Exchange-Traded Funds (ETFs)
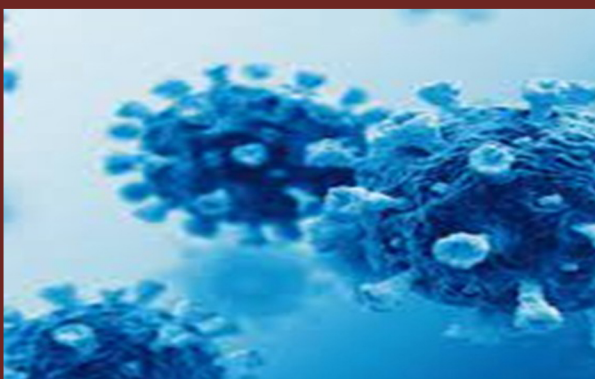
Article 356 of the Indian Constitution

Kambalakonda Wildlife Sanctuary

Otolith rings

ExerciseVINBAX-2023

JN.1 Variant

A Green and Sustainable Growth Agenda for the global economy report released by NITI Aayog

Parliamentary Committee submitted report on Promotion of Electric Vehicles (EVs) in the Country.

Dear Aspirants,

India's Supreme Court has upheld Prime Minister Narendra Modi government's 2019 decision to revoke Article 370 and 35A pertaining to Jammu and Kashmir's special status, which hitherto allowed a great amount of autonomy, allowing it to have its own constitution and decision-making powers, except in matters related to Defence, Communications, and Foreign Affairs came as a big blow to the Kashmir centric Political Parties. The revocation of this article aimed to integrate Jammu and Kashmir more closely with the rest of India and to ensure equal rights and opportunities for all citizens across the nation. Both India and Pakistan fought three wars since independence over the issue of accession of the State to India with Pakistan still in illegal occupation of a large part of the undivided territory of the then Princely State of Jammu and Kashmir.

The Supreme Court's five-Judge Constitutional Bench ruled that Jammu and Kashmir should be given the same Statehood as other Indian States, meaning that it should not have any rights to independent autonomy, "as soon as possible". The Bench ruled that the region's special status had been a "temporary provision" and that its removal in 2019 was permissible under the Constitution.

In 1949, Jammu and Kashmir was granted special status under Article 370 of the Indian Constitution, which was an interim arrangement to ease the war conditions in the State. With the exception of defense, foreign policy, and communications, it gave the state permission to have its own constitution, flag, and degree of autonomy over most issues. It was predicated on the conditions of the Instrument of Accession, which Jammu and Kashmir's ruler, Hari Singh, signed in 1947 to become a part of India following Pakistan's invasion. A 1954 amendment to Article 370, known as Article 35A, empowered the State legislature the authority to define and provide exclusive rights and benefits to the permanent residents of the State.

The core of India and Pakistan's hostility for more than 75 years has been Kashmir. Kashmir is claimed by Pakistan, which maintains that the Muslim-majority region belonged to the newly formed Dominion of Pakistan, which was established in 1947 following the end of British colonial authority and the division of the Indian subcontinent. Soon after partition, the first war for Kashmir broke out with Tribal invaders actively supported by Pakistan attacked J&K on 22nd October 1947 when the then Ruler of the Princely State, Maharaja Hari Singh was ambivalent about joining either of the Dominions who finally signed the Instrument of Accession on 26th October 1947 acceding to India following which the Indian Army landed in J&K on 27th October and started driving away the invaders. A UN mandated truce (UN Resolutions) resulted in a ceasefire in 1949 and a large part of the State still continues to be under the illegal occupation of Pakistan (Pak Occupied Kashmir). Since then, Pakistan has been making numerous attempts to grab Kashmir by resorting to terrorism as a State Policy by aiding, abetting, and supporting Insurgency and Terrorism in J&K and raising the issue in various international forums from time to time.

The repeal of Article 370 resulted in the repeal of Article 35A; thereby allowing non-Kashmiris to buy property in the region prompting raised fears that India was trying to induce "demographic change" in the Muslim-majority region. In 2019, the Indian Govt also divided the State into two Union Territories – Jammu and Kashmir with Assembly in the west and Ladakh (without Assembly) in the East – which are being administered directly from New Delhi. The Supreme Court in its judgement also directed the Indian Government to consider holding Assembly elections by September 30, 2024.

Critics of the Government's decision in 2019 argue that only the Constituent Assembly of J&K can decide on the State's

special status and question whether India's Parliament had the power to revoke it. Many Kashmiris see the 2019 decision as annexation and say the new laws are designed to change the demographics of the region. Members of minority Buddhist communities initially welcomed the move, but later many of them expressed fear of losing land and jobs in the Himalayan region.

The Supreme Court bench decided to not look into the legal aspects of the issue of Statehood and Article 3 reorganization based on the assurance of the Attorney General that the Statehood of Jammu and Kashmir would be restored soon after the elections and also the assurance that the restoration of the statehood of Jammu and Kashmir would not affect the status of Ladakh as a Union Territory. While the Court refrained from taking a position on the Jammu and Kashmir Reorganization Act and making the State a Union Territory, it emphasized the need to assess the impact of such changes on federalism, representative democracy and the historical context of the creation of the federal entities.

**Best wishes**

Yours sincerely,

K Rajendra Kumar IPS (Retd)

# TABLE OF CONTENT

# 1. NATIONAL

## 1.1 Article 356 of the Indian Constitution

### Overview:

- The Supreme Court recently held that the declaration of State emergency under Article 356 and the subsequent actions of the President should have a "reasonable nexus".

### About Article 356:

- Article 356 of the Constitution of India is based on **Section 93 of the Government of India Act, 1935.**

- According to Article 356, President's Rule can be imposed on any State of India on the grounds of the **failure of the constitutional machinery.**

### This is of two types:

- If the President receives a report from the State's Governor or is otherwise is convinced or satisfied that the State's situation is such that the State government cannot carry on the governance according to the provisions of the Constitution.

- Article 365: As per this Article, President's Rule can be imposed if any state fails to comply with all directions given by the Union on matters it is empowered to.

- In simple words, President's Rule is when the State government is suspended and the central government directly administers the State through the office of the Governor (centrally appointed).

- It is also called a **State Emergency or Constitutional Emergency.**

- **Parliamentary approval is necessary for the imposition of President's Rule in any State.**

- The proclamation of President's Rule should be approved in both Houses of Parliament **within two months of its issue.** The approval is by a **simple majority.**

- The President's Rule is initially for a period of six months. Later, it can be extended for a period of **three years** with parliamentary **approval, every six months.**

- **The 44th Amendment to the Constitution (1978)** brought in some constraints on the imposition of the President's Rule beyond a period of one year. It says that President's Rule cannot be extended beyond one year unless:

  ➢ There is a national emergency in India.

  ➢ The Election Commission of India certifies that it is necessary to continue the President's Rule in the State because of difficulties in conducting Assembly elections in the State.

- What happens after the President's Rule is imposed?

  ➢ The Governor carries on with the administration of the State on behalf of the President. He or she takes the help of the State's Chief Secretary and other advisors/administrators whom he or she can appoint.

  ➢ The President has the power to declare that the State legislature's powers would be exercised by the Parliament.

  ➢ The State legislative assembly would be either suspended or dissolved by the President.

  ➢ When the Parliament is not in session, the President can promulgate ordinances with respect to the State's administration.

## Revocation of the President's Rule:

- President's Rule can be revoked anytime after such a proclamation has been made by a subsequent proclamation by the President.

- **A proclamation of revocation does not require approval by Parliament.**

## Q) What is national emergency in India?

- Under Article 352 of the Constitution of India, the President can proclaim a national emergency where he is satisfied that there might be a **threat to the security of India through war, or any external aggression (armed rebellion).** It must get approved by **both the houses within a period of one month.** After approval, the emergency continues for **up to six months.** During the period of National Emergency, the President acquires certain additional powers and can give directions to any State with respect to the manner in which execution of powers are required to be done. He can modify the pattern of distribution of financial resources amongst the Union and the States. The President can suspend all the Fundamental Rights during National Emergency except for **Article 20 and 21.**

## 1.2 Lok Adalat disposed of over 25 lakh disputes in a day

- Lok Adalat is an **Alternative Dispute Redressal Mechanism (ADRM).**

- ADRM involves various methods of resolving conflicts outside of the traditional court system.

- They have played key role in reducing the burden of judiciary and provided a speedy, cheaper, and more amicable approach to resolve conflict.

## Key Aspects of Lok Adalat:

- **Establishment: Under Legal Services Authorities Act, 1987.**

- Tiers: Constituted at different levels namely, National Lok Adalat, State Authority level, High court level, District Court level and Taluk level.

- National Level Lok Adalats are held for at regular intervals where on a single day Lok Adalats are held throughout the country.

- Mobile Lok Adalats are also organised.

- **Jurisdiction:** Disputes/cases pending in the court of law or at pre-litigation stage.

- **Nature of cases:** Civil Cases, Matrimonial Disputes, Land Disputes, Partition/Property Disputes, Labour Disputes etc.,

- **Powers:** Have the same powers as are vested in a Civil Court under the Code of Civil Procedure (1908).

- Decisions/Awards are final and binding on all parties.

- No Appeal shall lie to any Court against its Award.

## Other Major ADRM in India

- Arbitration (quasi-judicial proceeding, decision is binding)

- Mediation (decision making on voluntary and consensual basis)

- Conciliation (conciliator assists the parties to reach a mutually satisfactory agreed settlement, nonbinding.

## 1.3 Global Status Report on Road Safety 2023 released by the World Health Organisation

- The report covers progress between 2010 and 2021 and sets a baseline for efforts to meet the United Nations Decade of Action (UNDA) 2021–2030 target to halve road traffic deaths by 2030.

## Key findings in the report :

- The global fatality rate per lakh population has **fallen 16%** since 2010.

- Nine in 10 deaths occur in low- and middle-income countries.

- As of 2022, 140 countries have legislation meeting WHO best practices for at least one of the five key risk factors.

- 131 countries have national legislation mandating third-party liability insurance for vehicles.

## Measures to be taken:

- **Legislation, policies, plans and strategies** related to multimodal transport use

- Road safety **inspections and audits**

- Specifying **minimum safety standards** for vehicles

- Concerted action for **speed management** laws governing road user behaviours

- Legislation on distracted driving

## India's Initiatives:

- High priority to **identification and rectification** of black spots

- Motor Vehicles Amendment Act 2019 hikes penalties for **traffic violations.**

- Indian Road Safety Campaign Ministry of Road Transport & Highways had formulated a **4Es strategy (education, engineering, enforcement and emergency care).**

## 1.4 Skilling NGO Unnati First To List On Social Stock Exchange (SSE)

- SSE is a **separate segment of the Stock Exchange** that can help Social enterprises to raise funds from the public through the stock exchange mechanism.

- To be recognised as a social enterprise, organisations need to **demonstrate that 67% of their activities have targeted**

- Underserved or less privileged population segments or

- **Regions which have recorded lower performance in the development priorities** of central or state governments.

- **Not-for-profit Organizations (NPOs) and For-profit social enterprises** can list themselves in SSEs.

- **Fundraising can be done through**

- **Issuance of Zero Coupon Zero Principal (ZCZP) bonds and donations through Mutual funds** for NPOs

- ZCZPs are **issued only by an NPO** registered on a Social Stock Exchange and **have a specific tenure** and no principal is repaid on maturity.

- **Issuance of Equities and debt instruments** for profit social enterprises.

## Significance of SSEs:

- **Bridges the trust and credibility** gap between the social sector and individuals.

- **Enhanced transparency and reporting standards** over the functioning of the NPOs

- **Reduces burden on government** by leveraging private sector participation.

# 1.5 Ministry of Home Affairs (MHA) constitutes an inquiry committee to probe the security breach in Lok Sabha

- On the **22nd anniversary** of the 2001 Parliament attacks i.e, the accused entered Lok Sabha and released colour gas canisters emitting yellow smoke.

- Accused are booked under the **Unlawful Activities (Prevention) Act (UAPA)** by Delhi police.

- **Parliamentary Security System**

## Security Oversight and Coordination:

- **Parliamentary Security Service** (of Rajya Sabha and Lok Sabha) is responsible for maintaining security and they are assisted by various Security and Paramilitary agencies.

- **Carrying of firearms, ammunitions, banners, placards,** etc. in the House Complex is prohibited.

- **A joint command** and control centre has been established for improved coordination.

## Security infrastructure:

- A special unit of **Delhi Police, CRPF** (Central Reserve Police Force), CISF (Central Industrial Security Force) and the **Fire Service** are involved.

- Parliament building is equipped with **advanced facial artificial intelligence** mechanisms

## Restricted Access:

- **Rules of Procedure and Conduct of Business in Lok Sabha** deals with "admission, withdrawal and removal of strangers.

- It specifies that **Speaker,** whenever thinks fit, **may order the withdrawal of strangers** from any part of the House.

- Visitors to Parliament need **security clearance from parliamentarians** making it their responsibility.

# 1.6 Global Partnership on Artificial Intelligence (GPAI) summit adopts New Delhi Declaration



- GPAI has unanimously adopted **New Delhi Declaration to mitigate risks** (unemployment, lack of transparency etc.) **arising from development and deployment of Artificial Intelligence (AI) systems.**

- Earlier, **Bletchley Declaration** signed at UK AI Safety Summit **focused on AI related safety risks.**

## Key highlights of New Delhi Declaration

- **Supports AI innovation in agriculture sector** as a new thematic priority, adding to previous GPAI themes including healthcare, climate action and building a resilient society.

- Focuses on collaboration, inclusion and creating a governance framework on AI.

- **Global framework for use of AI** should be rooted in **democratic values and human rights, personal data protection,** promoting responsible, sustainable, and human-centred use of AI etc.

- **Promote equitable access to critical resources for AI innovation,** including computing and high- quality diverse datasets.

- **Foster inclusivity** so that countries outside of the GPAI's purview, especially those in global south, can also reap AI benefits.

- GPAI: Established in **June 2020 with 15 member countries (including India),** GPAI is a **multi-stakeholder initiative** of global experts bridging AI theory and practice.

- Currently, it is an **alliance of 29 members.**

- **India** is the lead chair of **GPAI in 2024.**

# 1.7 Report titled 'Coal 2023 Analysis and forecast to 2026' released by International Energy Agency (IEA)

## Key findings:

- Demand for coal will rise in India and China.

- However, demand **will fall in almost all advanced economies** (European Union and United States, drop by around 20%) in 2023.

- **By 2026, India** and **Southeast Asia** are the only regions where **coal consumption is expected to grow significantly.**

- In India, Coal accounts for **55%** of the country's energy needs.

- It is mainly due to **coal reserves (fifth largest in world).**

- Immediate transition toward other sources of energy posses challenges such as :-

  ➢ Threat to energy security (growing electricity demand to fuel India's economic growth)

  ➢ Loss of jobs (create over 7.25 lakh direct jobs), etc.

- However, many initiatives have been taken to **improve efficiency of coal usage,** which are as follows :-

  ➢ **Supercritical technology** has been made mandatory for Ultra Mega Power Projects (UMPPs).

- ➢ **Coal gasification** (Ministry of Coal has a set target of 100 Million Tonne (MT) coal by 2030).

- ➢ **Modernization of old thermal power** and installing Electrostatics Precipitator (ESP) to capture Fly ash and low NOx burners for reducing NOx emission.

- ➢ **Perform Achieve Trade (PAT)** scheme (implemented by Bureau of Energy Efficiency).

# 1.8 LEADS report



- The **Union Minister of Commerce & Industry, Consumer Affairs, Food & Public Distribution,** and **Textiles** released the **"Logistics Ease Across Different State (LEADS) 2023"** report in New Delhi on 16th December 2023.

- The Logistics Ease Across Different State (LEADS) was conceived on the lines of the **Logistics Performance Index of World Bank** in 2018 and has evolved over time.

- It incorporates both perception as well as objectivity thereby enhancing the robustness and comprehensiveness of this exercise.

- It provides insights into improvement of logistics performance at State/UT level.

- It highlights an enhanced overall stakeholder perception and impact of various reforms, across States and UTs.

- This report, signalling a positive shift in States' performance across the key pillars –

  - ➢ Logistics Infrastructure,

  - ➢ Logistics Services

  - ➢ Operating and Regulatory Environment,

- Empowers the State/UT Governments by providing region specific insights for informed decision making and comprehensive growth.

- This report is based on a **pan-India primary survey,** conducted between May and July 2023, covering over 7,300 responses across all States/UTs.

## Performance Highlights from LEADS 2023:

## Coastal Group

- **Achievers:** Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu

- **Fast Movers:** Kerala, Maharashtra

- **Aspirers:** Goa, Odisha, West Bengal

## Landlocked Group

- **Achievers:** Haryana, Punjab, Telangana, Uttar Pradesh

- **Fast Movers:** Madhya Pradesh, Rajasthan, Uttarakhand

- **Aspirers:** Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand

## North-East Group

- **Achievers:** Assam, Sikkim, Tripura

- **Fast Movers:** Arunachal Pradesh, Nagaland

- **Aspirers:** Manipur, Meghalaya, Mizoram

## Union Territories

- **Achievers:** Chandigarh, Delhi

- **Fast Movers:** Andaman & Nicobar, Lakshadweep, Puducherry

- **Aspirers:** Daman & Diu/ Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh

## Q) What is the Logistics Performance Index (LPI)?

- It is released by the **World Bank.** It is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance. It measures the ease of establishing reliable supply chain connections and structural factors that make it possible, such as the quality of logistics services, trade and transport-related infrastructure, as well as border controls.

# 1.9 Rail Kaushal Vikas Yojana



## Why in news?

- Railway Minister recently clarified that the over 26,000 candidates skilled under the "Rail Kaushal Vikas Yojana" until November 2023 will not receive preferential treatment for jobs within the Indian Railways.

## **About Rail Kaushal Vikas Yojana**

- It was launched by Indian Railways in September **2021** with the noble objective of providing **technical skill training to youth across various industry-relevant trades.**

- Launched to address the needs of candidates within the age bracket of **18 to 35,** the program was designed to equip them with the necessary skills for jobs across various sectors.
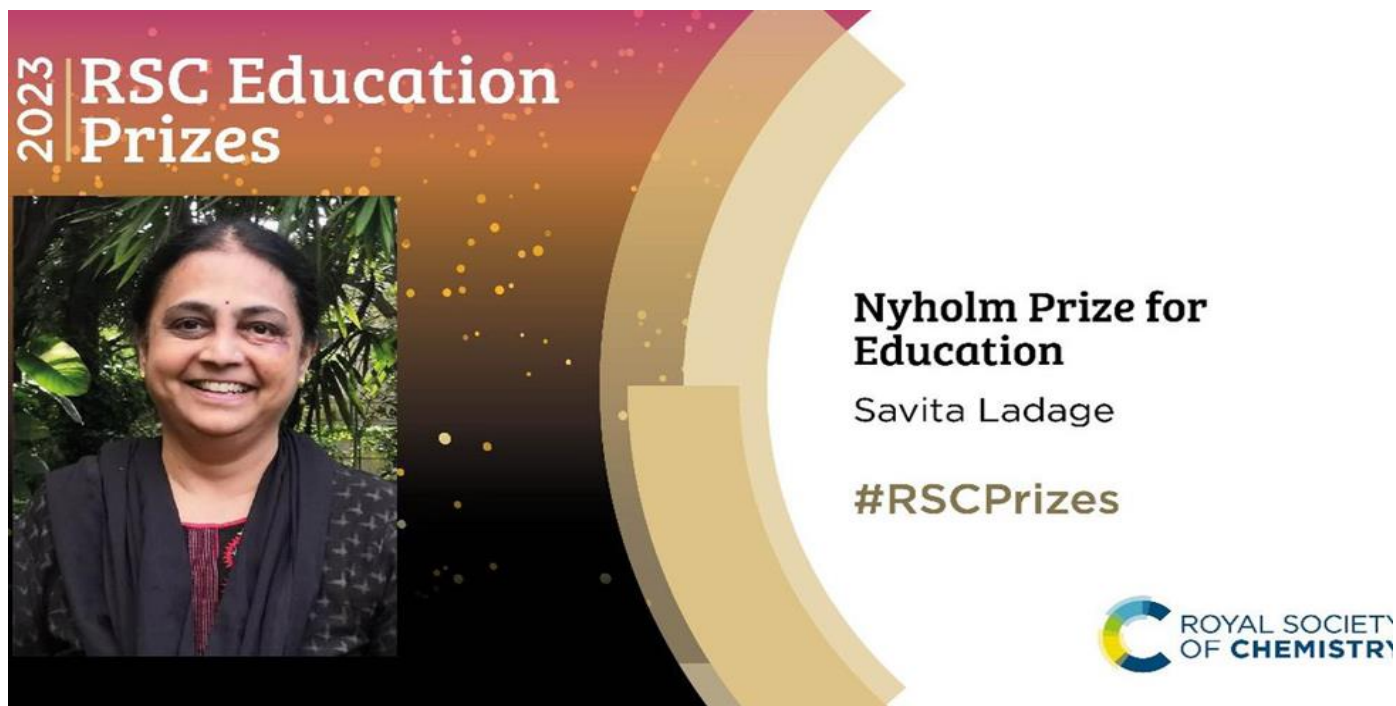
## **Key Features:**

- **Targeted Skill Development:** The program is designed to address the specific skill gaps prevalent in the job market.

- By focusing on industry-relevant technical trades, it seeks to equip participants with practical knowledge and hands-on experience crucial for technical jobs across industries.

- **Accessible Training Locations:** Recognizing the diversity and vast geographical spread of potential participants, the scheme ensures accessibility by establishing training centers at various locations across the country.

- **Age-Appropriate Training:** With a specific emphasis on the age group of 18 to 35, the program targets individuals at a crucial stage in their professional development.

- **Collaboration with Industry Experts:** To ensure the relevance and effectiveness of the training modules, the scheme involves collaboration with industry experts and professionals.

- This collaboration enhances the quality of the training and aligns the program with the evolving requirements and advancements in the industries.

- **Certification and Recognition:** Successful completion of the program results in certifications that are recognized by the Railways.

- These certifications serve as tangible proof of the participants' acquired skills and can enhance their employability in the job market.

## **Q) What is Pradhan Mantri Kaushal Vikas Yojana (PMKVY)?**

- PMKVY is the flagship scheme of the **Ministry of Skill Development and Entrepreneurship (MSDE)** implemented by **National Skill Development Corporation (NSDC).** The objective of this Skill Certification scheme is to enable Indian youth to take up industry relevant skill training that will help them in securing a better livelihood.

## 1.10 Nyholm prize



- **Professor Savita Ladage from Mumbai received the Royal Society of Chemistry's Nyholm Prize** for Education in recognition of her contributions to chemistry education.

## About Nyholm prize:

- It is awarded to inspirational, innovative and dedicated individuals or teams making a substantial and sustained **impact within education.**

- It celebrates individuals working in primary, secondary, further education, and higher education, encompassing teachers, technicians, and more.

- It recognises a major national or international research or innovation contribution to the field of chemical science education.

- This prize was established to commemorate the life and work of **Sir Ronald Nyholm,** president of the Royal Society of Chemistry from 1968 to 1970.

- It is awarded **annually.**

- The prize alternates between being open to nominees both in the UK and Ireland and internationally, and open only to nominations from the UK and Ireland.

- **For 2023, the prize was open to nominees based anywhere in the world.**

- The winner(s) receives £5000, a medal and a certificate.

- The winner(s) will complete a series of lectures or workshops in the UK.

- The winner(s) will be chosen by the Education Prize Committee.

## 1.11 India hosts anti-terrorism meetings with Shanghai Cooperation Organisation (SCO) members

- India's National Security Council Secretariat held joint exercise with **Regional Anti-Terrorist Structure (RATS) of SCO to restrict terrorism and extremism through the use of new technologies and internet.**

- RATS (HQ: Tashkent, Uzbekistan) is a permanent organ of SCO which serves to promote cooperation of member states against terrorism, separatism and extremism.

- **Misuse of technology and internet by Extremists**

- Non-state actors have disabled critical **infrastructures by using cyber-attacks, drones to smuggle narcotics, arms and ammunitions** across borders.

- **Dark web, AI-enabled tools and software** have been widely used to **create fake news,** recruit members through **online radicalization** etc.

- Non-state actors can **transfer money** through virtual currencies and indulge in money laundering, drug trafficking etc. **E.g. 'Wannacry' ransomware attack in 2017.**

- Measures taken to address misuse of technology by extremists.

- **UNSC's Delhi Declaration** on countering the use of new and emerging technologies for terrorist purposes.

- **Financial Action Task Force** issued guidelines in 2018 to regulate virtual assets.

- Use of **Facial Recognition Technology** by Indian Army in counter-terrorism operations.

- **Global Counterterrorism Forum** has adopted Berlin Memorandum on Good Practices to Counter Terrorist use of Unmanned Aerial Systems.

### About SCO

- Established in 2001.

- Two Permanent Bodies - SCO Secretariat in Beijing, and Executive

- Committee of RATS in Tashkent.

- SCO Members: China, India, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan and Uzbekistan.

## 1.12 Study published in the Lancet Global Health highlights High prevalence of child marriages in India

### Key Findings

- **1 in 5 girls** and **1 in 6 boys** are still victim of child marriage.

- Between 2019 and 2021, the magnitude of **reduction in child marriage in girls was smaller** than the reduction that occurred between 2006 and 2016.

- Prevalence of girl child marriage **decreased** from 49 per cent in 1993 to 22 per cent in 2021.

- **6 states/UTs saw an increase** in prevalence in child marriage in girls during 2016–2021.

  - ➢ **Prohibition of Child Marriage Act, 2006** sets the legal age of marriage for men to 21 years and women to 18 years.

- The Prohibition of Child Marriage (Amendment) Bill, 2021 aims to increase the minimum age of marriage of females to **21 years.**

  - ➢ Child marriage is a **human rights violation and a recognised form of sexual and gender-based violence.**

- It leads to a range of **poor health consequences** that limit the ability of boys and girls to reach their full potential.

  - ➢ **Sustainable Development Goal target 5.3** aims to end child marriage in girls by **2030.**

  - ➢ Initiatives like Beti Bachao Beti Padhao aim to create awareness about gender equality and discourage child marriage.
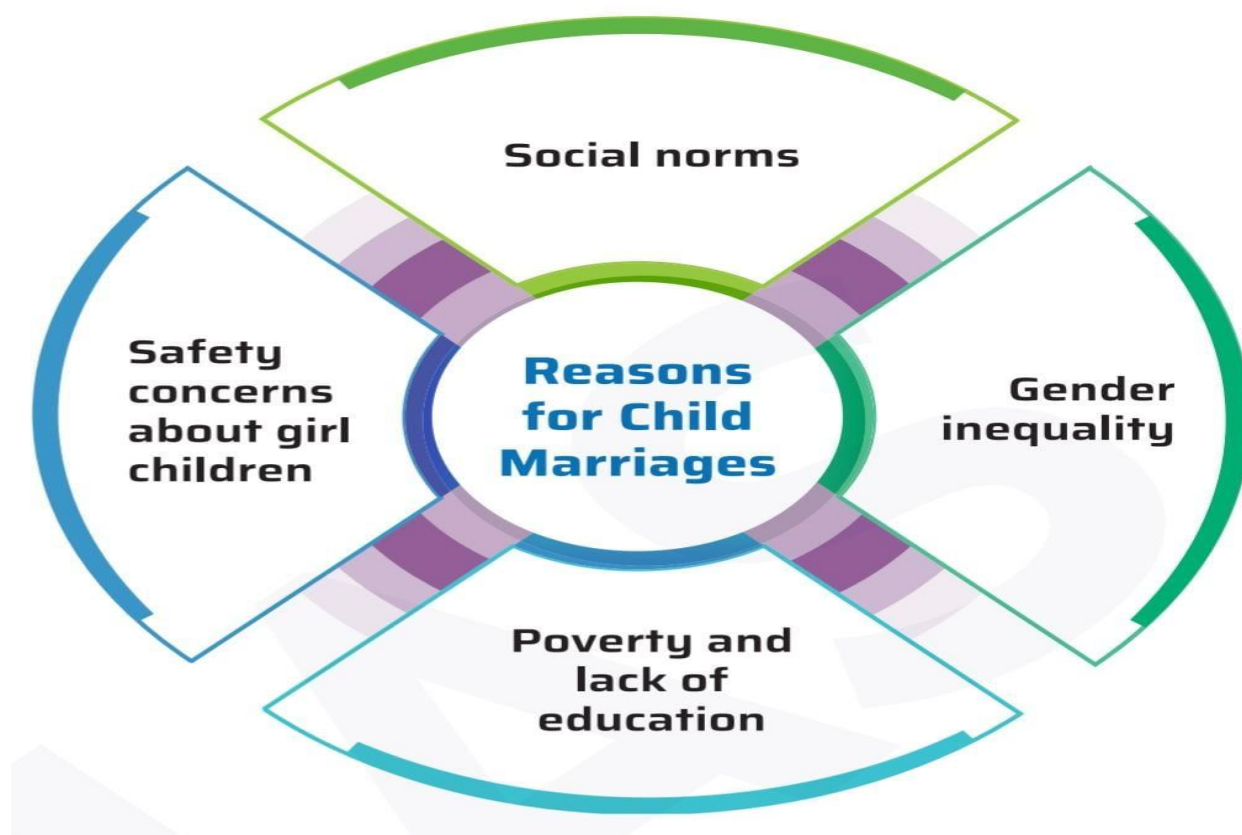
## 1.13 AAINA Dashboard

- The Ministry of Housing and Urban Affairs (MoHUA) recently launched the 'AAINA Dashboard for Cities' portal

- www.aaina.gov.in for comparing similarly placed Urban Local Bodies (ULBs) and promoting peer learning amongst ULBs.

### Objective

- **Information-** To provide information on status and progress of the ULBs based on 5 thematic areas.

- **Inspiration by Healthy Competition-** To help the ULBs to monitor their performance & learn by comparing it with others.

### Features

- **Database of Key Performance Metrics-** The portal allows the ULBs to submit their data, including audited accounts, and self-reported performance metrics and update the information initially provided by them, anytime on the portal as per need.

- **Regular Updation-** It will be a permanent platform for ULB related data and will be updated on a regular basis.

- **Accessible by All-** This robust database of the key performance metrics of ULBs will be accessible to all stakeholders, and subsequently open for public view once it gets populated.

- **Support by Digital India Corporation-** will be provided to ULBs / States in the data submission process on a need basis.



## 1.14 SAMAR Air Defence Missile System

- **The Indian Air Force (IAF) has successfully test fired the 'SAMAR' air defence missile system recently.**

## About SAMAR Air Defence Missile System:

- **Surface to Air Missile for Assured Retaliation (SAMAR)** is **a short-range air-defence system.**

- It has been developed by a unit under the IAF's Maintenance Command.

- The system is credited with a maximum **range of 10–12 km** and is used **against low-flying aerial targets.**

- It can engage aerial threats with **missiles operating** at a **speed range of 2 to 2.5 Mach.**

- The SAMAR-1 system uses the **IAF's existing inventory of shelf-life-expired Russian Vympel R-73E infrared-guided air-to-air missiles (AAMs)** for the surface-to-air role.

- The system features a **twin-turret launch platform** capable of launching **two missiles in single** and salvo modes, depending on the threat scenario.

- Each missile launcher had an **electro-optic system visible.**

- It is expected to supplement the IAF's Akash and SPYDER systems, replacing the ageing improved Pechora and OSA-AK systems.

## Key Facts about Akash Missile (SAM) Defence System:

- It is a **Short-Range Surface-to-Air Missile (SRSAM)** Defence System to protect vulnerable areas and points from air attacks.

- It was indigenously designed and developed by the **Defence Research and Development Organisation (DRDO).**

## Features:

- It can simultaneously engage **multiple targets** and destroy manoeuvring targets, including unmanned aerial vehicles, fighter aircraft, cruise missiles, and missiles launched from helicopters.

- It has built-in **Electronic Counter-Counter Measures (ECCM)** features.

- The entire weapon system has been configured to be launched from static or mobile platforms such as battle tanks and wheeled trucks, providing flexible deployment.

- It is **road and rail transportable,** with quick mobilisation and deployment capabilities.

- It can engage aerial targets up to a range of **approximately 25 km.**

## 1.15 Lok Sabha passes three bills to overhaul criminal justice system



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### **Why in news?**

- ➢ Lok Sabha has passed by voice vote the three Bills that aim to overhaul the country's criminal justice system by replacing colonial-era laws.

- ➢ The three Bills are set to replace the Indian Penal Code (IPC), 1860; the Code of Criminal Procedure (CrPC), 1973 and the Indian Evidence Act, 1872.

- IPC is set to be replaced by the **Bharatiya Nyaya (second) Sanhita, 2023.**

- CrPC will be replaced by **Bharatiya Nagarik (second) Suraksha Sanhita, 2023.**

- Indian Evidence Act will be replaced by **Bharatiya Sakshya(second) Bill, 2023.**

### **What was the need for new bills?**

- ➢ Colonial legacy

- From 1860 to 2023, the country's criminal justice system functioned as per the laws made by the British.

- The laws were drafted during colonial times and contain archaic language and concepts that might not accurately reflect current social norms, values.

  ➢ Advances in Technology

- This has introduced new dimensions to crime, evidence, and investigation.

  ➢ Simplification and Streamlining

- The laws have become complex over time, leading to confusion among legal practitioners, law enforcement agencies, and the general public.

- Simplifying and streamlining the legal framework can enhance transparency and understanding.

  ➢ Evidence Collection and Presentation

- The Indian Evidence Act was enacted before the advent of modern forensic science and technological tools.

  ➢ Various reports highlighted the need for reforms in criminal laws

- The department-related Parliamentary Standing Committee on Home Affairs in its 146th report had recommended that there is a need for a comprehensive review of the criminal justice system of the country.

- It was also pointed out that the Parliamentary Standing Committee in its 111th and 128th reports had also highlighted the need for reforms in criminal laws.

## **Background**

  ➢ Bill introduced in Parliament in August 2023

- In August 2023, the Union government tabled three new Bills in the Parliament to overhaul the criminal justice system of the country.

- The three Bills were: the Bharatiya Nyaya Sanhita Bill, 2023 (BNS), the Bharatiya Nagarik Suraksha Sanhita Bill, 2023 (BNSS), and the Bharatiya Sakshya Bill, 2023 (BSB).

  ➢ Bills referred to the Parliamentary Standing Committee

- The three Bills were referred to the Parliamentary Standing Committee on Home Affairs for review and recommendations.

- After three months of deliberation, the committee released three reports on the BNS, the BNSS and the BSB recommending changes.

  - ➢ Dissents of the opposition members of the Standing Committee

- One of the major dissents of the opposition members of the committee was related to the naming of the three Bills in Hindi.

- They alleged that the vernacular title of the Bills violated Article 348 (language to be used in the Supreme Court and in the high courts and for Acts, Bills, etc.).

- The Article states that the official language for the courts and Bills would be English.

- However, the parliamentary committee approved the Hindi titles of the three Bills.

  - ➢ Introduction of revised version of the bill

- Pursuant to the recommendations, the three Bills were withdrawn from the Parliament on December 12.

- Soon after, revised versions of the three Bills were introduced.

- **Bharatiya Nyaya (Second) Sanhita Bill [BNS II Bill]**

  - ➢ Under the BNS II, key changes have been made for offences such as criminal conspiracy, mob lynching, death by negligence, organised crimes and terrorist acts.

  - ➢ Different phrases used for defining life imprisonment

- Under the BNS, life imprisonment was defined as "imprisonment for life, that is to say, imprisonment for the remainder of a person's natural life".

- BNS II continues to use both phrases.

  - ➢ Terrorist acts

- BNS II has removed vaguely used words such as "intimidating the public or disturbing public order".

- The words "acts which destabilise or destroy the political, economic or social structures of the country, or create a public emergency or undermine public safety" were also removed.

- BNS II has introduced some of the innovative terrorist acts such as:

  ➢ Acts committed to damage or destroy "critical infrastructure"

  ➢ Damage to the monetary stability of India by way of production or smuggling or circulation of counterfeit Indian paper currency, coin or of any other material;

  ➢ Use of criminal force against any public functionary.

- Under BNS, the mere possession of a property derived or obtained from the commission of a terrorist act was punishable. Now, in BNS II, it is only punishable if the property is derived or obtained 'knowingly'.

- Also, the harbouring or concealing of a person who has committed a terrorist act is punishable only when it is done "knowingly" or "voluntarily".

  ➢ Criminal conspiracy with common intention

- Clause 61 in the BNS made criminal conspiracy punishable in addition to the offence of conspiracy punishable in Clause 111 of the BNS.

- The BNS II has been modified this clause (clause 61) to include conspiracy committed with "common intention".

  ➢ Minimum punishment for mob lynching

- The BNS, introduced punishment for a sub-category of murder, which is defined as murder by mob-lynching. It prescribed a minimum punishment of seven years of imprisonment and a fine.

- The BNS II has deleted the minimum punishment of seven years.

- Now, murder by a group of five or more persons on grounds of certain identity markers such as caste, language or personal belief will be an offence with penalty life imprisonment or death, and with a fine.

  ➢ Organised crimes added as an offence

- It includes crimes such as kidnapping, extortion and cyber-crime committed on behalf of a crime syndicate.

- Petty organised crime is also an offence now.

  ➢ Sedition is no longer an offence

- Under BNS II, Sedition is no longer an offence. Instead, there is a new offence for acts endangering the sovereignty, unity and integrity of India.

  ➢ Community service

- The revised bills define "community service" more explicitly.

- Though the earlier draft of the bill had proposed community service as a form of punishment, what would be included in community service was not defined.

- The revised bill defines community service as any court-ordered work that benefits the community, serving as a form of punishment for offenders.

  ➢ Rulings of the Supreme Court

- The BNS II conforms to some decisions of the Supreme Court.

- These include omitting adultery as an offence and adding life imprisonment as one of the penalties (in addition to the death penalty) for murder or attempt to murder by a life convict.

  ➢ Sexual offences against women

- The IPC criminalises acts such as rape, voyeurism, stalking and insulting the modesty of a woman. The BNS II retains these provisions.

- It increases the threshold for the victim to be classified as a major, in the case of gangrape, from 16 to 18 years of age.

- It also criminalises sexual intercourse with a woman by deceitful means or making false promises.

## Q) What is Indian Penal Code (IPC), 1860?

- The Indian Penal Code (IPC) is the main criminal code of India. It was drafted in 1860 and came into effect on January 1, 1862. The IPC is a comprehensive code that covers all aspects of criminal law. It defines crimes and provides punishments for almost all kinds of criminal and actionable wrongs.

## Q) What do you mean by the criminal justice system?

- The criminal justice system refers to the complex network of institutions, laws, procedures, and processes that are designed to maintain social order, prevent and control crime, and ensure that

individuals who commit criminal offenses are held accountable for their actions. It encompasses various stages from the investigation and arrest of a suspect to their trial and potential punishment if found guilty. The primary goals of the criminal justice system include upholding the rule of law, protecting the rights of individuals, and maintaining public safety.

## 1.16 CISF to be roped in for Parliament security



## Why in news?

- Days after the Parliament security breach, the Ministry of Home Affairs (MHA) has asked the Central Industrial Security Force (CISF) to carry out a survey of the Parliament premises for regular deployment.

## Central Industrial Security Force (CISF)

- CISF is one of the Central Armed Police Forces (CAPFs) established under an Act of Parliament, "Central Industrial Security Force Act, 1968.

- CISF was established in 1969 to provide integrated security cover to certain sensitive public sector undertakings with a strength of only three battalions.

  ➢ The force has since grown into a premier multi-skilled organization with a present strength of 1,63,590 personnel.

- It works under the administrative control of Ministry of Home Affairs and its headquarter is located at New Delhi.

## Operations:

- **Critical Infrastructure:**

  ➢ CISF is currently providing security cover to 353 establishments through the length and breadth of the country.

  ➢ Some of these includes Atomic Power Plants, Space Installations, Defence Production Units, Mines, Oil Fields and Refineries etc.

- **Fire Protection:**

  ➢ The CISF also has its own Fire Wing which provides services to 104 of the above establishments.

- **VIP security:**

  ➢ CISF has also been mandated to provide protection to the VIP protectees of Z+, Z, Y and X category across the country.

- **Airports:**

  ➢ The specialized task of airport security was assigned to CISF in the year 2000 in the wake of hijacking of Indian Airlines Flight IC-814 to Kandahar.

- **Private sector:**

  ➢ The CISF Act was amended to enable the Force to provide security, on payment basis, to private / joint venture industrial undertakings, which are vital for the security and economy of the country.

- E.g. - The Infosys campuses in Mysuru, Bengaluru and Pune, the Patanjali Food and Herbal Park in Haridwar and the Reliance refinery in Gujarat's Jamnagar

- **Overseas Deployment:**

  ➢ CISF has contingents deployed at United Nations Stabilizations Mission in Haiti (MINUSTAH).

> ➢ The CISF is the only Central Armed Police Force with a daily public interface; in the airports, in the Delhi Metro and in the iconic monuments.

## News Summary: CISF to be roped in for Parliament security

- Union Home Ministry has approved the deployment of CISF in the Parliament complex. The decision comes days after the December 13 security breach in the Parliament.

- The CISF will work with the Parliament Security Services to control access to the new and old Parliament complex.

## Existing security system in Parliament

- At present, access control such as frisking and scanning the baggage is the responsibility of the Delhi police,

  > ➢ Eight Delhi police security personnel who were responsible for frisking and baggage scanning were suspended after the incident.

- The Parliament Duty Group (PDG), an armed component of the Central Reserve Police Force (CRPF) is deployed in case an armed intervention is required.

- The Parliament Security Service under the Lok Sabha Speaker is the overall in-charge of security.

## 1.17 Parliamentary Committee submitted report on Promotion of Electric Vehicles (EVs) in the Country.

  > ➢ An EV is propelled by an electric motor, powered by rechargeable battery packs (refer to box).

- Contrary to this an Internal Combustion Engine (ICE) generates power by burning a mix of fuel and gases.

  > ➢ Key issues highlighted

- Frequent changes in EV policies create uncertainties in the market.

- Lowering targets under the FAME-II due to budgetary constraints.

➢ FAME-II (under Ministry of Heavy Industries) focuses on supporting electrification of public & shared transportation.

- MoRTH issued guidelines to States to encourage EV adoption, lowering initial expenses.

  ➢ Nevertheless, exemptions and rebates for road tax are currently available in only 19 states/UTs.

- Lack of charging infrastructure and the overall time required to charge such batteries is a major hurdle in the adoption of EVs.

  ➢ Recommendations

- Formulation of a stable national policy on Electric Mobility.

- Enhancement of budgetary allocation for e-Buses under FAME-II

- And extend it for at least 3 more years (current tenure 2019-2024).

- Incentivize installation of charging stations for individual investors.

  ➢ Women SHGs and Cooperative Societies may be assisted to open and operate charging Stations.

- Establish dedicated Manufacturing Hubs and Industrial Parks for manufacturing of batteries, cells and EV auto components.

- Conduct a study regarding the feasibility of battery

## Types of EVs

- **Battery BEVs/ All EVs:** Run entirely on a battery-powered electric drive train.

- **Hybrid EVs (HEVs):** Involving both the engine and electricmotor, the transmission rotates concurrently driven by both power sources.

- **Plug-in HEVs:** Encompasses both an engine and a motor but its battery pack is much larger when compared to other HEVs.

- **Fuel Cell Electric Vehicles:** Referred to as Zero-Emission Vehicles, these vehicles utilize 'fuel cell technology' togenerate electricity for propulsion standardisation.

# 2. INTERNATIONAL RELATIONS

## 2.1 Exercise VINBAX-2023



- Recently, the Indian Armed Forces contingent comprising 45 personnel reached **Hanoi, Vietnam** to take part in the Joint Military Exercise VINBAX-2023.

### About Exercise VINBAX-2023

- It was instituted in 2018 and the first edition was conducted at Jabalpur, Madhya Pradesh.

- It is an **annual training event** conducted **alternatively** in India and Vietnam.

- Last edition was conducted at Chandimandir Military Station in August 2022.

- This year's exercise will be conducted at Hanoi, Vietnam.

- The Indian contingent comprises 39 personnel from an **Engineer Regiment of Bengal Engineer Group** and six personnel of **Army Medical Corps** are participating.

- Aim of the exercise is to foster collaborative partnership, promote inter- operability and share best practices between the two sides under Chapter VII of United Nations Charter on Peacekeeping Operations.

- The exercise will be conducted as a Command Post Exercise cum Field Training Exercise with focus on deployment and employment of an Engineer Company and a Medical Team.

- Both sides will conduct technical military operations in accordance with scenarios akin to worldwide deployment of United Nations' contingent

## Q) What is the Army Medical Corps ?

- The Army Medical Corps is a specialist Corps in the Indian Army, which primarily provides medical services to all Army personnel, serving and veterans, along with their families. Along with the branches in the Indian Navy and Indian Air Force, it forms part of the Armed Forces Medical Services (AFMS).

## 2.2 International Energy Agency (IEA)



### Why IEA is in news?

- The International Energy Agency (IEA) recently said the "explosive growth" in Indian oil product consumption may be coming to an end.

## **About IEA:**

- ➢ IEA is an **international intergovernmental** organization based in Paris that was established in 1974.

- ➢ Its stated mandate is to maintain the **stability of the international oil supply.**

- ➢ IEA's mandate has expanded over time to include tracking and analyzing global key energy trends, promoting sound energy policy, and fostering multinational energy technology cooperation.

- ➢ It was created in response to the **1973-1974 oil crisis,** when an oil embargo by major producers pushed prices to historic levels and exposed the vulnerability of industrialized countries to dependency on oil imports.

- ➢ The IEA operates within the broader framework of the Organization for Economic Co-Operation and Development (OECD).

- **Members:** It consists of **31 member countries** and eleven association countries.

- Criteria for membership: A candidate country for the IEA must be a member country of the OECD. In addition, it must demonstrate several requirements. These are:

- Crude oil and/or product reserves are equivalent to 90 days of the previous year's net imports, to which the government has immediate access (even if it does not own them directly) and could be used to address disruptions to global oil supply.

- A demand restraint programme to reduce national oil consumption by up to 10%.

- Legislation and organisation to operate the Coordinated Emergency Response Measures (CERM) on a national basis.

- Legislation and measures to ensure that all oil companies under its jurisdiction report information upon request.

- Measures are in place to ensure the capability of contributing its share of an IEA collective action.

- ➢ India joined this organization in **2017** as an Associate member.

> ➤ Report published by IEA: **World Energy Outlook**

## 2.3 INS Tarmugli



- Recently, **INS Tarmugli**, a **Fast Attack Craft** has been commissioned into the Navy at a ceremony held at **Naval Dockyard, Visakhapatnam.**

### About INS Tarmugli

- It is the **first Follow-on Water Jet Fast Attack Craft (WJFAC),** is an improved version of WJFAC, earlier constructed by GRSE.

- It is built by **Garden Reach Shipbuilders and Engineers Ltd (GRSE).**

- It is conceived, designed and built indigenously.

- It would be deployed for coastal patrol and surveillance operations along the East Coast of India.

- It is named after a picturesque island in the Andaman group.

- Capacity and speed: It has a carrying capacity of 320-tonne measuring 48 meters in length, and can achieve speeds in excess of 30 knots.

### Features:

- The ship is capable of **operating in shallow waters at high speeds** and is equipped with enhanced fire power.

- **It is built for extended coastal and offshore surveillance** and patrol the warship.

- It is fitted with advanced **MTU engines,** water jet propulsion and the latest communication equipment.

## 2.4 India, Oman adopt a vision document toexpand ties.



- A **Joint Vision document titled 'A Partnership For the Future'** was adopted during the visit of the Sultan of Oman.

- It acknowledges the remarkable synergy between **Oman Vision 2040** and India's development objectives, under **'Amrit Kaal'.**

- Digital connectivity, medical tourism, maritime security, hospitality, space, agriculture, and food security are some of the areas that the vision document has focused on.

### India-Oman relations

- Oman is a crucial pillar of **India's West Asia policy.**

- Oman is a strategic partner of India (2008) and an important interlocutor at **Gulf Cooperation Council (GCC), Arab League and Indian Ocean Rim Association (IORA)** fora.

- Oman has a **large Indian Diaspora** of 7 lakh people.

- **Bilateral trade** more than doubled from USD 5.4 billion in 2020-21 to USD 12.3 billion in 2022-23.

- India was the **second largest market** for Oman's crude oil exports for the year 2022 after China.

- In October 2022, India and Oman launched the **Rupay debit card** in Oman.

- Oman will play an important role in the proposed **India-Middle-East-Europe Connectivity Corridor (IMEEC)** infrastructure project.

## 2.5 Akhaura-Agartala Rail Link



- Prime Minister Narendra Modi and Bangladesh's

- Prime Minister Sheikh Hasina virtually inaugurated a rail link connecting Northeast India with Bangladesh.

- It links Bangladesh's Akhaura, through an international immigration station at Nischintapur, to the outskirts of Agartala, capital of Tripura.

- This railway link is part of the 16 transit routes that have been declared allowing cargo transportation from Chattogram or Mongla port, in Bangladesh, to Indian states.

## Funding Pattern

- The project is wholly funded by the Government of India.

- The **Ministry for Development of North East Region (DoNER)** funded the work on the Indian side while

- **Ministry of External Affairs** funded the expense for Bangladesh's side.

## Significance of the Project

- Tripura shares an 856 km-long international border with Bangladesh. The state's only road connectivity with the rest of the country is through Assam and a narrow strip of land in West Bengal's Siliguri.

- With successful completion of Akhaura–Agartala line, the **travel time will be reduced to roughly 10 hours.**

- The distance between Agartala and Kolkata will effectively reduce from 1,600 km to 500 km now.

- The rail link will also **enable goods trains to reach the north eastern region** via Bangladesh at a much lesser transportation cost.

- Further, it will also provide a **direct access between landlocked north eastern India and Chittagong port of Bangladesh.**

## 2.6 NATO Announces Formal Suspension Of The Treaty Of Conventional Armed Forces In Europe.

- NATO announced the formal suspension of a Cold War-era security treaty named - **the Treaty of Conventional Armed Forces in Europe.**

- This was announced in response to Russia's withdrawal from the treaty.

## **Treaty of Conventional Armed Forces in Europe (CFE)**

- It was signed in Paris in November 1990 after the fall of the Berlin Wall. **The CFE set constraints on conventional arms and equipment.**

- Its purpose was to stop Cold War rivals from building up forces that could be used in a swift assault.

  ➤ Its main objective was to reduce the possibility of a surprise armed attack and the triggering of major offensive operations in Europe.

# North Atlantic Treaty Organization [NATO]

➤ Formed in 1949 with the signing of the Washington Treaty, NATO is a security alliance of 31 countries from North America and Europe.
  • In April 2023, Finland joined the alliance as its 31st member.
➤ NATO's fundamental goal is to safeguard the Allies' freedom and security by political and military means.
➤ It is a system of collective defence where independent member states agree for mutual defence in case of any attack by external party.
  • Article 5 of Washington Treaty states that an attack against one Ally is an attack against all.
  • This article forms the core of the Alliance, a promise of collective defense.
➤ Headquarter - Brussels, Belgium.

## Functions

### Political
➤ NATO promotes democratic values and enables members to consult and cooperate on defence and security-related issues to solve problems, build trust and, in the long run, prevent conflict.

### Military
➤ NATO is committed to the peaceful resolution of disputes.
➤ If diplomatic efforts fail, it has the military power to undertake crisis-management operations.

## **The Treaty**

- Established comprehensive limits on key categories of conventional military equipment in Europe (from the Atlantic to the Urals)

- Mandated the destruction of excess weaponry

- Eliminated the Soviet Union's overwhelming quantitative advantage in conventional weapons in Europe

- Placed verifiable limits on categories of conventional military equipment that NATO and the thenWarsaw Pact could deploy

- The CFE treaty is often referred to as the "cornerstone of European security".

## 2.7 Two India Cities In UNESCO's Creative Cities Network

- The city of **Kozhikode in Kerala** and **Gwalior from Madhya Pradesh** was added in UNESCO's Creative Cities

### Network (UCCN).

- These cities have been handpicked to represent seven creative fields:

| crafts and folk arts | design | film | gastronomy | literature | media arts | music |
|---|---|---|---|---|---|---|
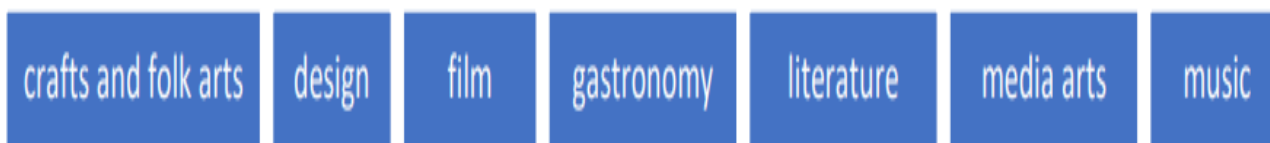
- **Kozhikode was included in the category of literature** and **Gwalior in the category of music.**

### UNESCO's Creative Cities Network (UCCN)

### About

- UCCN was created in 2004 to promote cooperation among cities that have identified creativity as a strategic factor for **sustainable urban development.**

- It now includes 350 cities in over a hundred countries.

- It was launched to promote UNESCO's goals of **cultural diversity** and **strengthen resilience** to threats such as climate change, rising inequality, and rapid urbanisation.

- **Aim:** The network is aimed at **leveraging the creative, social, and economic potential of cultural industries.**

- It encourages a culture of creativity in urban planning and solutions to urban problems.

## Objective of the UCCN

- It allows member cities to recognise creativity as an essential component of urban development, notably through partnerships involving **the public and private sectors and civil society.**

- It envisages developing hubs of creativity & innovation and broadening opportunities for creators and professionals in the cultural sector.

- **These cities have to achieve the UN agenda of sustainable development.**

## Areas of action

- The objectives of the network are implemented both at the level of the member cities and at the international level, notably through sharing experiences, knowledge and best practices.

- There are professional and artistic exchange programmes, research and evaluations on the experience of the creative cities, among other activities crafts and folk arts design film gastronomy literature media arts music

## The annual conference of network cities

- A highlight of the network is the annual conference of mayors and other stakeholders of network cities.

- This offers a unique occasion to strengthen ties between creative cities from across the world.

- The last conference was held in Santos, Brazil, and **this year's conference was in Istanbul.** The next conference will be held in July 2024 in Braga, Portugal.

## Responsibilities of members

- Every four years, member cities are required to submit a Membership Monitoring Report.

- This report is presented with an aim of demonstrating their steadfast commitment towards the implementation of the UCCN Mission Statement.

- They present an action plan for the following four years, providing insights into their achievements and lessons learnt, as well as the impact of the designation.

## Indian cities in the network

- Apart from Kozhikode and Gwalior, Varanasi (music), Srinagar (crafts and folk arts) and Chennai (music) are part of the network.

# UNESCO

## About

• UNESCO stands for **U**nited **N**ations **E**ducational, **S**cientific and **C**ultural **O**rganization.

• It is **specialized agency of the United Nations (UN).**

• The constitution, which entered into force in 1946, called for the promotion of international collaboration in education, science and culture.

• The agency's permanent headquarters are in **Paris, France.**

• **Parent Organisation -** United Nations Economic and Social Council

## Goal

• To contribute to peace and security by promoting collaboration among nations through education, science, and culture, and to promote sustainable development and intercultural dialogue.

• UNESCO believes that these areas are crucial for building a more just, peaceful, and inclusive world.

## Key reports published by UNESCO

• Global Education Monitoring Report

• The United Nations World Water Development Report

• World Trends in Freedom of Expression and Media Development

## 2.8 Bab-El-Mandeb Strait

- India needs to work on finding alternate trade routes in the sea, as heavy reliance on the Bab-El-Mandeb Strait could impact the country's trade with the Middle East, Africa, and Europe, economic think tank GTRI said recently.
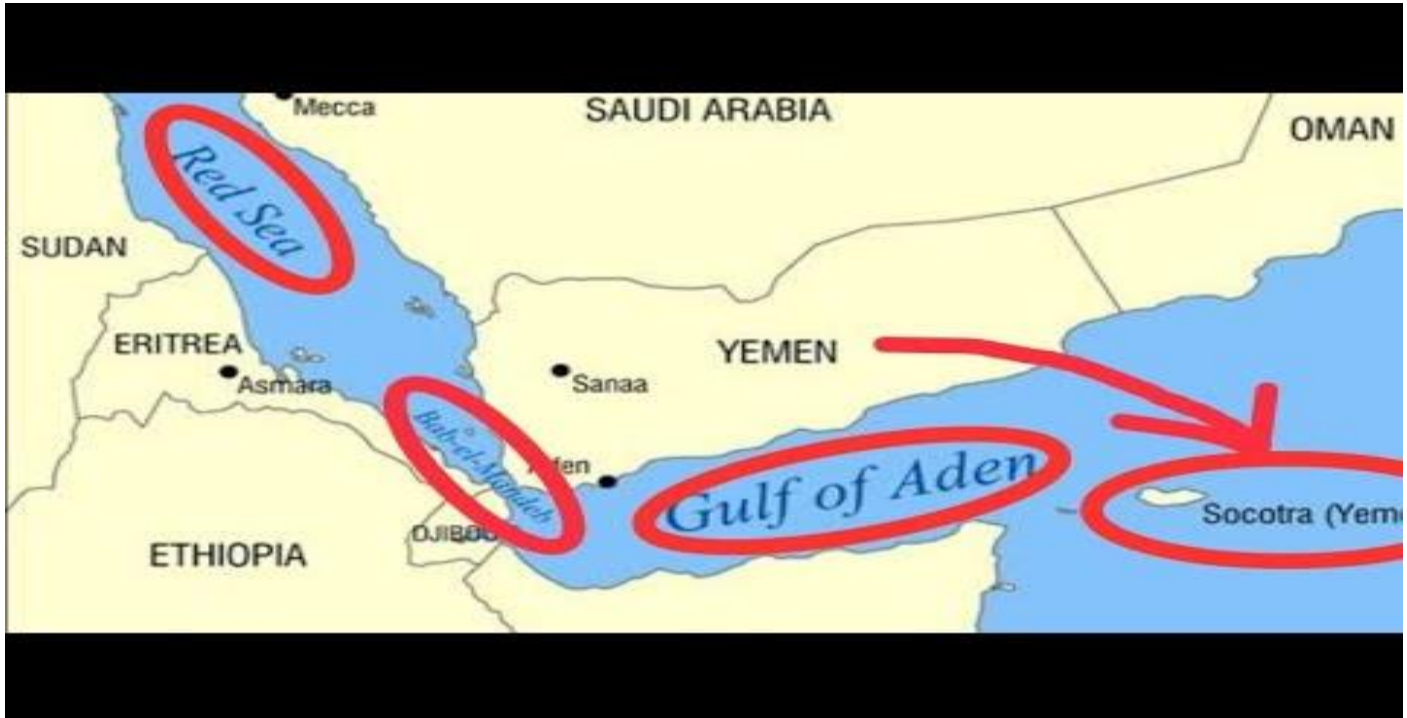


## About the Bab-El-Mandeb Strait:

- It is a strait of great strategic and economic importance, connecting the Red Sea in the northwest to the Gulf of Aden and the Indian Ocean in the southeast.

- It also separates **Arabia, in the northeast**, from the **African continent, in the southwest.**

- It further acts as a **link between** the Indian Ocean and the Mediterranean Sea via the Red Sea and the Suez Canal.

- The name of the strait, Bab El-Mandeb means **"Gate of Tears"** in Arabic, referring to the large number of shipwrecks that have occurred in this region.

- The strait is 30 kilometres (KM) wide and is divided into two channels by the Yemeni island of Perim, with the eastern channel being called Alexander's Strait and is around 3 kilometres wide, while the western-lying Dact-el-Mayun Channel is 26 kilometres wide.

- The flow through this strait provides for the circulation between the Red Sea and the Gulf of Aden, since no flow takes place through the Suez Canal.

# 3. ECONOMY

## 3.1 Exchange-Traded Funds (ETFs)



- An ETF is a collection of marketable securities that tracks an index, a commodity, bonds, or a basket of assets.

- In simple terms, ETFs are funds that track indexes such as CNX Nifty, or BSE Sensex, etc.

- An ETF can be structured to track anything from the price of an individual commodity to a large and diverse collection of securities. ETFs can even be structured to track specific investment strategies.

- ETF funds are somewhat similar to mutual funds in terms of their structure, regulation, and management. Additionally, just like mutual funds, they are a pooled investment vehicle that offers diversified investment into various asset classes like stocks, commodities, bonds, currencies, options, or a blend of these.

- Unlike mutual funds, ETFs **can be purchased or sold on a stock exchange in the same way that regular stocks** can.

- The **traded price of an ETF changes throughout the day** like any other stock, as it is bought and sold on the stock exchange.

- The trading value of an ETF is based on the net asset value of the underlying stocks that it represents.

- ETFs typically **have higher daily liquidity and lower fees** than mutual fund schemes, making them an attractive alternative for individual investors.

## Key Facts about Employees Provident Fund Organisation (EPFO)

- It is a statutory body under the Employees' Provident Funds and Miscellaneous Act, 1952.

- It is under the administrative control of the Union Ministry of Labor and Employment.

## Structure of EPFO:

- The Act and all its schemes are administered by a tripartite board called the Central Board of Trustees.

- The board comprises representatives of the Government (both Central and State), employers, and employees.

- The board is chaired by the Union Minister of Labour and Employment, Government of India.

- The Central Board of Trustees operates three schemes:

- The Employees' Provident Funds Scheme, 1952 (EPF)

- The Employees' Pension Scheme, 1995 (EPS)

- The Employees' Deposit Linked Insurance Scheme, 1976 (EDLI)

- EPFO is also the nodal agency for implementing Bilateral Social Security Agreements with other countries on a reciprocal basis.

- Coverage: The schemes offered by EPFO cover Indian workers and international workers (from countries with whom the EPFO has signed bilateral agreements).

## Q) What are mutual funds?

- A mutual fund is an investment option where money from many people is pooled together to buy a variety of stocks, bonds, or other securities. This mix of investments is managed by a

professional money manager, providing individuals with a portfolio that is structured to match the investment objectives stated in the fund's prospectus.

## 3.2 Non-Convertible Redeemable Preference Share (NCRPS)



### **Overview:**

- The Securities and Exchange Board of India (Sebi) recently proposed to permit companies to issue non-convertible debentures (NCDs) and non-convertible redeemable preference shares (NCRPS) with the face value of Rs. 10,000 as against the current system of Rs one lakh face value.

### **What are Preference Shares?**

- Preference shares, more commonly referred to as preferred stock, are shares of a company's stock with dividends that are paid out to shareholders before common stock dividends are issued.

- If the company enters bankruptcy, preferred stockholders are entitled to be paid from company assets before common stockholders.

## Non-Convertible v/s Convertible Preference Shares:

- Preference shares that can be easily converted into equity shares are known as convertible preference shares.

- Non-Convertible preference shares are those shares that cannot be converted into equity shares.

## Redeemable v/s Non-Redeemable Preference Shares:

- Redeemable preference shares are those shares that can be repurchased or redeemed by the issuing company at a fixed rate and date. These types of shares help the company by providing a cushion during times of inflation.

- Non-redeemable preference shares are those shares that cannot be redeemed or repurchased by the issuing company at a fixed date. Non-redeemable preference shares help companies by acting as a lifesaver during times of inflation.

## Other Types:

- **Cumulative preference shares:** Some preference shares also receive arrears of dividends, which are called cumulative preference shares.

- **Participating preference shares:** These help shareholders demand a part in the company's surplus profit at the time of the company's liquidation after the dividends have been paid to other shareholders. However, these shareholders receive fixed dividends and get part of the surplus profit of the company along with equity shareholders.

- **Non-Participating preference shares:** These do not benefit the shareholders the additional option of earning dividends from the surplus profits earned by the company, but they receive fixed dividends offered by the company.

- **Adjustable Preference Shares:** In the case of adjustable preference shares, the dividend rate is not fixed and is influenced by current market rates.

## Key Facts about Debentures

- **A debenture is a type of bond or other debt instrument that is unsecured by collateral.**

- Since debentures have no collateral backing, they must rely on the creditworthiness and reputation of the issuer for support.

- Both corporations and governments frequently issue debentures to raise capital or funds.

- Similar to most bonds, debentures may pay periodic interest payments called coupon payments.

## Convertible vs. Nonconvertible:

- Convertible debentures are bonds that can convert into equity shares of the issuing corporation after a specific period.

- They are attractive to investors that want to convert to equity if they believe the company's stock will rise in the long term.

- However, the ability to convert to equity comes at a price since convertible debentures pay a lower interest rate compared to other fixed-rate investments.

- Nonconvertible debentures are traditional debentures that cannot be converted into equity of the issuing corporation. To compensate for the lack of convertibility investors are rewarded with a higher interest rate when compared to convertible debentures.

## Q) What are equity shares?

- Equity shares are defined as **long-term financing** options for firms looking to raise capital. Each equity share represents a unit of part ownership in the company. Equity shares are also referred to as **common stock, or common shares,** and are offered as an investment opportunity to the public. Investors in such shares hold the right to vote, share profits and claim assets of a company.

## 3.3 Credit of Rs. 7.68 lakh Crore provided to Self Help Group's (SHG)'s since 2013-14

- **Self Help Group- Bank Linkage Program (SHG-BLP)** Initiative has played key role in facilitating credit for SHGs.

- SHG-BLP was started by **National Bank for Agriculture and Rural Development (NABARD)** in **1992.**

- Its aim is to deliver financial services to the poor and vulnerable sections of society.

- It's key components are

- **Credit Linkage** of SHGs through bank accounts

- **Sensitization** of branch managers

- **Assisting SHGs** by positioning of **Bank Sakhis** at rural branches

- **Inculcating community** based **repayment mechanism.**

- SHGs are a **voluntary** small informal group of **10-20 individuals** (5 in cases of hilly areas or scattered population).

- They come together for promoting **savings habit** among members and for a common cause to raise and **manage resources** for the benefit of group members.

## <u>Transformation brought by SHG:</u>

- Promoted **entrepreneurship culture** in rural areas.

- Encourages **social equity** and **gender equality** (most of the SHG are being run by women).

- Kudumbashree (Kerala) and Mahila Arthik Vikas Mahamandal(Maharashtra) are key examples of it.

- SHG facilitate micro-loans to members to sustain businesses.

- **<u>Challenges faced by SHG:</u>** Lack of proper training and skill development, existing patriarchal mind-set restrict women participation etc.

## <u>Other Key Initiatives for SHG:</u>

- DAY-NRLM (Deendayal Antyodaya Yojana – National Rural Livelihoods Mission) Saksham centres facilitates delivery of financial services to SHGs.

- It includes : Start-up Village Entrepreneurship Programme (SVEP)- enables SHGs to set up non-farm enterprises at rural level

- Mahila Kisan Sashaktikaran Pariyojana (MKSP)

- Lakhpati Didi scheme.

## 3.4 <u>Logistics cost in India declined to 7.8-8.9% of GDP in FY2021-22</u>

- **NCAER & DPIIT (Department for Promotion of Industry and Internal Trade)** in its report found that logistic cost reduced due to initiatives taken by India.

- **DPIIT** works under the **Ministry of Commerce** to promote industries, entrepreneurship and innovation in the country.

- Logistics refers to the management of supply and transportation to deliver the goods on time and in good shape.

## Benefits of Reducing Logistic Cost:

- ➢ **Trade competitiveness** will enhance.

- ➢ Improves **supply chain efficiency.**

- ➢ Promotes **Foreign Direct Investment (FDI).**

## Initiative which helped in Reducing Logistics cost:

- ➢ **National Logistics Policy 2022:** It helped in improving EXIM (Export-Import) logistics and facilitation of development of logistics parks.

- ➢ **Land Port Management System (LPMS):** Digitised operations at the Integrated Check Posts (ICPs).

- ➢ **National Logistics Portal (Marine):** Provides a single window platform.

- ➢ FASTag-based electronic toll collection.

- ➢ Other: PM Gatishakti, Logistics Ease Across Different States (LEADS) ranking, e-Air WayBill (e-AWB) and e-Cargo etc.

- **Challenges in reducing logistics cost:** Skewed multimodal mix (Road-60%, Railways~30%), inadequate warehousing infrastructure etc.

## Measures required to make logistics more Competitive:

- ➢ Removal of **congestion points.**

- ➢ **Modal shift** towards rail and waterways.

- ➢ **Promoting digitalisation** (will reduce administration and management costs).

## 3.5 Logistics Ease Across Different States (LEADS) 2023 Report released by Ministry of Commerce & Industry

- LEADS focused on assessing performance of **logistics eco-system across States and Union Territories (UTs).**

## Three pillars of logistics Performance:

- ➢ Logistics Infrastructure
- ➢ Logistics Services
- ➢ Operating and Regulatory Environment.

- LEADS was conceived on the lines of **Logistics Performance Index (LPI)** of World Bank in 2018

  - ➢ LPI relies entirely on perception-based surveys, LEADS incorporates both perception as well as objectivity.
  - ➢ **India ranks 38th/139** countries in LPI 2023.

## Key Findings:

- ➢ **Highest improvement** recorded in regulatory pillar.
- ➢ Length of National Highways increased by approximately **48%** on back of sustained investment push by the government over the last decade.
- ➢ Total number of Container Freight Stations (CFS) increased by 18% and Inland Container Depots
- ➢ (ICDs) increased by 26% growth between FY18 to FY22.
- ➢ Apart from national logistics policy 21 States and 2 UTs have notified their Logistics Policies.

## Significance of LEADS for logistics sector

- ➢ Align **State objective with National priorities.**
- ➢ **Encouraged competition among States** to improve the logistics sector.
- ➢ Empowers the State/UT Governments by providing **region specific insights for informed decision making.**

| Groups / Categories | Achievers | Fast Movers | Aspirers |
|---|---|---|---|
| Coastal | Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu | Kerala, Maharashtra | Goa, Odisha, West Bengal |
| Landlocked | Haryana, Punjab, Telangana, Uttar Pradesh | Madhya Pradesh, Rajasthan, Uttarakhand | Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand |
| North-East | Assam, Sikkim, Tripura | Arunachal Pradesh, Nagaland | Manipur, Meghalaya, Mizoram |
| Union Territories | Chandigarh, Delhi | Andaman & Nicobar, Lakshadweep, Puducherry | Daman & Diu/ Dadra & Nagar Haveli, Jammu & Kashmir, Ladakh |

LEADS 2023: Performance Snapshot

* States/ Union Territories within the performance categories are listed in alphabetical order

## 3.6 Reforming the Process of Sovereign Credit Rating.

### Why in News?

- In an essay 'Understanding a Sovereign's Willingness to Pay Back: A Review of Credit Rating Methodologies', the office of the CEA in the Finance Ministry has called for urgent reforms and transparency in the process of sovereign credit rating.

- According to the Chief Economic Advisor (CEA), methodologies used by agencies (CRAs) are heavily loaded against developing countries like India due to an "over-reliance" on non-transparent and subjective qualitative factors.

### What is a Sovereign Credit Rating?

- A sovereign credit rating is a **measurement of a government's ability** to repay its debt, with a low rating indicating high credit risk.

- Typically, rating agencies use various parameters to rate a sovereign. These include growth rate, inflation, government debt, short-term external debt as a percentage of GDP and political stability.

- A favourable credit card rating enhances credibility and signifies a positive track record of timely loan repayment in the past.

- It assists banks and investors in evaluating loan applications and determining the interest rates to be offered.

- The global credit rating industry is highly concentrated, with three leading agencies: **Moody's, Standard & Poor's, and Fitch.**

- While S&P and Fitch rate India at BBB, Moody's rates the South Asian country at Baa3, which indicates the lowest possible investment grade.

- This is despite India climbing the ladders from the 12th largest economy in the world in 2008 to the 5th largest in 2023, with the 2nd-highest growth rate recorded during the period among all the comparator economies.

## **Issues with the Methodology of Credit Rating:**



**WHAT ARE THE CONCERNS?**

**First,** a paper by officers in the finance ministry's economic division says the rating method puts developing countries at disadvantage. It points to Fitch's methodology, which gives greater weight to foreign ownership of banks, ignoring development role played by state-run entities

**Second,** it says experts consulted by agencies are selected in a non-transparent manner, "adding another layer of opaqueness to an already difficult-to-interpret methodology"

**Third,** there is a lack of clarity on weights assigned for each parameter

- A quantitative analysis showed that over half the credit ratings are determined by the qualitative component.

- Institutional Quality, proxied mostly by the World Bank's Worldwide Governance Indicators (WGIs), emerges as the foremost determinant of a developing economy's credit rating.

- This presents a problem since these metrics tend to be non-transparent, perception-based, and derived from a small group of experts, and cannot represent the willingness to pay the sovereign.

- Their effect on the ratings is non-trivial since it implies that to earn a credit rating upgrade, developing economies must demonstrate progress along arbitrary indicators.

## Recommendations given by the CEA to Reform Credit Rating:

- The CEA recommended relying mainly on a country's debt repayment history to determine its 'willingness to pay', instead of "less-than-optimal" qualitative information.

  ➢ Such a model will do enormous good to the credibility of the CRAs.

- Qualitative information and judgement can be the last resort when all other options for applying authentic, verifiable information are precluded.

- Even if governance indicators are to be relied upon, they must be based on clear, well-defined, measurable principles rather than subjective judgements by CRAs.

- CRAs tend to have a detailed database of best practices from around the world, which they apparently rely upon to form their judgements.

- This knowledge must be shared with the countries they rate so that appropriate action can be taken on a sovereign's part to improve its creditworthiness.

## 3.7 Pension Fund Regulatory and Development Authority (PFRDA)

- Pension fund regulator, PFRDA recently allowed National Pension System (NPS) subscribers to deposit their contributions directly under the D-Remit process through the Unified Payments Interface (UPI) QR code.

## About the Pension Fund Regulatory and Development Authority (PFRDA):

- It is a statutory regulatory body set up under the PFRDA Act, 2013.

- Objective: To promote old age income security by establishing, developing, and regulating pension funds and to protect the interests of subscribers to schemes of pension funds and related matters.

- It comes under the jurisdiction of the Ministry of Finance.

- PFRDA is headquartered in New Delhi, with regional offices located around the country.

- **Composition:** It consists of a Chairperson and not more than six members, of whom at least three shall be whole-time members, to be appointed by the Central Government.

## Functions:

- Regulate National Pension System (NPS) and other pension schemes to which the PFRDA Act applies;

- Undertaking steps to educate subscribers and the general public on issues relating to pensions, retirement savings, and related issues, and training intermediaries.

- Providing pension schemes not regulated by any other enactment;

- Protecting the interests of subscribers of NPS and such other schemes as approved by the authority from time to time.

- Approving the schemes and laying down norms of investment guidelines under such schemes;

- Registering and regulating intermediaries: NPS Trust, Points of Presence, Central Record-keeping Agency, Trustee Bank, Pension Funds, Custodian for time-bound service to subscribers.

- Ensuring that the intermediation and other operational costs are economical and reasonable;

- Making the existing grievance redressal process robust and time-bound.

- Adjudication of disputes between intermediaries and between intermediaries and subscribers.

## Key Facts about the National Pension System (NPS):

- NPS is a social security initiative by the Central Government.

- This pension programme is open to employees from the public, private, and even unorganised sectors, except those from the armed forces.

- The scheme encourages people to invest in a pension account at regular intervals during the course of their employment. After retirement, the subscribers can take out a certain percentage of the corpus. As an NPS account holder, people will receive the remaining amount as a monthly pension after your retirement.

- Earlier, the NPS scheme covered only Central Government employees. With effect from 1st May, 2009, NPS has been provided for all citizens of the country, including the unorganised sector workers, on a voluntary basis.

- NPS is mandatorily applicable to Central Government employees; including Central Autonomous Bodies (except Armed Forces) recruited on or after 01.01.2004.

- It is based on unique Permanent Retirement Account Number (PRAN)allotted to every subscriber.

- The scheme is portable across jobs and locations, with tax benefits under Section 80C and Section 80CCD.

# 4. ENVIRONMENT AND ECOLOGY

## 4.1 Indian Mouse Deer and Chousingha



### Overview:

- As part of an animal exchange programme recently executed by the Indira Gandhi Zoological Park (IGZP) with Kakatiya Zoological Park in Warangal, IGZP has received two new species, Mouse Deer and Chousingha.

### Key Facts about Indian Mouse Deer

- The Indian Mouse Deer or Spotted Chevrotain is the **smallest deer in India** and is highly nocturnal.

- Scientific Name: Moschiola indica

### Distribution:

- It is **endemic to the Indian Subcontinent.**

- It is mainly found in peninsular India, with some old records from Nepal.

- Sri Lanka has a separate species called the spotted chevrotain (Moschiola meminna).

- Within India, it is commonly encountered in a number of forest areas along the **Western Ghats, in the Eastern Ghats up to Orissa, and in the forests of central India.**

### Features:

- It is small, **25-30 cm** at shoulder height, and weighs from **two to four kg.**

- The fur color of the Indian spotted chevrotain is dark brown with white under parts.

- There are four or five light rows of white spots on the back. Males of this species have tusk-like upper canines.

- A unique feature of this group is that instead of a four-chambered stomach like in other ruminants, they have a three-chambered stomach.

- It forages on the forest floor for fruits, roots, leaves, and herbs.

- It has occasionally been observed eating insects, crustaceans, and even small mammals.

- Conservation Status:

- IUCN: Least Concern

## Key Facts about Chousingha

- The four-horned antelope, or chousingha, is a small antelope found in India and Nepal.

- Scientific Name: Tetracerus quadricornis

## Distribution:

- It is endemic to the Indian subcontinent.

- They are found in woodland areas throughout India.

## Features:

- They are the smallest antelopes found in Asia.

- As the name suggests, Chousingha can be identified by the four horns, as against other bovids, which have two horns.

- They are usually diurnal and solitary by nature; however they can be spotted in loose groups of three to four.

- Animals are sedentary, inhabiting more-or-less the same region throughout their lives.

- They have a yellowish-brown to reddish coat and are slender, with small legs and a short tail.

- Conservation Status:

- IUCN Red List: **Vulnerable**

## Q ) What are crustaceans?

- Crustaceans are **invertebrates with a hard exoskeleton** (carapace), a segmented body that is bilaterally symmetrical, more than four pairs of jointed appendages ("legs") and an open circulatory system (the "blood" does not flow in a closed loop). Crustaceans make up a very large group of the Arthropods which include the crabs, lobsters, crayfish, shrimp, krill etc. Crustaceans are found in a wide range of habitats - most are free-living freshwater or marine animals, but some are terrestrial (e.g. woodlice), some are parasitic (e.g. fish lice) and some do not move (e.g. barnacles).

## 4.2 Kambalakonda Wildlife Sanctuary



- **The first-of-its-kind Nature Interpretation Centre** at the Eastern Ghats Biodiversity Centre along the periphery of the Kambalakonda Wildlife Sanctuary in Visakhapatnam in was inaugurated.

## Kambalakonda Wildlife Sanctuary

- It is located in the state of Andhra Pradesh.

- It is named after the local hillock " Kambalakonda " acting as a green lung for citizens of Vizianagaram, is this large and sprawling sanctuary.

- Topography: It is considerably hilly with steep slopes.

- **Vegetation:** It hosts dry evergreen forests, a highly-threatened and unique forest type seen only in Tamil Nadu and Andhra Pradesh in India.

## Flora:

- It has wonderful plants like Tectona grandis, Randia dumetorum, Grewaia tiliaefolia, Abrus precatorius, etc.

- One of the most stunning flowers found in the region includes the Indian screw tree. Other flowers and fruits like flowers of the Bush plum tree, Jungle berry bunches can be found all across the landscape.

- **Fauna:** Mammals like Leopard, Barking Deer, Jackal and Avifauna include Paradise flycatcher, Tree pie, Quails, Partridges, etc.

## Q) What are the characteristics of tropical forests?

- The tropical rainforest biome has four main characteristics: very high annual rainfall, high average temperatures, nutrient-poor soil, and high levels of biodiversity (species richness).

## 4.3 COP28 of United Nations Framework Convention on Climate Change (UNFCCC) Concludes with the Adoption of First Global Stocktake



- **Global stocktake** is a process for countries to see where they're collectively making progress towards meeting the goals of **Paris Agreement.** It is like taking inventory.

- In Paris agreement (2015), it was decided that countries would assess their progress for the first time in 2023 and, then, every five years.

## Key Highlights:

- **Reduce Global greenhouse gas emissions:** There is need to cut 43% GHG emissions by 2030, compared to 2019 levels.

- But it notes Parties are off track to meeting their Paris Agreement goals.

- **<u>Transitioning away from fossil fuels:</u>** For the first time, parties agreed on it and will achieve net zero emissions by 2050 (just and equitable manner).

- It reflects a global consensus on **Agreed on Global Goal on Adaptation (GGA) framework** adaptation targets and the need for finance, technology and capacity-building support to achieve them.

## **Other:**

- Tripling of global installed capacity of renewable energy by 2030.

- Doubling global average annual rate of energy efficiency improvements by 2030.

- Accelerating efforts to the phase-down of unabated coal power.

- Unabated coal power refers to the use of coal without substantial efforts to reduce the emissions.

- Azerbaijan and Brazil will host COP29 (2024) and COP30 (2025), respectively

## 4.4 <u>Oil spill occurred in Ennore region of Chennai after Cyclone Michaung-induced floods</u>

- As per Indian Coast Guard, Oil spill **originating from Chennai Petroleum Corporation Ltd** refinery has spread across 20 square kilometres into the sea.

- An oil spill is the release of a **liquid petroleum hydrocarbon into environment,** especially marine areas.

- **Causes of Oil Spills:** Equipment breaking down due to human errors; deliberate acts by illegal dumping; natural disasters like hurricanes, etc.

## Impacts of oil spill:

- **Destroys insulating ability of fur on mammals and impacts water repelling** qualities of a bird's feathers.

- **Impacts immune system** and reproduction of dolphins and whales by oil inhalation.

- Health problems like **heart damage, immune system effects,** headache due to strong odour, skin irritation, etc.

- **Obstruct passage of sunlight into sea,** thereby destroying photo synthesising phytoplankton.

- **Impacts mangrove forests** as they can **no longer shield coastlines.**

## Bio remediation technology developed in India for Oil spills

- **Oilzapper (developed by TERI),** an eco-friendly technique of using the bacteria to get rid of oil **sludges and oil- spill.**

- **Oilivorous-S** (jointly developed by TERI and Indian Oil Corporation Ltd) has an **additional bacterial strain** that makes it **more effective against** sludge and crude oil with **high sulphur content.**

## Steps taken for Preventing Oil Spills

## India:

- National Oil Spill Disaster Contingency Plan by Indian Coast Guard.

- Merchant Shipping Act, 1958 has provision of Prevention and

- Containment of Pollution of sea by oil.

## Global:

- International Convention for Safety of Life at Sea (SOLAS), and

- Prevention of Pollution of marine environment from Ships (MARPOL).

- India is party to both conventions.

## 4.5 E-waste management in India

- The government informed the parliament that **Over 500,000 tonnes of e-waste had been collected and processed in the year 2021-22.**

- Based on the information provided by the **Central Pollution Control Board (CPCB),** 1.6 million Metric Tonnes of e-waste was generated in 2021-22.

- CPCB is a statutory organization under the Water Act, 1974 with the principal mandate of controlling air and water pollution.

- **E-waste:** It refers to all items of electrical and electronic equipment (EEE) and its parts that have been discarded by its owner as waste without the intent of re-use.

- **India is 3rd largest Electronic waste** producer in the world after China and the United States.

## Impact of E-waste

- **Health Hazard:** Exposure can cause headaches, irritability, nausea, vomiting, and eye pain.

- **Environment impact**: E-waste contains over 1,000 toxic materials, which contaminate soil and groundwater.

- **Social Impact** - Engagement of child labor in e-waste management, Rising disease burden, etc

- Management of e-waste is carried out under **E-Waste (Management) Rules, 2022.**

- It applies to every **manufacturer, producer, refurbisher, dismantler, and recycler.**

- It launched a new **Extended Producer Responsibility (EPR) regime.**

- EPR was introduced by E-waste (Management and Handling) Rules, 2011.

## Challenges with E-waste management

  - ➢ Lack of private participation in recycling.

➢ Infrastructure gap between present recycling and the quantum of E-waste.

➢ Informal nature of the waste management industry.

➢ Limited awareness of consumers.

# 4.6 Composite Water Management Index (CWMI): NITI Aayog Weighs Discontinuing Key Water Report

- NITI Aayog is learnt to have marked the reports on states progress on water management for 2018-19 and 2019-20 for "internal use" after having publicly released the previous editions.

- Called the **'Composite Water Management Index'** report, the first edition launched five years ago in June 2018 brought India's water challenges into spotlight and ranked states in terms of efficacy based on 28 parameters.

- The **first edition** of the CWMI provided data for 2015-16 and 2016-17

- **Second edition** launched in August 2019 was for 2017-18.

  ➢ According to the report for 2019-20, **Gujarat** tops the list with continuous improvements year on year and is closely followed by **Rajasthan, Andhra Pradesh and Madhya Pradesh** in terms of performance.

- Recently, the NITI Aayog wrote to the Union Ministry of Jal Shakti, seeking the **government's perspective on the "use and applicability"** of the Index and whether the CWMI should continue

- There has been no response from the Ministry, even as the third and fourth editions are awaiting release.

- The latest report maps the performance of states for 2018-19 and 2019-20, and points out that water scarcity is a "national problem".

- The average annual per capita water availability is expected to r educe to 1,486 cubic meters per person per year by 2021 from 1,545 cubic meters per person per year in 2011

## Water policy timeline in India

**Right to water recognized**

Supreme court recognizes 'right to water' as a part of right to life

**National river-linking revitalized**

Govt. allocates funds to prepare detailed project reports

**Ministry of Water Resources, River Development & Ganga Rejuvenation established**

Several functions consolidated under central Ministry of Water Resources

**Model Groundwater Bill framed**

Govt. publishes initial bill asserting state control over groundwater extraction

2000            2005            2010            2015            2018

**National Water Policy revamped**

Policy focus shifts to treating water as an economic good for efficient use

**DDUGJY launched**

Govt. begins separating electricity feeders for agriculture, reducing incentives for excess irrigation

**PMKSY launched**

Govt. expands efforts to make irrigation more efficient, with a focus on micro-irrigation

**India-Israel water partnership formalized**

Govt. signs MOU to leverage Israel's expertise for a National Campaign for Water Conservation in India

## Background in Which The Composite Water Management Index (CWMI) Launched

- Currently, 600 million Indians face high to extreme water stress and about two lakh people die every year due to inadequate access to safe water. The crisis is only going to get worse.

- By 2030, the country's water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people and an eventual ~6% loss in the country's GDP.

- As per the norms, the availability value of less than 1,700 cubic meter/person/year indicates **water shortage.**

- Water availability **below 1,000 cubic** metre /capita /year is considered as **"scarcity".**

- The UN University - Institute for Environment and Human Security (UNU-EHS), had warned that India is close to reaching its groundwater risk tipping point.

- Environmental tipping points are critical thresholds in the Earth's systems, beyond which abrupt and often irreversible changes occur.

## **What Is The CWMI?**

## **About**

- **NITI Aayog** has developed the CWMI in **2018** to enable effective water management in Indian states in the face of this growing crisis.

- The report is being prepared **in association with ministries- Ministry of Jal Shakti and Ministry of Rural Development.**

## **Objectives of the Index**

- To **bring about much-required improvements** in water resource management and conservation in India in a coherent and collaborative manner.

- It will be a **public platform that provides an annual snapshot** of the water sector status and the water management performance of the different states /UTs.

- It **will measure both the overall progress** made by states in water management and the **incremental improvement** in performance across time.

## **Significance of the Index:**

- It is meant to **foster a culture of evidence and data-backed policy y-decisions for sustainable and efficient management of water resources.**

- It is expected to promote the spirit of **'competitive and cooperative federalism'.**

- The data included in the Index will be made publicly available to researchers and entrepreneurs to drive innovation in the sector.

**Themes and indicators of the Index**

- The Index comprises 9 themes (each having an attached weight) with 28 different indicators covering –
  - Groundwater and surface water restoration,
  - Major and medium irrigation,
  - Watershed development,
  - Participatory irrigation management,
  - On-farm water use,
  - Rural and urban water supply, and
  - Policy and governance.

## 4.7 A Green and Sustainable Growth Agenda for the global economy report released by NITI Aayog

- Report emphasized on **'Reshaping Global Finance Architecture for Sustainable Growth'.**

**Need of Reshaping Global Finance Architecture:**

- **Fragmented global financial architecture:** Current global system is contributing to **disparities in economic recovery** between developed and developing regions.

- Global debt architecture is informal and inefficient, with many low-income countries in or nearing a debt crisis.

- **Finance Requirement:** There is need of USD 3 trillion over the next decade to finance green growth.

- Poor mobilisation of private resources.

## Recommendations:

## Multilateral Development Banks (MDBs):

- Reforming their structure to improve capital mobilisation, better project implementation and making sustainable infrastructure an asset class.

- **Establishing multilateral creditor club:** For managing debt sustainably in a transparent manner.

- **Flexibility Missions:** Countries in Global South need them as they will provide them with the means to adapt and innovate in response to impacts of climate change.

- **Expand bilateral swap lines** and IMF contingency lines to make capital flows safer.

- Also, making Special Drawing Rights (SDR) allocation rule-based and less discretionary.

- Other long-term solutions: Creating resilience funds, promoting circular economies, joint technological development, enhancing green energy security and transition partnerships.



## 4.8 White-Bellied Sea Eagle

## Why in news?

- In an unusual sighting, the white-bellied sea eagle, an enormous raptor common to coastal habitats, was spotted in Mukkombu, Tiruchirapalli.

## About White-Bellied Sea Eagle:

- It is a diurnal monogamous bird of prey.

- Young Sea-Eagles are brown as juveniles then slowly become to resemble adults in a patchwork manner, acquiring the complete adult plumage by their fourth year.

- Distribution: They are found throughout southeast Asia. They range north to south from southern China to Australia and Tasmania, and west to east from India to New Guinea.

## Habitat:

- They live primarily in terrestrial habitats near the ocean, especially coasts, islands, and estuaries, but also live in forested areas with access to smaller bodies of water, such as lakes, ponds, and rivers.

- Most white-bellied sea eagles live at elevations around 900 m, with the highest elevation recorded at 1,700 m.

- **Diet:** White-bellied Sea Eagles are primarily piscivorous, meaning they primarily feed on fish. They may also prey on water birds, small mammals, and carrion (dead animals).

- **Conservation Status:** IUCN: Least Concern

## 4.9 Pappathi Chola

- Pappathi Chola, known for its high butterfly population, derived its name from the Tamil word **Pappathi meaning butterflies and Chola means shola land.**

- It is also regarded as a **hub of balsams** (Impatiens balsamina) and rare varieties of orchids.

- It is located right in the middle of the **Chathurangappara hills** and Mathikettan shola.

- Last year, the region witnessed the blooming of **Neelakurinji.**

- This area is covered with eucalyptus trees.

- Many butterflies reach the area during their migratory course from the rain shadow forests of Tamil Nadu back to the higher elevations of Munnar.

## Key facts about Impatiens balsamina:

- It is an annual herb thought to be **native to India and Myanmar.**

- It is an annual, perennial or suffruticose herb, terrestrial or sometimes epiphytic.

- It has been long prescribed for the treatment of **rheumatism, isthmus, generalised pain,** fractures, inflammation of the nails, scurvy, carbuncles, dysentery, bruises, foot diseases, etc.

- Juice extracted from plant leaves was used to cure warts and snakebite.

# 5. SCIENCE AND TECHNOLOGY

## 5.1 What is Radiocarbon Dating?



### Overview:

- Archaeologists have recently used radiocarbon dating to analyze the oldest true wooden frame saddle in East Asia, revealing how the rise of Mongolian steppe cultures was likely aided by advances in equestrian technology.

### About Radiocarbon Dating

- **Radiocarbon dating, or carbon-14 dating,** is a scientific method that can accurately determine the **age of organic materials as old as approximately 60,000 years.**

- First developed in the late 1940s at the University of Chicago by Willard Libby, the technique is based on the decay of the carbon-14 isotope (Carbon-14 is a radioactive isotope of carbon).

- It has been used for historical studies and atmospheric science.

- It can be used on any object that used to be alive. That includes pieces of animals, people, and plants, but also paper that was made from reeds, leather made from animal hides, logs that were used to build houses, and so forth.

### How does it work?

- Carbon 14 is continually being formed in the **upper atmosphere** by the effect of cosmic ray neutrons on nitrogen 14 atoms. It is rapidly oxidized in air to form carbon dioxide and enters the global carbon cycle.

- Plants and animals assimilate carbon 14 from carbon dioxide throughout their lifetimes into their tissues.

- When they die, the carbon-14 starts to change into other atoms over time.

- **Scientists can estimate how long the organism has been dead by counting the remaining carbon-14 atoms.**

- Carbon-14 has a half-life of about 5,730 years. That means half the atoms in a sample will change into other atoms, a process known as "decay," in that amount of time.

## Q1) What is an isotope?

- Isotopes are atoms of the same element that have the same number of protons (i.e., atomic number, "Z") but a different number of neutrons, meaning that their mass number, "A", varies.Isotopes are notated in multiple ways. Most commonly, they are specified by the name or symbol of the particular element, immediately followed by a hyphen and the mass number (e.g., carbon-14 or C-14).

## 5.2 Otolith rings

- The marine biologists at the University of Southampton have developed a technique to decode the chemistry of otoliths.

## About Otolith rings :

- The otolith is a **stony lump in the fish ear.**

- These are much like tree rings which reveal fishs's age.

- Different forms or isotopes of oxygen in the otolith **indicate the temperature the fish experienced when it was alive.**

- Carbon isotopes reveal how quickly food was converted into energy. Fish carry their fitness trackers in their ears.

- They are commonly known as **"earstones,"** are hard, calcium carbonate structures located directly behind the brain of bony fishes.

- There are three types of otoliths, all of which aid fish in balance and hearing:

- **Sagitta:** The largest of the 3 pairs of otoliths, sagitta is involved in the detection of sound and the process of hearing, or converting sound waves into electrical signals

- **Asteriscus:** This type of otolith is involved in the detection of sound and the process of hearing.

- **Lapillus:** This type of otolith is involved in the detection of gravitational force and sound

- Different species have otoliths of different shapes and sizes; and cartilaginous fishes, such as sharks, skates, and rays, have none.

## Significance

- Features of otoliths can be used to identify the species, size, age, growth rate, and season of death of an individual fish.

- Analysis of the oxygen isotope values of fish otoliths can provide information on the temperature of the water in which the fish lived.

- While studying concentrations of trace elements such as barium can indicate the salinity levels of the water.

## 5.3 What is Mosasaur?



## **Why in news?**

- In Japan, a fossil of the extinct and    apex  predator Mosasaur, a massive marine reptile from the Late Cretaceous period, was recently discovered.

## **About Mosasaur:**

- Mosasaurs (family Mosasauridae) were a group of large predatory marine reptiles that inhabited all of the world's oceans during the **Late Cretaceous epoch,** between 90 and 66 million years ago.

- They are related to snakes and monitor lizards and were some of the largest marine organisms of the time and some of the largest predatory reptiles, period.

- These creatures were **contemporaries** of Tyrannosaurus rex and other Cretaceous dinosaurs that ruled the Earth.

- They lived **near the surface** of the water since it breathed air, much as whales do.

- They died out, along with dinosaurs and many other animals, during the mass extinction at the end of the Cretaceous Period, 66 million years ago.

## Features:

➢ Although Mosasaur species varied in length, some grew to be more than 50 feet long.

➢ They had a snakelike body with a large skull, a long snout, and sharp teeth.

➢ The structure of the skull was very similar to that of the modern monitor lizards, to which mosasaurs are related.

➢ They had flipper-like paddles for arms and legs and a tail fin.

➢ They propelled themselves by mainly moving the large fin on their tail in a side-to-side motion.

➢ They were also covered in smooth scales, which were very dark in color.

➢ They were carnivores.

## Q) What is Tyrannosaurus rex?

• Tyrannosaurus rex, commonly known as T. rex, was a large carnivorous dinosaur that lived during the Late Cretaceous period, approximately 68 to 66 million years ago.

## 5.4 ISRO to indigenously develop Environmental Control and Life Support System (ECLSS) for Gaganyaan mission: ISRO Chairman
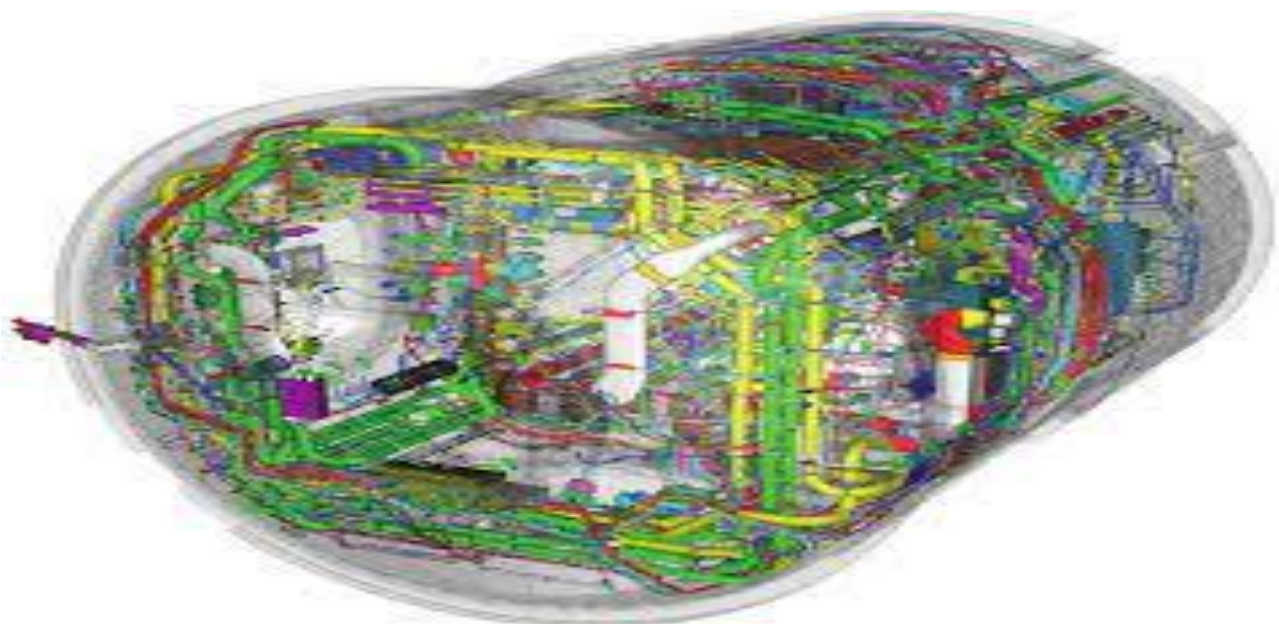
- ECLSS is a **subsystem of a crewed space vehicle** which provides all necessary conditions to make life in space possible.

- ECLSS Tasks primarily include atmosphere management, water management, food supply and waste management.

## ECLSS consists of three key components

- **Water Recovery System** provides **clean water by reclaiming wastewater**, cabin humidity condensate, and water from the hydration system inside crew members' Extravehicular activity suits.

- **Air Revitalization System** dedicated to cleaning circulating cabin air.

- **Oxygen Generation System** consists of oxygen generation assembly and carbondioxide reduction assembly.

## Significance of indigenous ECLSS

- Facilitate Gaganyaan Mission, India's human space flight programme

- Reduce dependence on foreign space agencies for manned missions.

- Promote knowledge and design capability development for manned missions.

- Employment generation and human resource development in advanced science and R&D activities.

- Gaganyaan Mission envisages demonstration of human spaceflight capability to Low Earth Orbit.

- It aims to **launch crew of 3 members to an orbit of 400 km for 3 days** and bringing them back safely to Earth.

- **LVM3 (Geosynchronous Satellite Launch Vehicle Mk III)** is identified as its **launch vehicle.** It consists of solid stage, liquid stage and cryogenic stage.

## 5.5 Urgent action needed to protect children and prevent the uptake of e-cigarette: says WHO

Inside the e-cigarette

- **E-cigarettes heat a liquid to create aerosols** that are **inhaled** by the user.

- These e-liquids may or may not have nicotine but **do not contain tobacco.**

- However, they typically contain **additives, flavors and chemicals that can be toxic.**

- E-cigarettes are also known as **vape pens, vapes, electronic nicotine delivery systems (ENDS) electronic non-nicotine delivery systems (ENNDS),** etc.

- According to the WHO E-cigarettes target children through social media and influencers.

- Children 13–15 years old are using e-cigarettes at rates higher than adults.

- A rate of e-cigarette use among **16-19 year olds has doubled** between 2017- 2022.

## Other impacts of E-cigarettes

- E-cigarettes are not shown to be effective for quitting tobacco use at the population level.

- E-cigarettes with nicotine are highly addictive.

- Generate toxic substances that cause **cancer and increase the risk of heart and lung disorders.**

- Negatively affects **fetal development and brain development** (leading to learning disorders).

- **Regulation of E-cigarettes in India:** **Prohibition of Electronic Cigarette Act (PECA) 2019** prohibits the production, manufacture, import, export, transport, sale, distribution, storage and advertisement of e-cigarettes.

# 5.6 What are Swarm Drones?



## Overview:

- **The Indian Air Force (IAF)** has chalked out the requirement for different mobile systems to counter threats in different operational scenarios, particularly those from multiple swarm drones.

## About Swarm Drones

- **SWARM stands for "Smart War-Fighting Array of Reconfigured Modules."**

- A Swarm Drone typically consists of **multiple drones** working in coordination, communicating with one another, and sharing information to achieve a common objective.

- These drones can be of the same or different types, ranging from small quadcopters to larger fixed-wing drones.

- The swarm's strength lies in its ability to function as a collective unit, leveraging swarm intelligence algorithms and advanced software to operate seamlessly and efficiently.

- These drones are **equipped with Artificial Intelligence (AI)** and can **communicate with each other as well as with the control station.**

- All the individual drones work in unison to complete tasks using distributed coordination, with each communication sent out by one drone providing the others with up-to-date information about their environment and roles in the mission.

- As their commands are based on **real-time data,** these swarms react quickly and precisely to changes in their surroundings.

- Because of the large number of drones that may be members of a drone swarm technology, the swarm as a whole and individual drones can exercise great autonomy in seeking and engaging targets.

## Q) What is Artificial Intelligence (AI)?

- Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. Artificial intelligence allows machines to model, or even improve upon, the capabilities of the human mind.

## 5.7 What is Ketamine?

- **Ketamine**, also known as **Ketalar**, is a medicine that doctors use to make people not feel pain during surgeries.

- It is derived from a hallucinogenic drug **Phencyclidine (PCP),** it works by blocking the NMDA receptor in the brain and spinal cord, and increases a brain chemical or neurotransmitter called glutamate.

- It **halts transmission of pain in the spinal cord** and activates reward pathways of the brain.

- It is a dissociative anaesthetic with psychedelic properties is used under strict medical supervision for anaesthesia and to treat treatment-resistant depression.

- Ketamine therapy is used to treat **depression, anxiety, PTSD, end-of-life distress, chronic pain, drug/alcohol problems, and more**.

## Impact on the body

- Ketamine induces hallucinations, distorts sight and sound perceptions, leading to a sense of disconnection and loss of control.

- Potential side effects include agitation, depression, cognitive issues, unconsciousness, and memory loss.

- It is a **Schedule X drug** in India, which means it is tightly controlled and even monitored on a case-specific basis by the prescribing doctor.

## What are Schedule X drugs?

- These are the **'restrictive drugs'** which are covered under the **Drugs and Cosmetic Act and Rules.** The list of Schedule X drugs includes **over 536 drugs.**

- The Schedule X drugs include Narcotic and Psychotropic drugs which cause delusion, hallucination, psychosis, sedation and hypnosis.

- These drugs should be sold only on the prescription of a registered medication practitioner only.

## Q) What is The N-methyl-D-aspartate (NMDA) ?

- It is a receptor of glutamate, the primary excitatory neurotransmitter in the human brain. It plays an integral role in synaptic plasticity, which is a neuronal mechanism believed to be the basis of memory formation.

## 5.8 JN.1 Variant

- First case of a person infected with JN.1 variant of Sars-CoV-2 was reported in India.

- **Sars-CoV-2 virus was responsible for Covid-19 pandemic.**

### About JN.1 Variant:

- It is a sub-variant of Sublineage BA.2.86 (also known as Pirola), is an off-shoot of the widely circulating Omicron variant.

- Variant is a genome (genetic code) that may contain one or more mutations.

- World Health Organization (WHO) has classified it as a variant of interest.

- These are strains that are worrying enough to trigger stepped up investigations of the variant by countries, like laboratory studies.
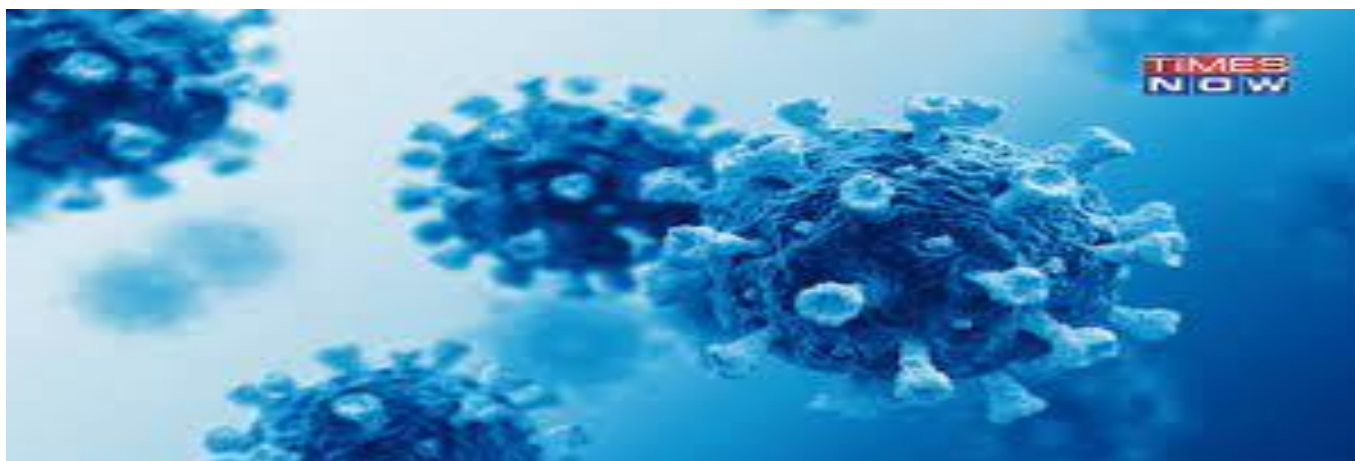


## 5.9 Monkeypox (Mpox)

- WHO warned an epidemic of Mpox in Democratic Republic of Congo could spread internationally.

- Mpox is a viral zoonotic illness caused by monkeypox virus, a species of genus Orthopoxvirus.

- It was first discovered in 1958 when two outbreaks of a poxlike disease occurred in colonies of monkeys kept for research.

- Primarily occurs in tropical rainforest areas of Central and West Africa.

- Transmitted to humans through physical contact with someone who is infectious, with contaminated materials, or with infected animals.

- Common symptoms: Skin rash or mucosal lesions, fever, headache, muscle aches, and swollen lymph nodes.



## 5.10 World Health Organization (WHO) officially recognizes Noma as a Neglected Tropical Disease (NTD)

- Following a recommendation of Strategic and Technical Advisory Group for NTD, **WHO recognise Noma as an Neglected Tropical Disease.**

- This recognition aims to **amplify global awareness**, catalyse research, stimulate funding, and boost efforts to control Noma through **multi-sectoral and multi-pronged approaches.**

- Noma (cancrum oris) is a **severe gangrenous disease** of **mouth and face.**

- It mainly affects **children aged 2- 6 years** old suffering from malnutrition, living in extreme poverty with poor oral health.

- Africa is most affected continent.

- It can also occur among **immune-compromised adults** due to HIV, leukaemia and other diseases.

- It starts as a soft tissue lesion (a sore) of the gums.

- It then develops into an acute necrotizing gingivitis that progresses rapidly, destroying the soft tissues and further progressing to involve the hard tissues and skin of the face.

- It is generally considered an **opportunistic and non-contagious disease.**

- Indeed, cases are seen in African countries outside this area as well as in other parts of the world, including Asia and Asia-Pacific, the Americas, the Middle East and Europe.

- Evidence indicates that the causative agents of noma are non-specific polymicrobial organisms.

## Treatment:

- Early detection is essential, as therapy is most effective at the early stages of disease when it appears as aggressively swollen gums (acute necrotizing gingivitis).

- Treatment typically includes prescription of widely available antibiotics, advice and support on practices to improve oral hygiene, disinfectant mouthwash and nutrition supplements.



- NTDs are a diverse group of 20 conditions that are mainly **prevalent in tropical areas,** where they affect more than 1 billion people who live in impoverished communities.

- **Caused by a variety of pathogens** including viruses, bacteria, parasites, fungi and toxins.

- **NTDs include:** Dengue and chikungunya; Rabies, leishmaniasis; leprosy; lymphatic filariasis etc.

- **India has successfully eliminated certain NTDs** like  guinea worm, trachoma, and yaws.

## Initiatives taken by India to tackle NTD's

- Accelerated Plan for Elimination of Lymphatic filariasis, 2018.

- National Kala-Azar (Visceral leishmaniasis) Elimination Programme.

- National Vector Borne Disease (like Dengue) Control Programme.

## Global Initiatives to tackle NTDs

- London Declaration on NTDs.

- Kigali declaration on NTDs adopts targets to eradicate or control NTDs by 2030

# 5.11 WHO Prequalifies 2nd Malaria Vaccine

## Why in the News?

- The World Health Organization (WHO) added the R21/Matrix-M malaria vaccine, developed by Oxford University and manufactured by Serum Institute of India, to its list of prequalified vaccines.

## About Malaria:

- Malaria is a disease caused by the Plasmodium parasite.

- The parasite can be spread to humans through the bites of infected mosquitoes.

- There are many different types of plasmodium parasite, but only 5 types cause malaria in humans.

- Plasmodium falciparum – mainly found in Africa, it's the most common type of malaria parasite and is responsible for most malaria deaths worldwide.

- Plasmodium vivax – mainly found in Asia and South America, this parasite causes milder symptoms than Plasmodium falciparum, but it can stay in the liver for up to 3 years, which can result in relapses.

- Plasmodium ovale – fairly uncommon and usually found in West Africa, it can remain in your liver for several years without producing symptoms.

- Plasmodium malariae – this is quite rare and usually only found in Africa.

- Plasmodium knowlesi – this is very rare and found in parts of southeast Asia.

## How Does Malaria Spread?
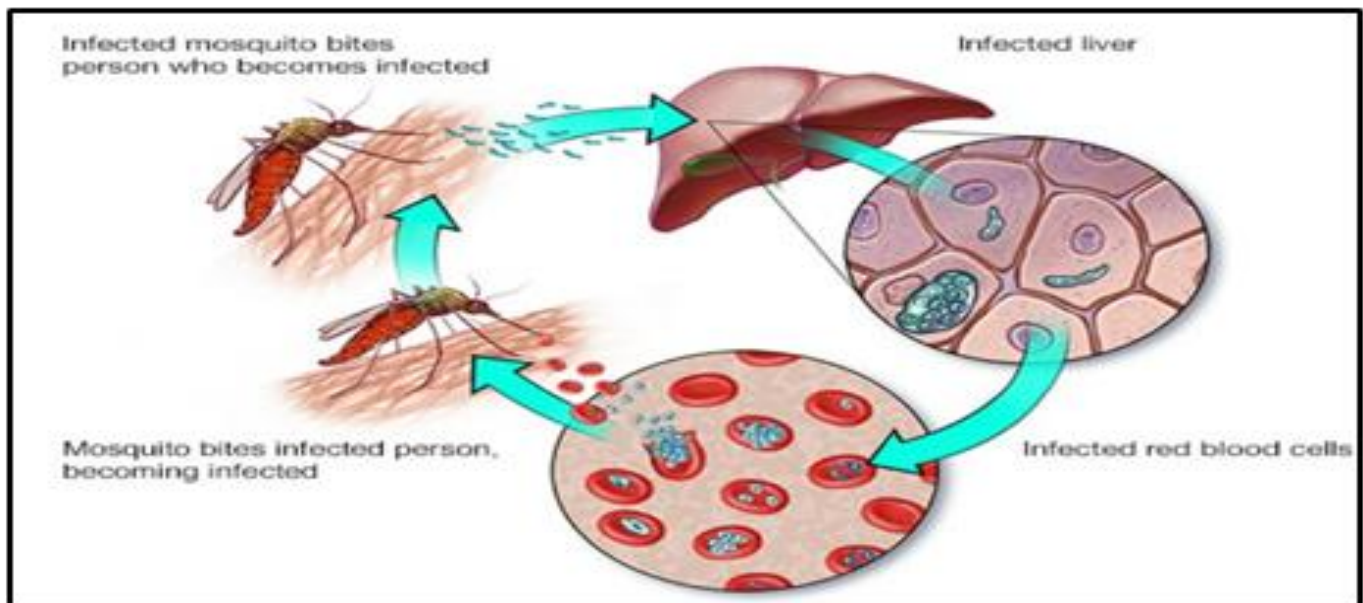


- The plasmodium parasite is spread by female Anopheles mosquitoes, which are known as "night-biting" mosquitoes because they most commonly bite between dusk and dawn.

- Once a person is bitten, the parasite enters the bloodstream and travels to the liver.

- The infection develops in the liver before re-entering the bloodstream and invading the red blood cells (RBCs).

- The parasites grow and multiply in the RBCs. At regular intervals, the infected blood cells burst, releasing more parasites into the blood.

- If a mosquito bites a person already infected with malaria, it can also become infected and spread the parasite on to other people.

- However, malaria does not spread directly from person to person.

## Symptoms of Malaria:

- Signs and symptoms of malaria may include:

- Fever, Chills, General feeling of discomfort, Headache, Nausea and vomiting, Diarrhea, Abdominal pain, Muscle or joint pain, Fatigue, Rapid breathing, Rapid heart rate, Cough.

## Barriers to Developing a Malaria Vaccine:

- The development of a malaria vaccine has faced several obstacles:

➢ Lack of a traditional market,

➢ Few developers, and

➢ Technical complexity of developing any vaccine against a parasite.

- Malaria parasites have a complex life cycle, and there is poor understanding of the complex immune response to malaria infection.

- Malaria parasites are also genetically complex, producing thousands of potential antigens.

## India's Scenario:

- Large part of India being in the tropical region, it is historically a malaria endemic country.

- It holds the distinction of being the site of the discovery by Noble Prize winner Sir Ronal Ross that established the malaria parasite cycle through Anopheles mosquitoes as the definitive host.

- India has made huge strides towards malaria elimination but there is a long way to go.

- According to the World Malaria Report 2023, India accounted for 66% of malaria cases in the World Health Organization's South-East Asia region in 2022.

- India and Indonesia accounted for about 94% of all malaria deaths in the region last year, the World Health Organization said.

- The report said that nearly 46% of all cases in the region were caused by Plasmodium vivax, a protozoal parasite and a human pathogen.

## Steps Taken by India to Eradicate Malaria:

- Since 2000, India cut malaria cases by more than half and the number of malaria deaths by more than 66%.

- In 2016, India introduced its first **National Framework for Malaria Elimination (2016-2030).**

- It has a vision of a **malaria-free country by 2027 and elimination by 2030.**

- In 2019, the **Government of India increased funding by more than 25%** for the National Vector Borne Disease Control Programme and increased support as a donor to the Global Fund to Fight AIDS, **Tuberculosis and Malaria.**

## 5.12 India-made LCA, LCH can Boost Clout in Global South: IAF Chief

- Air Chief Marshal V R Chaudhary, recently at an event in New Delhi, said that indigenous aerospace platforms such as the Light Combat Aircraft, Light Combat Helicopter, offer competitive and reliable options for air forces of the Global South.

## About Light Combat Aircraft Programme:

- The Light Combat Aircraft (LCA) programme began in the 1980s to replace India's ageing MiG-21 fighters.

- It later became part of the general fleet modernisation programme.

- In 2003, the LCA was officially named "Tejas".

- It is India's first self-made fighter jet and received the final operational clearance for induction into the air force as a fully-weaponised fighter jet in February 2019.

- It is the second supersonic fighter jet that has been developed by the Hindustan Aeronautics Limited (the first one being HAL HF-24 Marut).

## About Tejas Aircraft:

- Tejas has a maximum payload capacity of 4000 kg.

- It is a single pilot single-engine aircraft that has a maximum take-off weight of 13,300 kg.

- It is a fourth-generation fighter with critical operational capabilities that include –

  ➢ Active Electronically-Scanned Array (AESA) radar,

  ➢ Electronic Warfare (EW) suite, and

  ➢ Capability of air-to-air refuelling (AAR).

- It can attend the maximum speed of Mach 1.8.

  ➢ The Mach number describes the aircraft's speed compared with the speed of sound in air, with Mach 1 equating to the speed of sound.

  ➢ It is named after Ernst Mach, an Austrian physicist, who first devised the measurement.

- It has a general range of 850 km and a combat range of 500 km.

## About Light Combat Helicopter Programme:

- Light Combat Helicopter (LCH) was proposed to meet IAF's requirement of a dedicated light helicopter for combat operations.

- It was during the 1999 Kargil war that the need was first felt for a homegrown lightweight assault helicopter that could hold precision strikes in all Indian battlefield scenarios.

- The government sanctioned the LCH project in 2006 and HAL was tasked to develop it.

## About HAL Prachand:

- The HAL Prachand is an Indian multi-role light attack helicopter designed and manufactured by the HAL under Project LCH.

- It made its maiden flight in 2010.

- It has been ordered by the Indian Air Force and the Indian Army.

- In 2022, the LCH was formally inducted into the IAF and was officially named "Prachand".

- By November 2022, Indian army had begun to move its LCH helicopters on LAC near the Chinese border.

- The LCH is the only attack helicopter in the world which can land and take off at an altitude of 5,000 meters with a considerable load of weapons and fuel.

## What is the Global South?
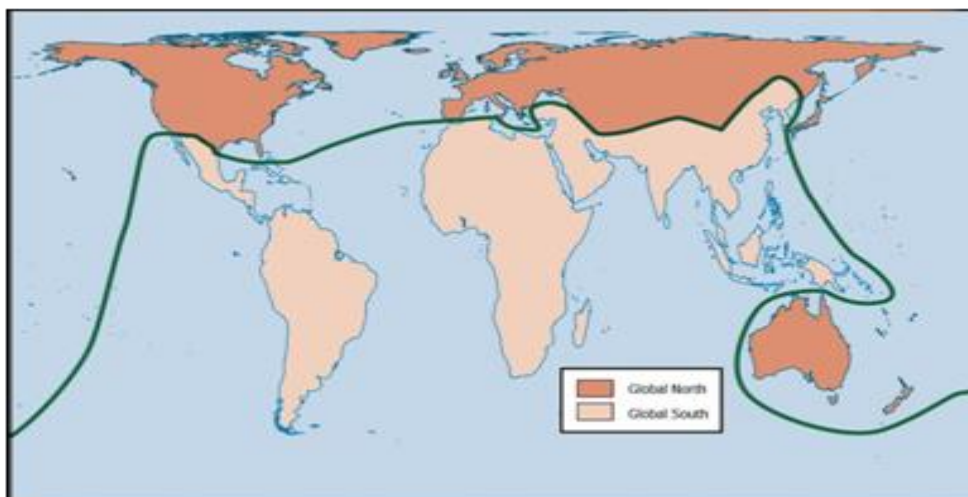


- The term 'Global South' began by loosely referring to those countries that were left out of the industrialisation era.

- These countries had a conflict of ideology with the capitalist and communist countries, accentuated by the Cold War. It includes countries that are in Asia, Africa and South America.

- 'Global South' is just the opposite of 'Global North', defined essentially by an economic division between the rich and poorer countries.

- The idea of a powerful Global North and a resistant Global South was promoted by the Zapatista Revolt in Mexico, the "African Renaissance," and the World Social Forum launched in Brazil.

- Industrial growth in Asia, and the emerging BRICS (Brazil, Russia, India, China, South Africa) group in world politics, complicated the North-South picture.

## 5.13 ISRO has been awarded the 2023 Leif Erikson Lunar Prize for Chandrayaan-3

- It is an annual award given by Exploration Museum in Iceland's Husavik. It is dedicated to the history of human exploration, from the early explorers to the exploration of space.

- It is named after the Icelandic explorer Leif Erikson who is considered the first European to land in North America.

- The 2023 award celebrates first soft-landing of a spacecraft near lunar south-pole, which marked another major achievement for ISRO.

### About Indian Space Research Organisation (ISRO, HQ: Bengaluru)

- ISRO, previously the Indian National Committee for Space Research (INCOSPAR), was set up in 1962.

- Later, on August 15, 1969, ISRO superseded INCOSPAR and was subsequently brought under Dept of Space in 1972.

- Role of ISRO in nation-building.

  - Earth Observation, Meteorological Satellite Systems: Supports disaster management, etc.

  - Communication Satellite Systems: INSAT satellites contributes significantly to socio-economic and strategic activities.

➢ Navigation Systems: GPS Aided Geo Augmented Navigation (GAGAN) assists in civil aeronautical navigation.

➢ Capacity Building: ISRO has transferred more than 363 technologies across India for commercialization, societal application, etc.

➢ Space Science and Planetary Research Systems: Aditya-L1 project for understanding the Sun.

➢ Space Transportation System: India has achieved self-reliance in space transportation capability via PSLV and GSLV.

# 6. SOCIAL ISSUES

## 6.1 Draft National Pharmacy Commission Bill 2023

- The **Union Health Ministry** invited comments from the public and stakeholders on the proposed **National Pharmacy Commission Bill 2023.**

- Earlier, during the Parliament session (in August), the National Nursing and Midwifery Commission Bill 2023 and the National Dental Commission Bill 2023, were passed.

## Salient Provisions of the National Pharmacy Commission Bill 2023

## National Pharmacy Commission

- The bill proposes to constitute a commission with its head office in **New Delhi**

- The Commission shall consist of a Chairperson, **13 ex-officio members and 14 part-time members.**

- **Three boards:** The Central Government shall constitute 3 boards namely the **Pharmacy Education Board,** the **Pharmacy Assessment and Rating Board, the Pharmacy Ethics and Registration Board,** which will function under the commission.

## Establishment of new pharmacy institutions:

- The bill prohibits the establishment of new pharmacy institutions or courses without prior permission from **the Pharmacy Assessment and Rating Board.**

- This Board will evaluate and rate pharmacy institutions and publish assessment documents on its website.

- Non-compliance with minimum standards may result in actions such as warnings, penalties, reduced intake, admissions suspension, or recognition withdrawal.

- **National Pharmacy Register:** According to the draft, the Pharmacy Ethics and Registration Board will maintain a National Pharmacy Register which will have details of pharmacy professionals to ensure transparency.

## Implementation:

- Every State Government shall, **within one year from the commencement of this Act,** constitute state pharmacy chapter, where no such state chapter exists in that State by a State Law.

- This will help in exercising such powers and discharging such duties as may be laid down under the Act.

- **Periodic and transparent assessment** of pharmacy institutions.

## Other provisions of the bill:

- It also encourages professionals to integrate the **latest research** into their work, contribute to research, and uphold high ethical standards.

- It **proposes flexibility** to adapt to changing needs and seeks to set up an effective grievance redressal mechanism.

## Functions of National Pharmacy Commission

- The commission is tasked with setting education standards, facilities, assessments, training, research, and tuition fees.

- It will establish **standards for the pharmacy faculty and clinical facilities,** implement a uniform admission mechanism, and regulate pharmacy education and training policies.

- Additionally, the commission will oversee and regulate pharmacy institutions, research activities, professionals, and associates.

- Make **regulations to ensure the competency** of pharmacy professionals.

- The **commission will evaluate professionals** either through final year undergraduate exam or otherwise,

- To ensure adequate competence of the pharmacy professionals for enrolment in the National Register or State Register, and

- For granting licence to practise as a pharmacy professional.

- It will also have the **duty to collaborate with industry and other institutions** for the use of cutting-edge technology and hybrid education to drive innovation and research in pharmacy.

- To ensure the global mobility of professionals, the council will have to **train professionals with soft skills and provide elective courses at educational institutions.**

## The Proposed National Pharmacy Commission Bill 2023:

It aims to replace the **Pharmacy Act 1948** and the existing **Pharmacy Council of India (PCI)** with the **National Pharmacy Commission.**

- **The Act of 1948** regulates the profession of pharmacy whereas it is expedient to make better provision for the regulation of the profession and practise of pharmacy.

- For that purpose, it constitutes the **Pharmacy Council of India.**

**The Bill aims to improve** access to affordable, high-quality pharmacy education, and ensure the availability of pharmacy professionals nationwide and seeks to promote equitable healthcare by making pharmacy services accessible to all citizens.

## 6.2 Janjatiya Gaurav Diwas

- The PM of India launched a Rs 24,000-crore project for vulnerable tribal groups on the **birth anniversary of tribal icon Birsa Munda** ('Janjatiya Gaurav Diwas' - Nov 15) from Jharkhand's Khunti district.

- **The PM Janjati Adivasi Nyaya Maha Abhiyan** is meant to ensure lastmile welfare scheme delivery and protection for Particularly Vulnerable Tribal Groups (PVTGs).

### Initiatives Launched at the 3rd Janjatiya Gaurav Diwas:

### PM Janjati Adivasi Nyaya Maha Abhiyan (PM- JANMAN):

- The 24,000-crore rupee scheme aims to benefit and saturate the families and habitations with basic facilities.

- Under PM JANMAN, the government will reach out to tribal groups and primitive tribes most of whom still dwell in the forests.

- This will protect the tribes on the verge of extinction and nurture them.

- **Visksit Bharat Sankalp Yatra:** A nationwide programme to reach out to all villages and include those eligible for various central schemes.

- **PM Kisan Scheme:** PM also released Rs 18,000 crore as the 15th installment of PM Kisan scheme for over 8 crore farmers across the country.

### Extra Mile: Tribal Welfare Initiatives/Policies/Schemes

- **Government of India set up Ministry of Tribal Affairs in 1999 after the bifurcation of Ministry of Social Justice and Empowerment.**

- ST Seats Reserved in House of People **(Article 330)** and Assembly Constituencies **(Article 332):** The constituencies, in which seats are reserved for the Scheduled Tribes (STs), are located (as far as practicable) in areas where the proportion of their population to the total is the largest.

- **Article 338A-** It provides for a special officer (Commissioner) for the Scheduled Tribes to be appointed by the President and it shall be his duty to investigate all matters relating to the safeguards provided for the Scheduled Tribes.

- **Scheduled Tribes and Other Forest Dwellers (Recognition of Forest Rights) Act, 2006**: To empower forest-dwelling communities, including Scheduled Tribes, and recognize their rights over forestland and resources. Under this act, the concept of Habitat Rights was introduced, aiming to secure the habitat and livelihood of PVTGs and other tribal communities.

- **Tribal Cooperative Marketing Development Federation of India Ltd (TRIFED):** Established in1987 with objective of Socio-economic development of tribal people in the country by marketing tribal products, empowering them with knowledge, tools, and information. The G20 Summit witnessed a remarkable showcase of India's rich tribal heritage and craftsmanship, presented by TRIFED.

- **1000 Springs Initiative:** It aims at improving access to safe and adequate water for the tribal communities.

- **PM Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN):** It aims to protect and nurture tribal groups, especially those on the verge of extinction.

- **Viksit Bharat Sankalp Yatra**: The focus of the Yatra will be on reaching out to people, creating awareness and providing benefits of welfare schemes.

- **Van Dhan Vikas Yojana:** It aims to establish a sustainable livelihood for India's tribal population.

- **Pradhan Mantri Janjatiya Vikas Mission (PMJVM):** The scheme has been formulated with the merger of the two earlier schemes for promotion of tribal livelihood, i.e., "Mechanism for Marketing of Minor

- Forest Produce (MFP) through "Minimum Support Price (MSP) and Development of Value Chain for

- MFP" and "Institutional Support for Development and Marketing of Tribal Products/Produce".

- **Eklavya Model Residential Schools:** started in 1997-98 with the aim of imparting quality education to children belonging to Scheduled Tribes (ST) in remote areas.

- **Stand Up India Scheme:** Facilitate bank loans between Rs.10 lakh and Rs.1 crore to at least one

- Scheduled Caste (SC) or Scheduled Tribe (ST) borrower and at least one woman borrower per bank branch for setting up a greenfield enterprise.

- **National / State Scheduled Tribes Finance and Development Corporation (NSTFDC/STFDCs):** Under the scheme, the Ministry releases funds in the form of Equity Share Capital assistance to

- NSTFDC/STFDCs which is deployed for the purpose of giving concessional loans to eligible members of Scheduled Tribes.

# 6.3 Exploring Employment Opportunities for Transgenders in Armed Forces

- The Indian Armed Forces are looking at possible employment opportunities for transgenders and the roles they could perform, while examining the Transgender Persons (Protection of Rights) Act 2019 and its implications. A joint study group constituted by the **Principal Personnel Officers Committee (PPOC)** was tasked with suggesting a way forward for the implementation of the Act in the defence forces.



💙 LGBT Rights in India:

There are approximately 480,000 transgender people in India as per Census 2011.

In 2018, in the landmark decision of Navtej Singh Johar v. Union of India, the Supreme Court of India (SC) decriminalised consensual homosexual intercourse by reading down Section 377 of the IPC.

The Constitution of India under Article 15 (prohibition of discrimination on grounds of religion, race, caste, sex or place of birth) guarantees fundamental rights and prohibits discrimination on the basis of sexual orientation and gender identity.

The country has repealed or modified or read down its colonial-era laws (for example, Section 377 of the IPC) that directly discriminated against homosexual and transgender identities.

Though Lesbian, gay, bisexual and transgender (LGBT) rights in India have been evolving rapidly in recent years, they still face social and legal difficulties not experienced by non-LGBT persons.

- **The Transgender Persons (Protection of Rights) Act 2019**

## Background:

- In 2014, the SC in **NALSA v. Union of India** held that all persons have the constitutional right to self-identify their gender.

- Further, it directed Union and State Governments to allow transgender persons to **access reservations in public education and employment.**

- Following the judgement and the recommendation of the Parliamentary Standing Committee on Social Justice, the 2019 Act was enacted and came into force. The Act is under the overall supervision of the

## Minister for Social Justice and Empowerment.

## Objectives of the Act:

- It protects the rights of transgenders and prevents their marginalisation and discrimination in healthcare, education, employment, public services and benefits, among others.

- Thus, the Act is an equal opportunity provider to the transgender community.

## Salient Provision of the 2019 Act:

- **Definition of a transgender person:** A transgender person as one whose gender does not match the gender assigned at birth.

- **Prohibition against discrimination** including denial of service or unfair treatment in relation to -education, employment, healthcare, etc.

- **Certificate of identity:** A transgender person may make an application to the District Magistrate for a certificate of identity, indicating the gender as 'transgender'.

- **Welfare measures by the government:** The act states that the government will take measures (rescue and rehabilitation, vocational training and self-employment, etc) to ensure the full inclusion and participation of transgender persons in society.

- **Offences and penalties:** The act recognise the following offences against transgender persons – forced or bonded labour, denial of use of public places, removal from household and village, etc.

- **National Council for Transgender persons (NCT):** The NCT will consist of the Union Minister for Social

## Justice as Chairperson, and will -

- Advise the central government on the impact of policies, legislation and projects with respect to transgender persons.

- Redress the grievances of transgender persons.

## Possibilities of Transgender Persons' Entry in the Armed Forces

- The Armed Forces, at present, do not recruit transgenders or people identifying as homosexuals.

- A report presented by the **Standing Committee on Personnel, Public Grievances** proposed that the Ministry of Home Affairs should consider extending reservation benefits to transgender people in the Central Armed Police Forces (CAPFs).

- **The joint study group,** which comprises top officers of the three services and the Armed Forces Medical

- Services (AFMS), recently sought comments on the **feasibility of employing transgenders** in the force.

- As employment in defence forces is selection and merit-based, it will remain equally applicable to transgenders if recruitment to the military is opened to them at any given point.

- It is **learnt that a range of suggestions** have been received, with some insisting on not providing any special concessions to transgenders, while others pointed to **administrative and logistical difficulties** (such as their housing).

- There have also been questions about how they and their spouses (if any) would be identified in the military and **their cultural integration** with other serving military personnel.

- Therefore, **multiple issues will have to be factored** in before any decision is taken as the military cannot be looked at as just an employment opportunity.

# 6.4 State Food Safety Index (SFSI) 2023

- Four years after the FSSAI published a state-wise index - State Food Safety Index (SFSI), to spur food safety improvement, 19 out of 20 large states recorded a drop in their 2023 scores from 2019. After adjusting for a new parameter included in the 2023 index, 15 out of 20 states recorded lower 2023 scores compared to 2019.

## **What Is The State Food Safety Index (SFSI)**

- **To encourage States/UTs to improve and work towards food safety in their jurisdiction**, the FSSAI (Food Safety and Standards Authority of India) releases the SFSI **annually** for each financial year on 7th June on the occasion of **World Food Safety Day.**

- The Index is a **dynamic quantitative and qualitative benchmarking** model that provides an objective framework for evaluating food safety across all States/UTs.

- **The 1st SFSI** was released in June, 2019 based on the information submitted by States/UTs.

## SAFETY MEASURE

| Parameter | Weight |
| --- | --- |
| Compliance | 28 |
| Consumer Empowerment | 19 |
| Human Resources and Institutional Data | 18 |
| Food Testing Infrastructure | 17 |
| Improvement in SFSI Rank *(added in 2023)* | 10 |
| Training and Capacity Building | 8 |
| TOTAL | 100 |

- **In the 2023 index, a new parameter** called 'Improvement in SFSI Rank' was added, which assesses improvement in each state's rank from the year before.

## **The SFSI 2023 - Comparing With 1ST SFSI**

- 'Food Testing Infrastructure' parameter:

- **This parameter measures** availability of adequate testing infrastructure with trained personnel in each state for testing food samples.

- **The worst drop** has been observed in this parameter, which was given the 4th highest weightage of 17% in 2023 (20% in previous years).

- **Maharashtra's** score for this parameter dropped to 4 points out of 17 in 2023 from 17 points out of 20 in 2019.

- **Both Gujarat and Kerala** were the best performers in 2023 with 13.5 points out of 17 while Andhra Pradesh performed the worst.

## The 'Compliance' Parameter

- **This has been given the highest weightage** of 28% in 2023 (30% in previous years), measures licensing and registration of food businesses, inspections conducted, special drives and camps organised, etc.

- In **2023, Jharkhand** received 4 points out of 28, the lowest score for compliance, whereas **Punjab and Himachal Pradesh** received 18 points each, the highest score.

## The 'Consumer Empowerment' Parameter

- This has been given **the second highest weightage** of 19% in 2023 (20% in previous years).

- It measures a state's performance in various consumer empowering initiatives of FSSAI including participation in **Food Fortification, Eat Right Campus, BHOG (Blissful Hygienic Offering to God), etc.**

- **Bihar's** score in this parameter dropped to 1 point out of 19 in 2023 from 7 points out of 20 in 2019.

- The top performer for this parameter in 2023 was **Tamil Nadu** with 17 points out of 19, followed by Kerala and Madhya Pradesh with 16 points each.

- The **'Human Resources and Institutional Data'** parameter:

- This has been given the third highest weightage of 18% in 2023 (20% in previous years).

- It measures availability of human resources including number of Food Safety Officers, Designated Officers, and facility of adjudications and appellate tribunals in each state.

- **Top performers in 2019 like Tamil Nadu and UP**, with each receiving 17 points out of 20, got merely 10.5 and 9.5 points respectively in 2023.

- **The 'Training and Capacity Building' parameter:** This is the only parameter which recorded significant improvement, which was given the least weightage of 8% in 2023 (10% in previous years).

- **The 'Improvement in SFSI Rank' parameter:** It carried a weightage of 10% in 2023, 14 out of 20 large states received 0 points.

## STATES WITH STEEPEST INDEX FALL

| State | 2019 | 2023 |
|---|---|---|
| Maharashtra | 74 | 45 |
| Bihar | 46 | 20.5 |
| Gujarat | 73 | 48.5 |
| Andhra Pradesh | 47 | 24 |
| Chhattisgarh | 46 | 27 |

*Source: SFSI reports; all scores out of 100*

## 6.5 International Organisation for Migration (IOM) launches Project PRAYAS

- The Project **Promoting Regular Assisted Migration for Youth and Skilled** Professionals (PRAYAS), was launched in partnership with **Ministry of External Affairs (MEA)** for the year 2023-24.

- **Objective:** To facilitating safe, orderly, and regular migration for aspiring Indian migrant workers and students in collaboration with MEA, NITI Aayog, and State Governments.

- Project will promote dissemination of communication materials on safe and orderly migration pathways.

  ➢ India has a large diaspora with over 32 million spread across the globe (2021 Dec).

  ➢ Also, India is the world's largest recipient of remittances.

### Problems faced by Indian diaspora abroad

- Wage insecurity, casual work arrangements, lack of social protection and skills gap.

- Poor working conditions, absence of a proper grievance redress mechanisms, and access to a transparent judicial system etc.

## Steps taken by India for diaspora

- Pre-Departure Orientation Training is imparted to workers before they migrate.

- Indian Community Welfare Fund (ICWF) for assisting Overseas Indians in times of distress.

- MADAD Portal addresses grievances related to Indians in distress abroad.

- Know India Programme to expose India's young diaspora to various aspects of contemporary India.

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**International Organisation for Migration (IOM)**

**About**: Intergovernmental organization within United Nations system in the field of migration.

**Mandate**: Promoting humane and orderly migration for the benefit of all.

**Member states**: 175 (including India)

**Major Reports:** World Migration Report

**Established**: 1951.

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# 7. ART & CULTURE

## 7.1 Channapatna Toys



- Channapatna toys have now become part of children's academic activities in Afghanistan.

### About Channapatna Toys:

- Channapatna toys are a particular form of wooden toys and dolls that are manufactured in the town of Channapatna in the **Ramanagara district of Karnataka.**

- Channapatna is also known as **Gombegala Ooru** (toy-town).

### History:

- The history of Channapatna toys can be traced back to **Tipu Sultan's reign** as the former ruler of the Kingdom of Mysore in the 18th century.

- According to legend, Tipu Sultan was so impressed with the craftsmanship of Persian artisans that he invited them to train local craftsmen in toy-making.

- This marked the beginning of the Channapatna toy industry, which has ever since flourished.

- **Features:** Most of these toys are handmade using traditional techniques passed down from generation to generation, ensuring that each piece is unique.

- Traditionally, they are mostly made of Ivory Wood sourced from nearby forests. However, nowadays, sandalwood and mango wood are also used.

- They are also painted in **organic colours** extracted from vegetables and plants and natural dyes, making the Channapatna. Toys 100 % chemical-free.

- Their shapes are mostly round and cubes with blunt edges, so they are completely safe for kids.

- They received the geographical indication **(GI) tag in 2005.**

## Q) What is the geographical indication (GI) tag?

- It is a sign used on products that have a specific geographical **origin and possess qualities or a reputation that are due to that origin.** This is typically used for agricultural products, foodstuffs, wine and spirit drinks, handicrafts and industrial products. 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. This GI tag is valid for 10 years following which it can be renewed.

## 7.2 Bahmani Kingdom
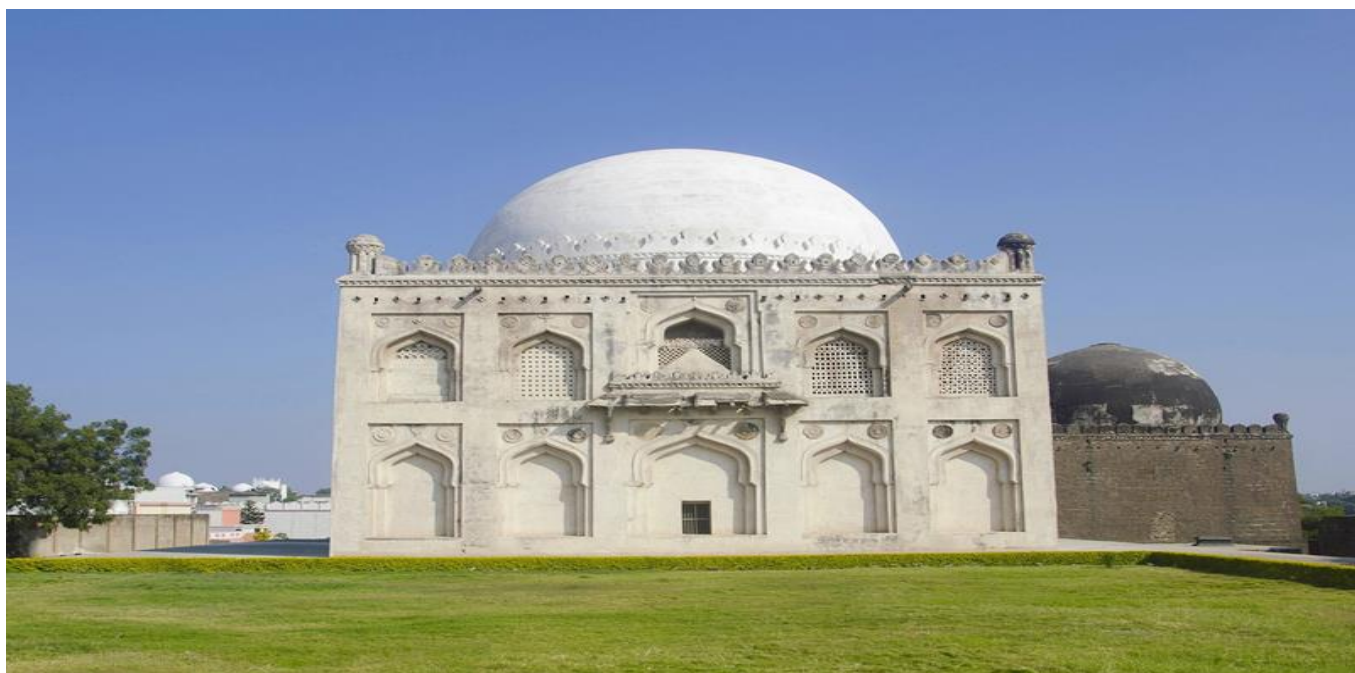


## Why in news?

- **The Karnataka High Court** recently directed the **Kalaburagi district** authorities to remove encroachments from the historical fort of the Bahmani Sultans in the city.

## About Bahmani Kingdom:

- The Bahmani Kingdom rose to power after the Turkish Governor **Ala-uddin Hassan Bahman Shan** established an independent empire by revolting against the Sultan of Delhi Sultanate, Muhammad Bin Tughlaq in 1347.

- It was the **first independent Islamic kingdom** in South India that rose to power. It was established in present-day Karnataka, Maharashtra, and Andhra Pradesh.

- They set up the capital in **Ahsanabad (Gulbarga)** between 1347 and 1425 and later moved to **Bidar.**

- There were a total of fourteen sultans ruling over this kingdom. The Bahmani kingdom reached its peak under the guidance of **Mahmud Gawan**, who served with great distinction as Prime Minister of three Bahamni Sultans for about **twenty-three years** from 1458 to 1481 AD.

- Mahmud Gawan extended the empire by reconquering Goa, which was under the Vijayanagar Empire at the time.

## Administration:

- The kingdom was divided into four administrative regions or provinces called **'taraf'.** These were Daulatabad, Bidar, Berar, and Gulbarga.

- Each province had a tarafdar, or subedar.

- Bahmani rulers were dependent on their **amirs** for military support.

- They used gunpowder in wars.

## Art and Architecture:

- The Bahmanis were known to have an enthusiasm for architecture and art.

- In architecture, the Bahmani period followed the Indo-Islamic style of architecture with a few changes.

- Buildings were constructed using local materials. An influence of Persian architecture could be seen in the buildings of this period.

## Examples of architecture could be of

- **Gulbarga** (Shah bazaar mosque, Hafta Gumbaz, Jama maszid,

- **Bijapur** (Gol gumbaz, Ibrahim roza, Bara Kaman, etc.)

- **Bidar** (Rangeen mahal, Janata mahal).

- During this period, Urdu, Arabic, and Persian literature were abundant.

- It was during this period when a new dialect, **Dakhini Urdu** prevailed.

## Decline:

- Around 1518, Krishnadeva Raya of the Vijayanagar Empire defeated the last ruler of the Bahmani Empire.

- After this, the Bahmani Empire broke down into five states, collectively known as Deccan Sultanates.

- **These five Deccan Sultanates were: Adilshahi of Bijapur, Baridshahis of Bidar, Nizamshahi of Ahmadnagar, Qutubshahi of Golconda** (Hyderabad), **and Imadshahi of Berar.**

- These states commenced declaring independence from the Bahmani kingdom.

- Angered by the disintegration, Bidar, Ahmadnagar, Golconda, and Bijapur together attacked Vijayanagar.

- The latter was defeated in **1565** in what is known as the Battle of **Talikota.**

- After Vijayanagar was destroyed, Bahmani did not remain in power for long. Akbar, and then Aurangzeb annexed these kingdoms into the Mughal Empire.

## Q) Who was Krishna devaraya?

- The greatest emperor in the Vijayanagar empire's history was Krishna devaraya(17 January 1471-17 October 1529). He presided over the Tuluva Dynasty as its third king. By overthrowing the sultans of Bijapur, Golconda, the Bahmani Sultanate, and the Gajapatis of Odisha, he rose to power.

## 7.3 Bodhicitta

- Dalai Lama delivered a two-hour-long teaching on Bodhicitta at Siliguri's Sed-Gyued Monastery.

## **About Bodhicitta:**

- Bodhicitta, translated as **"awakening mind"** or "thought of enlightenment," is the commitment to embark on a path of awakening and be a bodhisattva, one dedicated to the liberation of all beings.

- Bodhicitta is born of compassion, the desire to free all beings from suffering, even those who wish us harm or consider us enemies.

- It is one of the **foundations of the Mahayana tradition,** bodhicitta is woven into many of its teachings.

- It is central to the bodhisattva vow, a commitment common to many Mahayana Buddhist traditions.

## **It has two aspects.**

- The main part is the compassionate mind that naturally and spontaneously wants to relieve the suffering of all fellow living beings without exception – a pure good heart.

- The second aspect is realising that to help others, we need to awaken our own natural purity of mind and attain enlightenment.

## Key facts about Sed-Gyued Monastery

- It is located in **Siliguri, West Bengal.**

- It is the main seat of the Sed-Gyued Lineage or Whispered Lineage.

- Whispered lineage is a secret teaching transmitted only to the closest disciple through direct communication with their root teacher or meditational deity.

- It is because of the unbroken secret teachings of Sed-Gyued lineage and commentaries that the Tibetan secret Mahayana practice is intact today.

## Q) What is Theravada Buddhism?

- Theravada, the **"Doctrine of the Elders,"** is the name for the school of Buddhism that draws its scriptural inspiration from the Pali Canon, or Tipitaka, which scholars generally accept as the oldest record of the Buddha's teachings.

## 7.4 Kashi Tamil Sangamam 2023

- The Prime Minister inaugurated the Kashi Tamil Sangamam 2023 in **Varanasi.**

## About Kashi Tamil Sangamam:

- It aims to celebrate, reaffirm and rediscover the age-old links between Tamil Nadu and Kashi.

- It was held for the first time in 2022 to further the spirit of 'Ek Bharat, Shrestha Bharat."

- **Ministry of Education** will be the nodal agency for this event with participation from the other ministries such as Ministries of Culture, Tourism, Railways, Textiles, etc.

## 7.5 National Culture Fund

- The **Union Minister for Culture, Tourism and Development** informed in the Lok Sabha that the National Culture Fund (NCF) received **Rs. 3.70 Crore** from Non-Government Sources during the last five Years.

## About the National Culture Fund:

- It was set up by the Government of India as a Trust under the Charitable Endowment Act, 1890 through a **Gazette Notification in 1996.**

- It was established as a funding mechanism distinct from the existing sources and patterns of funding for the arts and culture in India. It will enable institutions and individuals to support arts and culture directly as partners with its government.

- It aims to mobilise extra resources through **Public-Private Partnership (PPP)** towards promoting, protecting & preserving India's **Cultural Heritage (Tangible & Intangible).**

- It is managed and administered by a Council and an Executive Committee to actualize those policies.

- The Council is chaired by the Union Minister of Culture and has a maximum strength of 24 including both the Chairman and Member Secretary.

- It has members representing the corporate and public sector, private foundations and non-profit organisations.

- The purpose for this structure is to increase non-government representation in the decision-making process.

- **The Executive Committee** is chaired by the Secretary, **Ministry of Culture.**

- The donations to the national Culture Fund will be **eligible for tax benefit under the Income Tax Act.**

**CURRENT AFFAIRS MCQ'S FOR THE MONTH OF JANUARY 2024**

1. Recently, 'Gender-Responsive Just Transitions & Climate Action Partnership' was launched by which of the following organisation:

   Select the correct code.

   a) UNFCCC, COP 28

   b) UNESCO Steering Committee meeting

   c) UNDP Secretariat

   d) WHO Intergovernmental negotiation committee


2. Recently, Garba of Gujarat inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity,

   Consider the following statements.

   1) It will get greater cultural importance than one that is not listed.

   2) For safeguarding of intangible cultural heritage, there is a provision of funding for countries.

   3) If an element inscribed on the Representative List no longer satisfies the selection criteria, UNESCO Committee can remove it from the Representative List.

   How many of the above statements is/are correct?

   Select the correct code.

   a) Only one

   b) Only two

   c) All three

   d) None.


3. Consider the following statements about National Intelligence Grid

1) It is a secure database of information on terrorism and economic crimes

2) It is accessible to police departments in all states and union territories

Choose the correct code

a) Only I is correct

b) Only II is correct

c) Both are correct

d) Both are incorrect

4. Consider the following statements on the Sarna religion

1) Its followers worship trees and hills

2) It is practiced mainly by hill tribes of Himalayas

Choose the correct code

a) Only I is correct

b) Only II is correct

c) Both are correct

d) Both are incorrect

5. Consider the following with respect to 'Stable Coins'.

1) It is digital currency whose value is pegged to a stable asset like US dollar or gold.

2) Tether is one of the many stable coins.

3) Stable Coins are authorized by the Central banks as they are linked to stable asset.

Select the incorrect statement(s)

a) 1 and 2 only

b) 2 and 3only

c) 3 only

d) All the above

6. With reference to 'SARAS 3' consider the following statements

1) It is an x-ray telescope to observe luminous galaxies.

2) It is developed by Indian Space Research Organization.

Select the correct statement

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

7. Consider the following statements about the Global Partnership on Artificial Intelligence:

1) India is not a founding member of the Global Partnership on Artificial Intelligence (GPAI).

2) The Theme of the GPAI Summit 2023 is "Advancing Responsible AI in Private-Sector Applications"

3) This collaborative AI initiative involving various stakeholders seeks to address the gap between AI theory and practice.

How many of the above statements is/are not correct?

a) Only one

b) Only two

c) All three

d) None

8. ALTERRA, sometimes seen in the news, is related to which of the following?

a) Pledge taken at the COP 28 to increase the use of alternative fuel by 50% by 2030.

b) A 'Mysterious' jellyfish with 240 tentacles that is found at the east coast of Japan.

c) World's Largest Private Investment fund for Climate Action.

d) Apex body and regulator of Loss and damage fund.

9. The Nine Dash Line is in which of the following water bodies?

   a) East China Sea

   b) South China Sea

   c) Sea of Japan

   d) Philippines Sea

10. Consider following statements about the Central Empowered Committee

   1) It was set up in 2002 by the Supreme Court

   2) It deals with forestry, wildlife and environmental fields

   3) It has recently been transferred to the administrative control of Environmental Ministry

   Choose the correct code

   a) I and II are correct

   b) II and III are correct

   c) I and III are correct

   d) I, II and III are correct

11. Consider the following statements:

   1) In the case of all cereals, pulses and oil-seeds, the procurement at Minimum Support Prices(MSP) is unlimited in any State/UT of India.

2) In the case of cereals and pulses, the MSP is fixed in any State/UT at a level to which the market price will never rise.

Which of the statements given above is/are incorrect ?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

12. Consider the following statements:

1) Google's Gemini is a new, large language model (LLM) that focuses on factual accuracy and reasoning.

2) Gemini is designed to be more transparent and interpretable than previous LLMs, allowing users to understand how it arrives at its answers.

Which of the above statements are correct?

a) Only 1

b) Only 2

c) Both

d) None

13. Concerning a professional Code of Ethics, which statement is accurate?

a) Codes of Ethics are legally binding documents that dictate legal consequences for violations.

b) A Code of Ethics primarily serves to limit the professional's freedom and creativity.

c) The purpose of a Code of Ethics is to provide guidance on acceptable behavior and values within a profession.

d) Violations of a Code of Ethics result in automatic expulsion from the profession.

14. The Alternative Dispute Resolution (ADR) mechanism of mediation is mentioned in which of the following?

a) Code of Civil Procedure, 1908

b) The Commercial Courts Act, 2015

c) The Consumer Protection Act, 2019

d) All of the above

15. Which technology is commonly used for the navigation of drones?

a) RADAR (Radio Detection and Ranging)

b) GPS (Global Positioning System)

c) SONAR (Sound Navigation and Ranging)

d) RFID (Radio-Frequency Identification)

16. Which industry generates 'Pressmud' as a byproduct?

a) Textile manufacturing

b) Petroleum refining

c) Sugarcane processing

d) Electronics production

17. In which of the following countries is the 'Three Brotherhood Alliance' (3BA) waging armed opposition to a military government?

a) Burkina Faso

b) Niger

c) Laos

d) Myanmar

18. To which of the following does the BOLD-QIT refer to?

a) Integrated border management

b) Artificial intelligence

c) International code of standardisation

d) International code for scholarly output

19. Consider the following about Tax Inspectors without Borders (TIWB)

1) TIWB is a joint initiative of the United Nations Development Programme and Organisation for Economic Cooperation and Development.

2) They train the local countries' personnel in fields of Criminal tax investigations and tax capacity and audits.

Choose the correct statements:

a)  1 only

b)  2 only

c)  Both 1 and 2

d)  Neither 1 nor 2

20. Consider the following statements about Electron Rocket

1) It is the only reusable orbital-class small rocket.

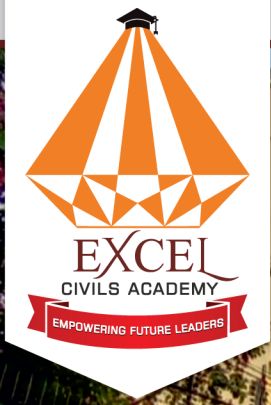2) It uses Rutherford engine which is the world's first 3D-printed, electric-pump-fed rocket engine.

Choose the correct statements:

a)  1 only

b)  2 only

c)  Both 1 and 2

d)  Neither 1 nor 2

**KEYS**

| 1.  A | 2.  B | 3.  C | 4.  A | 5.  C |
|-------|-------|-------|-------|-------|
| 6.  D | 7.  B | 8.  C | 9.  B | 10. D |
| 11. C | 12. C | 13. C | 14. D | 15. B |
| 16. C | 17. D | 18. A | 19. C | 20. C |

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