engravings suggests that the Edakkal caves were inhabited several times at different points in history.
- The Muniyaras, or ancient burial sites that have been discovered in these hills have yielded a rich collection of ancient earthenware and pottery.

100. Senior Advocate

- Under Section 16 of the Advocates Act 1961, two classes of advocates are classified viz. Senior Advocate and Junior or those who are not designated as seniors.
- The senior advocates play the role of legal experts in India who have significant knowledge in the field of law.
- They are associated with many prominent cases as they are good contributors to the principle of the Rule of Law.
- A senior advocate shall not appear without an advocate on record in the SC or without an advocate in any other court.
- A senior advocate shall not accept instructions to draft pleadings or affidavits, advice on evidence, or to do any drafting work of an analogous kind in any Court or Tribunal or before any person or other authority.
- A senior advocate shall not accept directly from a client any brief or instructions to appear in any Court or Tribunal or before any person or other authority in India.

101. Ghatiana sanguinolenta

- It is a newly discovered species of freshwater crab.
- The crab gets its name from the Latin word 'sanguinolenta', meaning 'red' or 'blood-coloured'.
- The crab's blood-red colour and the outwardly curved article of the first part of the male 'gonopod' (genetalia) distinguish it from other species in the Ghatiana subgenus.
- It is currently known only from the type locality, which is situated in the Central Western Ghats of India.
- It predominantly resides in water collected within tree trunks and exhibits heightened activity during the rainy season.
- Their diet consists of insects and algae.

102. Lemru Elephant Reserve

- It is located in the Korba district of Chhattisgarh.
- It seeks to give elephants a permanent habitat while also minimising property damage and human-animal conflict.
- The reserve is part of an elephant corridor that connects Lemru (Korba), Badakhhol (Jashpur), Tamorpingla (Surguja).

103. Competition Commission of India

- It is a statutory body of the Government of India, established in March 2009 under the Competition Act, 2002.
- Objective: To create and sustain fair competition in the economy that will provide a 'level playing field' to the producers and make the markets work for the welfare of consumers.

- The priority of the Commission is to eliminate practices having adverse effects on competition, promote and sustain competition, protect the interests of consumers, and ensure freedom of trade in the markets of India.
- It has the composition of a quasi-judicial body, with one chairperson and six additional members.
- All members of the CCI are appointed by the Central Government.
- Headquarters: New Delhi.

104. Infantile Hypophosphatasia

- It is a rare genetic disease in which the patient's bones and teeth demineralise, making her fragile and prone to fractures.
- It may have no noticeable abnormalities at birth, but complications become apparent within the first six months of life.
- The initial problem may be the baby's failure to gain weight and grow as expected, referred to as "failure to thrive."
- Sometimes the skull bones fuse, called craniosynostosis, which can lead to a deformed head (brachycephaly).
- Affected infants have softened, weakened, and deformed bones consistent with rickets.
- Causes: It is caused by mutations in the ALPL gene.
- Treatment: There is no known cure for this disease.

105. Little Ice Age (LIA)

- It was one of the coldest periods of the past 10,000 years, a period of cooling that was particularly pronounced in the North Atlantic region.
- This cold spell was responsible for crop failures, famines, and pandemics throughout Europe, resulting in misery and death for millions.
- The Little Ice Age followed the Mediaeval Warming Period (roughly 900–1300 CE) and preceded the present period of warming that began in the late 19th and early 20th centuries.
- Impacts
 - It is best known for its effects in Europe and the North Atlantic region.
 - Alpine glaciers advanced far below their previous (and present) limits, obliterating farms, churches, and villages in Switzerland, France, and elsewhere.
 - Frequent cold winters and cool, wet summers led to crop failures and famines over much of northern and central Europe.
 - In addition, the North Atlantic cod fisheries declined as ocean temperatures fell in the 17th century.

106. Operation Chakra-II

- It was launched to fight against transnational organised cyber-enabled financial crimes in India.
- For this, CBI has partnered with Microsoft and Amazon, as well as with national and international agencies, to combat and dismantle infrastructure of illegal call centres.
- The CBI is working with the Federal Bureau of Investigation (FBI) of the USA, the Cyber Crime Directorate and IFCACC of INTERPOL, the National Crime Agency (NCA) in the UK, Singapore Police Force and BKA of Germany to notify further leads.

107. UMEED Scheme

- The UMEED scheme under the Jammu and Kashmir Rural Livelihoods Mission (JKRLM) is a centrally sponsored scheme to encourage women to be self-dependent and self-sufficient.
- Objective: To help the rural poor across Jammu and Kashmir.
- It also encourages women to make small savings so that their Self-Help Groups (SHGs) eventually become bankable at a reduced rate of interest.
- It helps women entrepreneurs exhibit and market their products.
- It is implemented by the Jammu & Kashmir State Rural Livelihoods Society.

108. Intelligence Bureau (IB)

- IB is an internal intelligence agency of India that is used to gather intelligence from within India and also execute counter-intelligence and counter-terrorism tasks.
- It is also tasked with intelligence collection in border areas, following the 1951 recommendations of the Himmatsinhji Committee.
- It comes under the administrative control of the Ministry of Home Affairs.
- The IB activities are highly confidential, and no publications other than the internal ones reveal their arcane workings.
- Another major activity of the IB is passing on intelligence information to other Indian intelligence agencies as well as the police.
- It is responsible for granting basic safety clearances to Indian diplomats and judges before their national oath.
- It is also authorized to carry out wiretapping without a warrant.

109. Small Savings Instruments (SSIs)

- These are a set of savings instruments managed by the central government with the aim of encouraging citizens to save regularly, irrespective of their age.
- They provide returns that are generally higher than bank fixed deposits.
- It also gives a sovereign guarantee and tax benefits.
- All deposits received under various small savings schemes are pooled in the National Small Savings Fund.
- These instruments can be classified into
 - Postal deposits (comprising savings account, recurring deposits, time deposits of varying maturities, and monthly income scheme (MIS).
 - Savings certificates (National Small Savings Certificate VIII (NSC) and Kisan Vikas Patra (KVP).
 - Social security schemes (public provident fund (PPF) and Senior Citizens' Savings Scheme (SCSS).
- The money in the fund is used by the central government to finance its fiscal deficit.

110. Aadi Mahotsav

- It is being organised by the Tribal Cooperative Marketing Development Federation of India Limited (TRIFED).
- It serves as a unique, symbiotic bridge to embark on a journey through the tapestry of India's indigenous heritage.
- In this event, a total of over 100 stalls would showcase the kaleidoscope of India's tribal culture, craftsmanship, culinary artistry, and economic endeavours.

- This Aadi Mahotsav, besides other attractions of handicrafts, handloom, pottery, jewellery, will be showcasing 'Millets grown by Tribals'.

111.Exercise Harimau Shakti 2023

- It is a joint bilateral training exercise between Indian & Malaysian Armed Forces.
- Aim: To enhance military capability for conducting Multi Domain Operations in a sub conventional scenario.
- During the exercise, both contingents will establish a Joint Command Post & establish an integrated surveillance grid along with a Joint Surveillance Centre.
- Both sides will rehearse employment of joint forces in jungle/ semi urban / urban environment.
- In addition, intelligence collection, collation and dissemination drills will also be rehearsed.
- The Exercise will also witness employment of Drones/UAVs & Helicopters.
- Two sides will also practice casualty management and evacuation drills.
- Both the contingents will discuss logistics management and practice survival training at the Battalion level.
- The training will focus primarily on high degree of physical fitness, conduct of drills at tactical level and sharing of best practices with each other.

112.Kasturi Cotton Bharat

- Recently, the Union Minister of Textile, Commerce & Industry, Consumer Affairs and Food & Public Distribution launched website of Kasturi Cotton Bharat.
- It is a joint initiative by the Ministry of Textiles, the Cotton Corporation of India, Trade Bodies & Industry.
- Objective: To work on the principle of self-regulation by owning complete responsibility of Branding, Traceability and Certification of Indian Cotton to enhance its' competitiveness in the global market and create a sustainable ecosystem for all stakeholders involved.
- The website provides a digital platform for necessary information and updates on these initiatives and highlights the registration process for ginners to produce Kasturi Cotton Bharat Brand.
- Besides this, to provide complete traceability of Kasturi Cotton Bharat across the supply chain, QR based certification technology will be used at each stage of the processing and a blockchain based software platform will provide end to end traceability and transaction certificate.
- The Cotton Textiles Export Promotion Council (TEXPROCIL) , the apex body, has been designated as the implementing agency for Traceability, Certification and Branding of "KASTURI Cotton India".

113.Long Valley Caldera

- It is located in the Eastern Sierra Nevada Mountains of California, United States of America (USA).
- It is a dormant supervolcano.
- It was formed by a super-eruption about 760,000 years ago that blasted magma, covering much of east-central California in hot ash that was blown as far away as present-day Nebraska.
- It has been unleashing earthquake swarms on a regular basis since 1978, raising concerns that it might be at risk of erupting.

114.DANGER (Deleterious and Anticipatable Guides Evaluated by RNA-Sequencing)

- DANGER analysis is a new software tool that makes genome editing safer by overcoming limitations in current CRISPR technology.
- It works by conducting risk-averse on- and off-target assessments using RNA-sequencing data.
- It evaluates phenotypic effects based on gene expression changes caused by deleterious off-target sites.
- The software quantifies the phenotypic risk at the gene ontology level without the need for a reference genome.
- The tool successfully evaluated the phenotypic effects of gene editing in human cells and zebrafish brains.
- It can be performed on various organisms, personal human genomes, and atypical genomes created by diseases and viruses.
- The open-source nature of the software allows for its adaptation to different genome editing systems beyond CRISPR-Cas9.

115.Mycena

- Mycena is a large genus of small saprotrophic mushrooms in the family Mycenaceae.
- Habitat: They can be found on decaying wood, leaf litter, or soil, and they often appear in clusters or small groups.
- Most of the species are extremely small mushrooms, rarely exceeding a few centimeters in diameter and often only reaching diameters of a few millimeters.
- Majority of species are grey, brown, and white in color, while a few are brightly colored.
- They are characterized by a white spore print, a small conical or bell-shaped cap, and a thin, fragile stem.
- Most have a translucent and striate cap, which rarely has an incurved margin.
- These mushrooms have closely spaced, free, or attached gills that run down the stem.
- Mycenas are hard to identify as species, and some are distinguishable only by microscopic features such as the shape of the cystidia.
- Some species are known to be edible, while some are known to contain toxins, but most of them are not known, as they are too small to be useful in cooking.
- Some species are bioluminescent, meaning they can emit a faint, greenish glow in low-light conditions.

116.SENSEX

- Recently, Sensex sank 1.4% to 4-month low on geopolitical, U.S. bond yield worries
- SENSEX is the oldest stock exchange in India and is also termed as BSE (Bombay Stock Exchange).
- It comprises 30 of the largest and most actively-traded stocks on the BSE, providing a gauge of India's economy.
- The index's composition is reviewed in June and December each year.
- Analysts and investors use it to observe the cycles of India's economy and the development and decline of particular industries.

117. Vajra Mushti Kalaga

- It is a unique Indian martial art that incorporates various techniques of hand-to-hand combat like grappling, wrestling, and striking.
- Vajra Mushti, which literally means Thunderbolt Fist, is characterised by the utilization of a knuckleduster, a small metal weapon.
 - It is usually made of animal horns and worn on the knuckles of the fighter.
- The main objective of this Indian martial art form is to neutralise the opponent and counter his weapon.
- It is a form of wrestling different from conventional grappling and entails two jettys taking a swipe at each other's heads with a knuckleduster.
- Whoever draws the blood from the opponent's head first is declared the winner.
- This form of wrestling was popular during the period of the Vijayanagar rulers, who reigned between the 14th and the 17th centuries.

118. Jamrani Dam Multipurpose Project

- The project envisages the construction of a dam near Jamrani village across river Gola, a tributary of river RamGanga, in the Nainital district of Uttarakhand.
- A substantial part of irrigation benefits of the project would flow to the neighbouring state of Uttar Pradesh.
- This project is the seventh project to be included in the PMKSY-AIBP list.

119. Vikram-1 Rocket

- Vikram-1, named after the father of India's space programme, Vikram Sarabhai, is a multi-stage launch vehicle with a capacity to place around 300 kg of payloads in low-earth orbit.
- It has been built by Hyderabad-based Skyroot Aerospace, a space startup.
- It is an all-carbon-fibre-bodied rocket that can place multiple satellites into orbit.
- Being a solid-fuel rocket and using relatively simpler technologies would mean that launching this vehicle would require minimal infrastructure and that the rocket could be assembled and launched within 24 hours from any site.

120. Sea Cucumber

- This species is a part of a larger animal group called echinoderms and is invertebrates that lives on the seafloor.
- Their body shape is similar to that of a cucumber, but they have small tentacle-like tube feet that are used for locomotion and feeding.
- They are found in all marine environments throughout the world, from shallow to deep-sea environments.
- These are benthic, meaning they live on the ocean floor.
- They excrete inorganic nitrogen and phosphorus, enhancing the productivity of benthic biota.
- Unlike most terrestrial animals, sea cucumber eggs undergo external fertilization
- Conservation status
 - CITES: Appendix II
 - Wildlife Protection Act of 1972: Schedule I

121. *Alcalus fontinalis*

- It is a newly discovered species of frog.
- It was discovered in the Namdapha Tiger Reserve, Arunachal Pradesh.
- The frog appeared to be a mix of a bush frog and a water frog.
- The new species stands out from its congeners due to a unique combination of morphological features.

- These include a snout-vent length of 27–28 mm in males and 29.9–36.2 mm in females, a disc on fingers and toes with a horizontal/transverse groove on the dorsal surface, wrinkled dorsal skin, and a pair of faint dorsolateral stripes on the back.

122. Meri Maati Mera Desh campaign

- Under this campaign soil collected from different parts of the country will be used to develop a garden along the Kartavya Path in Delhi.
- Events have been planned at the panchayat, village, block, urban local body, and State and national levels, respectively.
- The five-point agenda includes the installation of a shilaphalakam, bearing the “names of those who have made the supreme sacrifice”.
 - It may be executed through the MGNREGA, leveraging local materials and resources.
- ‘Vasudha Vandhan’ envisages every gram panchayat or village renewing “Mother Earth by planting 75 saplings of indigenous species and developing an Amrit Vatika”.
- ‘Veeron Ka Vandan’ will felicitate freedom fighters, and the families of deceased freedom fighters.
- Young volunteers and others will collect soil from every panchayat/village and bring it to the block, from where the ‘Mitti Kalash’ will be transported to Delhi.

123. The PM e-bus Sewa Scheme

- It intends to augment city bus services with 10000 e-buses on a PPP model.
 - An e-bus is any bus whose propulsion and accessory systems are powered exclusively by a zero-emissions electricity source.
- It will support the bus operations for 10 years.
- Two segments of the Scheme
 - Segment A – Augmenting the City bus services (169 cities)
 - The approved bus scheme will augment city bus operations with 10,000 e-buses on a PPP model.
 - Segment B – Green Urban Mobility Initiatives (GUMI) (181 cities)
 - It envisages green initiatives like bus priority, infrastructure, multimodal interchange facilities, NCMC-based Automated Fare Collection Systems, Charging infrastructure, etc.
- Coverage
 - The scheme will cover cities of 3 lakh and above population as per the census 2011.
 - Priority will be given to cities having no organised bus service.

124. Agnipath Scheme

- Introduced to take in recruits for the Army, Navy, and Indian Air Force (IAF) on four-year contracts, including six months of training.
- At the end of four years, up to 25% of recruits can apply to join the services on a regular basis, subject to merit and organisational requirements.
- At present, all sailors, airmen, and soldiers, except the technical cadre of the medical branch, are recruited to the services under the scheme.
- The scheme had also opened doors for recruitment of women as Agniveers to the IAF and Navy.
- The scheme aimed to ensure a youthful profile for the armed forces by bringing down the average age of serving soldiers.
- The scheme would help transform the armed forces into a tech-savvy and modern fighting force.

125. Lorrainosaurus

- It is the oldest mega-predatory pliosaur.
- It lived during the ancient Middle Jurassic era in marine environments.
- The regions in which it lived 170 million years ago are now located in northern France.
- This giant reptile probably reached over 6 meters from snout to tail.

- The animal had jaws over 1.3 m long with large conical teeth and a bulky 'torpedo-shaped' body propelled by four flipper-like limbs.
- They were ecological equivalents of today's killer whales and would have eaten a range of prey, including squid-like cephalopods, large fish, and other marine reptiles.

126. Betelgeuse Star

- It is a red supergiant star with a distinctive orange-red hue.
- It is roughly 10 million years old and much younger than the Sun.
- It is around 700 light-years away from the Earth and located in the Orion constellation.
- It is particularly easy to spot because of its brightness; it is often the tenth-brightest star in the sky.
- It is also one of the largest stars visible to the unaided eye.
- While it is large and bright, Betelgeuse isn't actually that hot.
- Betelgeuse has been classified as a "semiregular variable star".
 - It is a type of variable star that periodically waxes and wanes in brightness and occasionally undergoes irregular light changes.
- It, typically, has a 400-day cycle as well as a longer cycle that stretches about 5 years.

127. Global Declaration for River Dolphins

- This declaration is designed to guide 14 nations where river dolphins inhabit, with a focus on responsible freshwater dolphin conservation.
- It aims to halt the decline of all river dolphin species and increase the most vulnerable populations.
- It will escalate collaborative endeavours to safeguard the surviving river dolphin species.
- Members: Bangladesh, Bolivia, Brazil, Cambodia, Colombia, Ecuador, India, Nepal, Pakistan, Peru and Venezuela.
- They agreed to improve water quality in the dolphins' habitat, create protected areas and tackle overfishing.
- They also agreed to involve Indigenous communities in the affected regions in protecting the animals.

128. Pichwai Painting

- It is a traditional style of painting that originated in the state of Rajasthan, India.
- The history of this art form can be traced back to the 17th century.
- Theme: It mainly features the various stages of Lord Krishna's life.
- The artists use stone pigments, especially for gold and silver tones.
 - The brighter orange, red, chrome yellow and kesari colours come from vegetable dyes
- Other schools of Pichwai: Nathdwara, Kishangarh and Bundi in Rajasthan.
- They are often used to decorate the backdrops of Hindu temples, where they serve as a visual representation of the stories associated with Lord Krishna.
- These paintings have distinct features of a heavier body and large elongated eyes, with a broad nose of Shrinathji, similar to the features of the idol at the temple.
- The paintings are often filled with details, such as flowers, animals, and geometric patterns, which are arranged in a symmetrical and balanced composition.
- Some of the famous Pichwai Paintings are
 - Shrinathji in Black & Gold
 - Ras Leela: Krishna with Radha
 - Giriraja Pichwai depicting Lord Krishna carrying Govardhana mountain on his little finger

129. Asia-Pacific Economic Cooperation

- APEC is an inter-governmental forum of 21 member economies in the Asia-Pacific region.
- Established in 1989 in response to the growing interdependence of the region's economies.

- Objective: To “promote trade and economic cooperation among its member economies in order to create greater prosperity for the people of the Asia-Pacific region.”
- APEC accounts for approximately 60% of global GDP and 47% of global trade.
- Members: Australia, Brunei Darussalam, Canada, Chile, China, Hong Kong, Indonesia, Japan, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, the Philippines, Russia, Singapore, South Korea, Taiwan, Thailand, the United States, and Vietnam.
- APEC decisions are reached by consensus, and commitments are made on a voluntary basis.

130. Saras Aajeevika Mela

- It is an initiative by the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM) of the Ministry of Rural Development.
- Objective: To bring the rural women Self Help Group members under one platform to showcase their skills, sell their products, and help them build linkages with potential market players.
- It is organised by the Ministry of Rural Development and National Institute of Rural Development and Panchayati Raj (NIRDPR)

131. Rashtriya Gokul Mission

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

132. Leopard Toby Puffer Fish

- Recently, a "super rare" creature, the Leopard Toby Puffer Fish, that roams in the depths of the ocean, has been spotted off the coast of Australia.
- It is a deepwater reef species that lives in deep water caves and reef slopes at an average depth of 50 to 100 m.
- It is characterised by clusters of black dots along the flanks of its pale body.
- It is also known as blowfish.
- In general they are known for their unique morphological appearance and features, especially their defensive mechanism of inflating and deflating.
- These small sea creatures pump water into their stomachs until they turn into the shape of a ball, larger than their normal body size, to evade predators.
- Distribution: It is usually found in the waters of the Philippines, Indonesia, Guam, and Micronesia.
- IUCN: Least Concern

133. Antiquity

- The Antiquities and Art Treasures Act (1972), defines “antiquity” as
 - any coin, sculpture, painting, epigraph or other work of art or craftsmanship;
 - any article, object or thing detached from a building or cave;
 - any article, object or thing illustrative of science, art, crafts, literature, religion, customs, morals or politics in bygone ages;
 - any article, object or thing of historical interest.
- The minimum time for any of the above mentioned items to be considered as antique is 100 years.

- For “manuscript, record or other document which is of scientific, historical, literary or aesthetic value”, this duration is “not less than 75 years.”

134. Reykjanes Peninsula

- Recently, a seismic swarm has hit the Reykjanes peninsula in southwest Iceland with more than 5,500 small earthquakes in the last three days.
 - It is a series of many (sometimes thousands) low-intensity earthquakes without a discernible main shock that can occur over weeks in active geothermal areas.
 - When seismic energy piles up inside the Earth and is released in small amounts from certain points, a series of earthquakes can occur.
- It is a peninsula in South West Iceland, characterized by immense lava fields, volcanoes, and heightened geothermal activity.
- It runs along the Mid-Atlantic Rift, where the Eurasian and the North American tectonic plates are drifting apart.

135. Talagirishwara Temple

- It is located in Panamalai village of Viluppuram district in Tamil Nadu, India.
- The temple is constructed on an insignificant, small hill overlooking the Panamalai Lake.
- The temple was constructed by Pallava king Narasimhavarman II, popularly known as Rajasimha.
- Key Features
 - This Seventh Century structure incorporates a Vimana that resembles that of Kailasanatha temple in Kanchipuram.
 - The garbhagriha stocks a Dharalingam, and as in Pallava temples of that period, there is a Somaskanda section on the hindmost wall of the shrine.
 - It includes an Ardhamandapam (partial Mandapam).
 - The walls of the Ardhamandapam post panels of divinities, including Brahma with Saraswati and Vishnu with Lakshmi on either flank.
 - The temple faces east and the garbhagriha is enclosed on all three sides by sub shrines.
 - The Vimana is 3 layered and the high tier has also been rebuilt.
 - The typical Pallava mark, pillars with crouching lions, is also found.

136. Ejecta Halo

- The Vikram lander of the Chandrayaan-3 mission landed near the south pole of the moon.
- During the action of descent stage thrusters and the consequent landing, a significant amount of lunar surficial epi regolith material got ejected, resulting in a reflectance anomaly or ejecta halo”,
- Ejecta halo is an irregular, bright patch surrounding the lander.
- Significance
 - This discovery sheds light on the behaviour of lunar materials during such events.
 - It opens up new avenues for research and understanding lunar geology.

137. Jehovah’s Witnesses

- They are a Christian sect, but do not believe in the Holy Trinity.
 - The Holy Trinity doctrine says that God exists in three equal persons of the Father, the Son (Jesus Christ) and the Holy Spirit.
- The origins of the sect lie in a Bible Student movement started in the 1870s by American pastor Charles Taze Russell.
- They worship Jehovah as “the one true and Almighty God, the Creator”, who is “the God of Abraham, Moses, and Jesus”.
- They base their beliefs only on the text of the Bible, which they see as the word of God.
- They don’t celebrate Christmas or Easter, because they believe such festivals to be inspired by Pagan traditions.

- These faiths draw on the traditional religions of indigenous peoples throughout the world.
- Known for their evangelical work - believing that religious ceremony is not as important as belief in Jesus Christ and study of the Bible.
 - For this they go door to door, to spread “The Truth”.
- They believe the end of the world is near, and the Kingdom of God will replace human governments and accomplish God’s purpose for the earth.

138. Nanoflorets

- The flower is made of carbon nanostructure.
- It is made with the help of dendritic fibrous nanosilica and acetylene gas.
- The new nano structure is blacker than black.
- The material is called the material carbon nanoflorets.
- The nanoflorets also didn’t easily dissipate the heat generated into the environment, making the material a good candidate to heat other materials, like water, using solar energy.

139.E- Commerce

- The fifth annual study conducted across 12 e-commerce platforms by Fairwork India, presents a grim picture of working conditions for India’s gig workers.
 - Only three platforms Bigbasket, Flipkart, and Urban Company had a minimum wage policy to ensure all workers earn at least hourly local minimum wage after factoring in work-related costs.
- E-Commerce is defined as the buying and selling of goods and services including digital products over digital and electronic networks.
- It draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems.

140. Chhath Pooja

- Chhath is a Hindu festival dedicated to the Sun god and his wife Usha in order to thank them for bestowing the bounties of life on earth.
- The Goddess who is worshipped during the famous Chhath Puja is known as Chhathi Maiya (also known as Usha, wife of the sun god).
- The word chhath means sixth and the festival is celebrated on the sixth day of the month Kartika of the Hindu lunar Bikram Sambat calendar.
- The festival is observed over a period of four days and the rituals include holy bathing, fasting, standing in water for long periods of time, and offering prayers and food to the setting and rising sun.
- The main worshipers, called Parvaitin, are usually women. However, many men also observe this festival as Chhath is not a gender-specific festival.
- The festival is observed most elaborately in Mithila Province of Nepal, Terai-Madhesh region of Nepal, Indian states of Bihar, Jharkhand and UP.

141. Subsurface Water Ice Mapping (SWIM) Project

- Recently, NASA's Subsurface Water Ice Mapping (SWIM) project released its fourth set of maps.
- The project uses data from several NASA missions, such as the Mars Reconnaissance Orbiter (MRO), the 2001 Mars Odyssey, and the defunct Mars Global Surveyor.
- For the first time, the HiRISE (High-Resolution Imaging Science Experiment) data was used to provide the most detailed view of the ice’s edge as close to the equator as possible.
- The first phase of the SWIM project, completed in 2019, focused on the northern hemisphere.
- The second phase, completed in 2020, includes the southern hemisphere.
- It aims to locate the best places to access water ice buried under the Martian surface.

- The new map includes sightings of so-called “polygon terrain,” where the seasonal expansion and contraction of subsurface ice causes the ground to form polygonal cracks, indicating more ice hidden beneath the surface.

142. Exercise KAZIND-2023

- The Joint Exercise between India and Kazakhstan was instituted as ‘Exercise PRABAL DOSTYK’ in the year 2016.
- After the second edition, the Exercise was upgraded to a company-level exercise and renamed as ‘Exercise KAZIND’.
- The Exercise has been further upgraded as a Bi-service Exercise this year by including the Air Force component.
- In this edition of the Exercise, both sides will practise conduct of Counter Terrorism operations in a sub-conventional environment under United Nations mandate.
- The contingents will jointly rehearse various tactical drills to include Raid, Search and Destroy Operations, Small Team Insertion and Extraction operations, etc.
- The scope of the Exercise also includes conduct of Counter Unmanned Aerial System Operations.

143. Hostile Activity Watch Kernel (HAWK) system

- Recently, the Karnataka Forest Department, along with the Wildlife Trust of India, launched the Hostile Activity Watch Kernel (HAWK) system.
- It is a Cloud Based Information Management System designed to manage interlinked databases of wildlife crime, wildlife criminals, and wildlife mortality.
- It will help officials analyse the information and develop actionable intelligence to prevent wildlife crimes and curb Illegal Wildlife Trade (IWT).
- The system connects the entire state forest department in real-time and the access is restricted through access levels.
- This is a large ERP model cloud based system that uses mobile and desktop interfaces to manage data.
- The entire HAWK system is divided into various modules that are interconnected with individual stand alone functions.
- All the data managed by the HAWK system is secured with the government and industry standard security measures are applied to ensure data security.

144. Toll-Operate-Transfer (TOT) Model

- In 2016, the Cabinet Committee on Economic Affairs (CCEA) authorised the National Highway Authority of India (NHAI) to monetise public-funded national highway projects and approved the ToT model.
- In the TOT model, public-funded projects, operational for two years, are put up for bidding, wherein the right of collection and appropriation of fees is assigned for a predetermined concession period (30 years) to concessionaires (developers or investors) against the upfront payment of a lump sum amount to NHAI.
- Such assignment of rights shall be based on the toll revenue potential of the identified NH projects.
- Operation & Maintenance (O&M) obligations of such projects shall be with the concessionaire till the completion of the concession period.
- The concessionaires for such projects shall be appointed through a transparent and uniform procurement process within the ambit of a pre-defined and approved implementation framework.
- The TOT model has been developed to encourage private participation in the Highway sector.

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