



CSB IAS ACADEMY

THE ROAD MAP TO MUSSOORIE

Hyderabad | Vijayawada

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Polity

FUGITIVE ECONOMIC OFFENDERS ACT, 2018

Context: The Union Govt. recently provided information in Parliament regarding those charged under the Fugitive Economic Offenders Act.

About the Fugitive Economic Offenders (FEO) Act, 2018:

- It seeks to **confiscate properties of economic offenders who have left the country** to avoid facing criminal prosecution or refuse to return to the country to face prosecution.
- Fugitive economic offender is defined as a person against whom an arrest warrant has been issued for committing an **offence listed in the Act** and the value of the offence is **at least Rs. 100 crores**. Some of the offences listed in the act are:
 - Counterfeiting government stamps or currency.
 - Cheque dishonour.
 - Money laundering.
 - Transactions that defraud creditors.

Declaration of a Fugitive Economic Offender:

- After hearing the application, a **special court (designated under the Prevention of Money Laundering Act, 2002)** may declare an individual as a fugitive economic offender.
- It may **confiscate properties** which are proceeds of crime, Benami properties and any other property, in India or abroad.
- Upon confiscation, all rights and titles of the property will vest in the central government, free from encumbrances (such as any charges on the property).

- The union government **may appoint an administrator** to manage and dispose of these properties.
- The **burden of proof lies on the person accused of the crime** under the Act. They must demonstrate that alleged proceeds of crime are, in fact, lawful property.

Bar on Filing or Defending Civil Claims:

- The Act allows any civil court or tribunal to prohibit a declared fugitive economic offender, from filing or defending any civil claim.
- Further, any company or limited liability partnership where such a person is a majority shareholder, promoter, or a key managerial person, may also be barred from filing or defending civil claims.
- The authorities may provisionally attach properties of an accused, while the application is pending before the Special Court.

Powers:

- The authorities under the PMLA, 2002 (the **Enforcement Directorate**) will exercise powers given to them under the Fugitive Economic Offenders Act.
- These **powers will be similar to those of a civil court**, including the search of persons in possession of records or proceeds of crime, the search of premises on the belief that a person is an FEO and seizure of documents.



Enforcement Directorate (ED) is a specialized financial investigation agency under the Department of Revenue, Ministry of Finance. In addition to the FEO Act, the ED enforces the following laws: the Foreign Exchange Management Act, 1999 & the Prevention of Money Laundering Act, 2002.

DENOTIFIED, NOMADIC, SEMI-NOMADIC TRIBES

Context: The Union Govt. recently informed Parliament that it does not intend to reclassify any DNTs into SCs, STs or OBCs afresh.



About Denotified, Nomadic and Semi-Nomadic Tribes (DNTs):

- DNTs are **communities that were 'notified' as being 'born criminals' during the British regime** under a series of laws starting with the **Criminal Tribes Act of 1871**.
- These Acts were **repealed by the Indian Govt. in 1952**, and these communities were "De-Notified". A few of these communities which were de-notified were also nomadic.
- While most DNTs are spread across the SC, ST and OBC categories, **some DNTs are not covered in any of the SC, ST or OBC categories**.
- More than **10 crore Indians from >1,400 communities** are denotified, nomadic or semi-nomadic.
- Many commissions constituted since independence have referred to issues faced by DNTs, starting with the Criminal Tribes Inquiry Committee (1947) in the United Provinces (now Uttar Pradesh).

Commissions set up post-1947 regarding issues faced by DNTs:

- Ananthasayanam Ayyangar Committee in 1949** (it was based on the report of this committee the Criminal Tribes Act was repealed),

- The **Kaka Kalelkar Commission (1953)** and **B.P. Mandal Commission (1980)**, though primarily concerned with OBCs, also made some recommendations on the issue.
- The **National Commission to Review the Working of the Constitution (2002)** held that DNTs have been wrongly stigmatized as crime prone and subjected to high handed treatment as well as exploitation.
- The Union Govt. in 2014 constituted the **National Commission for DNTs (NCDNT or Idate Commission)** for a period of **3 years**:
 - To prepare a State-wise list of castes belonging to Denotified and Nomadic Tribes and
 - To suggest appropriate measures in respect of Denotified and Nomadic Tribes that may be undertaken by the Central or the State Government.

Implementation of Idate Commission Report (2017):

- The Commission recommended the **setting up of a permanent commission** for these communities. But since most DNTs are covered under SC, ST or OBC, the govt felt setting up a permanent commission would be in **conflict with the respective National Commissions for SCs, STs and OBCs**.
- The govt thus set up the **DWBDMCs (Development and Welfare Board for Denotified, Nomadic and Semi-Nomadic communities)** in 2019 under the chairmanship of BR Idate, under the Societies Registration Act, 1860 under the aegis of the **Ministry of Social Justice and Empowerment**.

About SEED (Scheme for Economic Empowerment of DNTs):

- It was launched in February 2022, with an allocation of ₹200 crore, to be spent **over five years from FY 2021-22 to FY 2025-26**.

- **DWBDNCs** has been tasked with the implementation of this scheme.
- **DNT communities** whose **annual family income is Rs. 2.50 lakhs or less** and who are not availing benefits under any other central/state schemes are eligible.

Components of SEED:

- **Education:** Free competitive exam coaching for DNT candidates.
- **Health:** Health insurance (through PM Jan Arogya Yojana).
- **Livelihoods:** Through National and State Rural Livelihood Missions.
- **Land and Housing:** Financial assistance for construction of houses through PM Awas Yojana.

PRAGATI PLATFORM

Context: Underlining the importance of technology in governance, Prime Minister Narendra Modi asked Chief Secretaries to replicate the Centre's PRAGATI platform, which helps in monitoring key infrastructure projects and schemes, at the state-level.



About PRAGATI (Pro-Active Governance and Timely Implementation) Platform:

- It is a **multi-purpose and multi-modal platform** that is aimed at **addressing common man's grievances** and simultaneously **monitoring and reviewing important programmes** and projects of the Government of India as well as projects flagged by State Governments.
- It is also a robust system for bringing e-transparency and e-accountability with real-time presence and exchange among the key stakeholders.
- The platform was launched on March 25, 2015.
- The system has been designed in-house by the PMO team with the help of the **National Informatics Center (NIC)**.
- The PRAGATI platform uniquely bundles **three latest technologies:** Digital data management, video conferencing, and geospatial technology.
- It also offers a unique combination in the direction of cooperative federalism since it **brings on one stage the Secretaries of Government of India and the Chief Secretaries of the States**.
- With this, the Prime Minister is able to discuss the issues with the concerned Central and State officials with full information and the latest visuals of the ground-level situation.

Key Features:

- It is a **three-tier system** (PMO, Union Government Secretaries, and Chief Secretaries of the States).
- The Prime Minister will hold a **monthly programme where he will interact with the Government of India Secretaries and Chief Secretaries** through videoconferencing enabled by data and geo-informatics visuals.
- The programme will be held once in every month on the **fourth Wednesday** at 3.30 PM, to be known as **PRAGATI Day**.
- Issues to be flagged before the PM are picked up from the available database regarding public grievances, ongoing programmes and pending projects.

- It will take into consideration various correspondences to the PM's office by the common people from high dignitaries of states and/or developers of public projects.
- The issues flagged are uploaded seven days prior to the PRAGATI day (i.e., on the third Wednesday of every month).
- These issues can be viewed by the Union Government Secretaries and Chief Secretaries after entering into the application.
- Union Government Secretaries and Chief Secretaries have to put their comments and updates about the flagged issues within three days (i.e. by next Monday).
- **One day - Tuesday** is available to the PMO team to review the data entered by the Union Government Secretaries and Chief Secretaries.
- The design is such that when PM reviews the issue, he should have on his screen the issue as well as the latest updates and visuals regarding the same.

RPWD Act, 2016

Context: On International Day of Persons with Disabilities (Dec 3), the Union Govt. highlighted initiatives taken under the RPWD Act, 2016.



About the Rights of Persons with Disabilities (RPWD) Act, 2016:

- A PWD is defined as someone who has a **long-term impairment that affects their physical, mental, intellectual, or sensory abilities** & this impairment **prevents them from participating fully and effectively in society.**
- The main categories of disability are: **Behavioural/Emotional; Sensory; Physical; and Developmental.**
- The **types of disabilities have been increased from 7 to 21.** The act added mental illness, autism, spectrum disorder, cerebral palsy, muscular dystrophy, chronic neurological conditions, speech and language disability, thalassemia, haemophilia, sickle cell disease, multiple disabilities including deaf blindness, acid attacks and Parkinson's disease.
- In addition to this, **Union Govt. has been authorized to notify any other category of specified disability.**
- It increases quantum of **reservation from 3% to 4% in govt jobs and from 3% to 5% in higher education institutes.**
- Every child with benchmark disability between ages of 6 to 18 shall have the **right to free education.**
- The Act specifies a "Person with Benchmark Disability" as having **at least 40% of a specified disability.**
- **Chief Commissioner for PWDs and State Commissioners** will act as regulatory bodies and Grievance Redressal agencies.
- **National and State Funds** has been created to provide financial support to the persons with disabilities.
- The act also seeks to provide financial incentives for employers who choose to employ PWDs.
- Nodal agency: **Ministry of Social Justice and Empowerment**

Other Policy Initiatives:

Accessible India Campaign:

- ✓ Aims to enhance accessibility by making changes to infra, information and communication systems.

DeenDayal Disabled Rehabilitation Scheme:

- ✓ Central Sector Scheme implemented since 1999 for providing financial assistance to NGOs working for education and rehab of PWDs.

Harmonized Guidelines and Space Standards for Universal Accessibility in India:

- ✓ Prepared by Ministry of Housing and Urban Affairs has been included in RPWD (Amendment) Rules, 2023.
- ✓ Guidelines are not just for PWDs, but also for those involved in planning projects, from construction of govt buildings to master-planning cities.

Unique ID for persons with disabilities (UDID) card:

- ✓ Aims to create a National Database for PwDs and thereby enable them to obtain UDID card to avail schemes and benefits provided.

About National Research Foundation (NRF):

- NRF is an **entity that replaced the Science & Engineering Research Board of India (SERB)** and aims to catalyse interdisciplinary research for accelerating India's development agenda, through impactful knowledge creation and translation.
- It will function under the **Ministry of Science and Technology**.

The NRF's Goals:

- **Promote interdisciplinary research** that will address India's most pressing development challenges.
- **Minimize duplication of research.**
- **Promote translation of research into policy and practice.**

Features of NRF:

- **Presided by PM (ex-officio chairman)** and consists of 10 major directorates focusing on science, arts, humanities, entrepreneurship, etc.
- **Union Ministers of Education and of Science and Tech** will be ex-officio Vice Presidents.
- Will have an **18-member board** with eminent Indian and intl. scientists, senior govt functionaries and industry leaders.
- Will be registered as a society and have an **independent secretariat**.

Expectations from NRF:

- Increasing investment in **R&D from 0.7% of GDP to 2% of GDP by 2030**
- **Enhancing India's share of global scientific publications** from about 5% to 7% by 2030
- Create a **pool of talented researchers** across disciplines and sectors
- Developing innovative **solutions for India's development challenges**

NATIONAL RESEARCH FOUNDATION (NRF)

Context: An article in today's edition of The Hindu analyzes the challenges in India's research ecosystem and the role of the NRF in addressing these challenges.



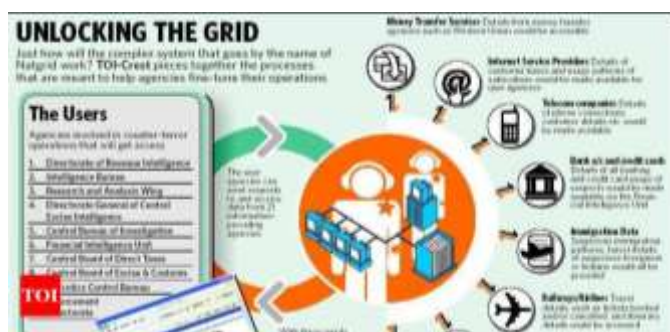
Budgetary Updates

- **2021-22 Budget:** Govt announced that for the NRF, it would set aside Rs **50,000 crore over five years**.
 - 28% of it (14,000 crore) coming from govt and **72% (36,000 crore) from private sector**.
- **2022-23 Budget:** NRF was allocated a budget of just Rs 1 lakh.
- **2023-24 Budget:** Allocated Rs 2,000 crore for the NRF, which was then revised to Rs 258.60 crore.
- **2024-25 Budget:** Govt was silent on allocation for the institution or progress made so far.
- **2025-26 Budget:** Allocated Rs 2,000 crore for the NRF.



India's R&D spend is only around 0.64% of its GDP, which is lower than developing economies such as Brazil (1.16%) and South Africa (0.84%). The contribution of the private sector to India's total R&D spend is only 36.4%.

NATIONAL INTELLIGENCE GRID (NATGRID)



- NATGRID is a **database compiled by Ministry of Home Affairs** that contains 24 sets of data to help agencies identify & monitor suspects.
- It was **conceived in 2008 after the 26/11 attacks** in Mumbai. The data sets include:

- Immigration records, passports
- Banking details, credit card information, PAN records
- Travel history
- Phone data
- Vehicle registration data
- National Population Register
- Company details etc.

Utility of NATGRID:

- The data repository at NATGRID **captures all the digital footprints** of an individual or an entity.
- NATGRID offers **real-time intelligence** about individuals and other entities to law-enforcement authorities across the country.
- The data is used to **counter illegal activities** (E.g., suspicious financial transactions, drug rackets) by sharing data with several security agencies.

Data is utilized by:

- NATGRID services are available to **11 central agencies and police departments of all states** and UTs.
- The eleven agencies include the Research and Analysis Wing (R&AW), Intelligence Bureau (IB), National Investigation Agency (NIA), Central Bureau of Investigation (CBI), Narcotics Control Bureau (NCB), Financial Intelligence Unit (FIU), Enforcement Directorate (ED), Central Board of Direct Taxes (CBDT), Central Board of Indirect Taxes and Customs (CBIC), Directorate of Revenue Intelligence (DRI) and Directorate General of GST Intelligence.

APAAR ID

Context: The Orissa HC has ruled that consent forms for the Education Ministry's APAAR ID scheme, which issues unique

identification linked to AADHAR for each student.

About APAAR ID:

- APAAR, an acronym for **Automated Permanent Academic Account Registry**, is a **specialised identification system designed for all students in India**, beginning from an early age.
- It is being implemented by the **Ministry of Education**.



- It is introduced in accordance with the **National Education Policy (NEP) of 2020** and the **National Credit and Qualifications Framework (NCrF)**.
- Registration for an APAAR ID is **voluntary, not mandatory**.
- **Objective:** It aims to **streamline and enhance the academic experience** for students throughout India by assigning a **unique and permanent 12-digit ID to each student**, consolidating their academic records into a single accessible platform.
- It is emphasised as not only a vital tool for tracking the educational progress of 260 million students in India but also as an aspirational and globally recognized document for students.

Benefits:

- APAAR ensures **accountability and transparency** in education by tracking student progress and streamlining academic records.
- It enhances efficiency, combats fraud, and includes co-curricular achievements for holistic student development.
- With multiple use cases, APAAR facilitates a smooth transfer process and supports data-driven decision-making in educational institutions.
- It also enables students to easily share their academic records for enhanced access to employment.

PARAM VIR CHAKRA

Context: Portraits of all 21 Param Vir Chakra awardees are now on display at the Rashtrapati Bhavan, replacing the previously displayed portraits of 96 British *Aid-de-Camps* (ADCs).



About Param Vir Chakra:

- It is India's **highest military decoration**, awarded for displaying the most exceptional acts of **valour, courage, and self-sacrifice during war**.
- It was **introduced on January 26, 1950**, on the first Republic Day with retrospective effect from 15 August 1947.

- Literally, Param Vir Chakra means 'Wheel (or Cross) of the Ultimate Brave'.
- It can be awarded to **officers, men, and women of all ranks of the Army, the Navy, and the Air Force**; of any of the **Reserve Forces**, of the **Territorial Army Militia**; and of **any other lawfully constituted Armed Forces**.
- It can be, and often has been, awarded posthumously.
- It is similar to the British Victoria Cross, the US Medal of Honor, the French Legion of Honor, or the Russian Cross of St. George.

Design:

- The medal was designed by **Mrs. Savitri Khanolkar**.
- The medal is cast in **bronze** and circular in shape.
- In the centre, on a raised circle, is the **state emblem**, surrounded by four replicas of **Indra's Vajra**, flanked by the **sword of Shivaji**.
- On its reverse, it shall have embossed Param Vir Chakra both in Hindi and English with two lotus flowers between Hindi and English. The fitting will be swivel mounting.
- The decoration is suspended from a straight swiveling suspension bar and is held by a **32 mm purple ribbon**.
- **First winner:** Major Somanth Sharma, from the Kumaon regiment.
- Till now, **only 21 people** had been given the Param Vir Chakra award, of which **14 are posthumous**.

Gallantry Awards

- ✓ They have been instituted by the Government of India to honour the acts of bravery and sacrifice of the officers/personnel of the Armed Forces, other lawfully constituted forces, and civilians.

- ✓ They are **announced twice in a year** – first on the occasion of the **Republic Day** and then on the occasion of the **Independence Day**.
- ✓ All the gallantry awards may be awarded posthumously.
- ✓ India's Gallantry Awards in the Order of Precedence:
 - Param Vir Chakra
 - Ashoka Chakra
 - Mahavir Chakra
 - Kirti Chakra
 - Vir Chakra
 - Shaurya Chakra.
- ✓ The President awards the gallantry awards to the awardees or their next of kin at the Defence Investiture Ceremony held every year at the Rashtrapati Bhawan.
- ✓ However, the **Param Vir Chakra and the Ashoka Chakra** are conferred by the President to the awardees on the occasion of the **Republic Day Parade** at the Rajpath.

VIKSIT BHARAT - GUARANTEE FOR ROZGAR AND AJEEVIKA MISSION - GRAMIN (VB-G RAM G) BILL

Context: The Lok Sabha has passed the VB-G RAM G Bill, 2025 in the Lok Sabha to replace the Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MGNREGA).



About VB-G RAM G Bill:

- It marks a shift from a rights-based, demand-driven rural employment scheme to a **budget-capped, supply-driven framework** aligned with the vision of Viksit Bharat @2047.
- **Rural poverty has declined sharply from 25.7% in 2011-12 to nearly 5% in 2023-24**, reducing the need for MGNREGA as a pure distress-relief measure and marking a shift towards productivity-linked employment.

Major provisions of the Bill:

- **Statutory Wage Employment Guarantee:** Provides a legal guarantee of 125 days of wage employment per rural household per year to adult members in unskilled manual work.
- **Conditional and Non-Universal Coverage:** Unlike MGNREGA's universal coverage, employment under the Bill will be available only in rural areas notified by the Union Govt.
- **Bottom-Up Planning through VGPPs:** Mandates preparation of Viksit Gram Panchayat Plans (VGPPs) using spatial technology, aggregated at Block, District, and State levels, and integrated with PM Gati Shakti for coordinated infrastructure planning.
- **Centrally Sponsored Scheme (CSS):** It increases the financial burden on States by revising the cost-sharing to 60:40 (from earlier 10% under MGNREGA), while retaining 90:10 only for North-Eastern & Himalayan States/UTs. State-wise allocations will be determined annually by Union Govt. thus, curtailing flexibility to expand spending in response to distress or rising demand.
- **Flexibility during Agri-Seasons:** The Bill empowers States to pause the programme for up to 60 days in a year during peak

sowing and harvesting seasons, ensuring the availability of farm labour for agricultural activities.

- **Unemployment Allowance:** State govts. must pay unemployment allowance if employment is not provided within 15 days of demand.

What makes Viksit Bharat-G RAM G better than MGNREGA?	
MGNREGA	Viksit Bharat-G RAM G
100 days of wage employment per rural household	125 days of wage employment per rural household
Multiple and scattered categories of works with limited strategic focus	4 clearly defined priority areas focusing on water security, rural infrastructure, livelihoods and climate resilience
Center bears unskilled wage costs, states bear unemployment allowance	State cost-sharing for wages, 60:40 for most states, 90:10 for certain special-category regions
No explicit statutory "pause window"	States can notify up to 60 days in a FY when work will not be executed
Demand based funding with unpredictable allocations	Normative funding ensuring predictable budgeting while protecting the employment guarantee
Gram Panchayat planning is central	Integrates institutionalised convergence and infrastructure planning

Limitation of VB-G RAM G Bill, 2025:

- **Erosion of Right to Work:** It makes MGNREGA (a demand-driven, legally enforceable scheme) into a supply-driven, budget-capped programme.
- **No Universal Coverage:** Employment is no longer guaranteed across all rural areas and is limited to regions notified by the Union Govt., raising concerns of exclusion of households.
- **Financial Burden on States:** The revised cost-sharing pattern raises States' responsibility, which may constrain effective implementation, especially in poorer States.
- **Capped Allocations Limit Responsiveness:** Fixed State-wise allocations restrict the ability to expand employment during periods of distress.
- **Suspension of work:** Provision to suspend work for up to 60 days during agricultural seasons is will reduce income support in rural areas.

SHANTI BILL

Context: Both houses of Parliament have passed the Sustainable Harnessing & Advancement of Nuclear Energy for Transforming India (SHANTI) Bill, 2025.



About the SHANTI Bill:

- It aims to **overhaul India's nuclear energy laws and enable private sector participation** in building and operating nuclear power plants for the first time since Independence.

Key Provisions of SHANTI Bill:

- Replacement of Existing Laws:** It repeals the Atomic Energy Act, 1962 and the Civil Liability for Nuclear Damage (CLND) Act, 2010, creating a single legal framework to govern the nuclear energy sector and simplify regulatory and liability procedures.
- Enabling Private Sector and Joint Ventures:** For the first ever time, the Bill permits private Indian firms, joint ventures, and foreign entities to build, own, operate, and decommission nuclear power plants, ending the monopoly of Nuclear Power Corporation of India Ltd (NPCIL).
- Retention of Strategic State Control:** It retains govt. control over sensitive areas such as nuclear fuel production, heavy water manufacturing, and radioactive waste management, safeguarding national

security and non-proliferation commitments.

- Statutory Status to Nuclear Regulator:** It grants statutory backing to Atomic Energy Regulatory Board (AERB) and makes it accountable to Parliament, strengthening regulatory independence, transparency, & safety.
- Revised Nuclear Liability:** It repeals the CLND Act, 2010 and removes supplier liability, ensuring that nuclear plant operators alone are responsible for compensation, thereby aligning India's regime with international conventions.
 - Operator liability is capped and linked to the installed capacity of nuclear plants rather than the extent of damage.
- Atomic Disputes Tribunal:** Proposes a dedicated atomic disputes tribunal to improve regulatory certainty and investor confidence.
- Facilitation of Advanced Nuclear Technologies:** By enabling private participation and regulatory clarity, the Bill supports the deployment of Small Modular Reactors and indigenous reactor designs.

Core Concerns Surrounding the Bill:

- By removing supplier liability and capping operator penalties, the Bill is **criticised for weakening accountability** in case of accidents.
- Critics argue that limiting liability based on plant size rather than actual damage **may undermine the "polluter pays" principle** and compromise public safety.
- Given India's experience with industrial disasters, such as Bhopal Gas Tragedy (1984), critics stress that diluting liability

may erode public confidence in nuclear power.

 As of 2025, India's current power capacity stands at **8.18 GW**, with an ambitious target of **100 GW by 2047**. India operates >20 nuclear reactors, all managed by NPCIL, with over a dozen new projects planned. The **Nuclear Energy Mission** was launched in the Union Budget 2025-26 which is focused on R&D of Small Modular Reactors (SMRs). India aims to develop at least five indigenously designed and operational Bharat Small Reactors (BSRs) by 2033.

LAW COMMISSION OF INDIA

Context: The Chairperson of the Law Commission of India has recently stressed on the need for reforms needed to remove the colonial legacy in India's judicial system.



About Law Commission of India:

- The Law Commission of India is a **non-statutory body** constituted by Union Govt. from time to time.
- The 1st Law Commission was created in 1834 by **Charter Act of 1833** and was chaired by Lord Macaulay. It recommended the codification of the Indian Penal Code and the Criminal Procedure Code.
- First Law Commission of independent India was **established in 1955**. It was chaired by M. C. Setalvad.

- This Commission was created for a **period of three years** and this practice has persisted ever since then, resulting in the reconstitution of Law Commissions every three years via executive orders.
- The orders that constitute the Law Commissions also specify their scope and purpose, and thus these fluctuate periodically. Since then, **22 more Law Commissions** have been constituted, each with a three-year term and with certain terms of reference.
- The Law Commission of India has submitted **289 reports so far** on various issues.
- Although Law Commissions are **generally appointed for a three-year term**, but this **can be extended by the Union Govt.**
- It works as an advisory body to the **Ministry of Law and Justice**.

Objectives:

- Undertakes legal research.
- Review existing laws for reforms.
- Recommends repeal of obsolete laws.
- Suggest amendments and new legislations.
- Examines laws that affect the poor and marginalized.

Composition:

- Apart from a **full-time chairperson**, it has **4 full-time members**, including a member-secretary.
- **Law and Legislative Secretaries** in the Law Ministry will be the ex-officio members of the commission.
- It will also have **not more than five part-time members**.
- A **retired SC judge or Chief Justice of a HC** will head the Commission.

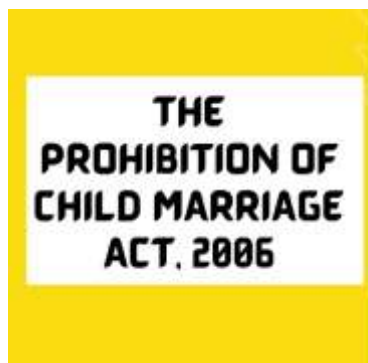


The 23rd Law Commission of India was constituted in 2024 for a three-year term (2024-2027) by the Ministry of Law and

Justice to review and repeal obsolete laws, aligning laws with DPSPs and Constitutional objectives, streamlining judicial administration, promoting gender equality, and examining globalization's impact on issues like food security. Justice Dinesh Maheshwari was appointed as its Chairperson in April 2025.

PROHIBITION OF CHILD MARRIAGE ACT, 2006

Context: The Union Govt. recently marked the first anniversary of the Bal Vivah Mukti Bharat Abhiyan.



About the Prohibition of Child Marriage Act, 2006:

- The **Child Marriage Restraint Act, 1929**, also known as **Sarda Act**, was the first attempt to curb this practice by setting minimum age of marriage for girls at 14 years & boys at 18 years.
- However, the Act had limited success due to weak implementation, cultural practices, and lack of awareness.
- The 2006 Act was introduced to address these shortcomings. It raises the minimum age of marriage to **18 years for girls and 21 years for boys** & provides for stronger enforcement.

Key Provisions of the 2006 Act:

- **Prohibition and Prevention:**
 - The Act strictly prohibits the solemnization of child marriages. It

grants powers to the court to issue injunctions to prevent such marriages from being conducted.

- Any person who performs, conducts, directs, or abets child marriage, **including parents or guardians, is considered an offender** under the Act.
- **Punishments and Penalties**
 - Anyone involved in the solemnization of a child marriage, including priests and parents, is liable for rigorous **imprisonment up to two years, or a fine up to ₹1 lakh, or both.**
 - The Act criminalizes child marriages and punishes the offenders **irrespective of caste, religion, or personal laws.**
- **Validity and Voidability of Child Marriages:**
 - Child marriages are not automatically void but are **voidable at the option of the contracting parties.**
 - A child, once becoming an adult, may seek annulment of the marriage. Such a petition must be **filed within 2 years of minimum age of marriage** (21 for boys & 18 for girls).
 - However, cases involving force, kidnapping, trafficking, or where a minor is married off are automatically void.
- **Maintenance and Custody of Children**
 - Act provides for **welfare and protection of the child bride or groom.** If marriage is annulled, the court has the **authority to issue orders for financial support** to the female party.
 - Court also makes provisions for the **custody and maintenance of any**

children born out of such marriages, ensuring their best interests are prioritized.

- Appointment of Prohibition Officers
 - Act mandates appointment of **Child Marriage Prohibition Officers by state govt.** They are responsible for preventing child marriages, collecting evidence, filing complaints, and ensuring prosecutions.
 - They are also tasked with creating awareness about the ill effects of child marriage.
- Role of NGOs and Public
 - Act **encourages participation from NGOs and general public** to report cases and assist in prevention of child marriage.
 - **Any person or organization can approach the court or the police** to stop a child marriage, thus helping to increase community involvement.



About National Commission for Scheduled Tribes (NCST):

- The NCST was **set up in 2004** by amending **Article 338** and by inserting a new **article 338A** in the Constitution through the **89th Constitution Amendment Act, 2003**.
- It is a **constitutional body**.
- By this amendment, the erstwhile **National Commission for Scheduled Castes and Scheduled Tribes** was replaced by **two separate Commissions** namely:
 - the National Commission for Scheduled Castes (NCSC), and
 - the NCST
- **Objective:** Article 338A inter-alia gives powers to the NCST to **oversee the implementation of various safeguards** provided to Scheduled Tribes (STs) under the Constitution or under any other law for time being in force or under any other order to the Government and to evaluate the working of such safeguards.

Composition:

- It consists of a **Chairperson, a Vice-Chairperson and 3 other Members** who are **appointed by the President** by warrant under his hand and seal.
- **At least one member** should be a **woman**.



Bal Vivah Mukt Bharat Abhiyan is a campaign by the Ministry of Women & Child Development to eliminate child marriage by 2030 and promote girls' empowerment as part of the goal of a developed India by 2047.

NATIONAL COMMISSION FOR SCHEDULED TRIBES (NCST)

Context: Concerns of tribal groups regarding the Great Nicobar Project have been brought before the NCST.

- The **Chairperson, the Vice-Chairperson and the other Members** hold office for a term of **3 years**.
- The **Chairperson** has been given the rank of **Union Cabinet Minister**, the **Vice Chairperson** has the rank of a **Minister of State** and **other Members** have the rank of **Secretary to the Government of India**.
- The members are **not eligible for appointments for more than two terms**.

Duties and Functions of the NCST:

- To investigate and monitor all matters relating to the safeguards provided for the STs under the Constitution or under any other law for the time being in force or under any order of the Government.
- To inquire into specific complaints with respect to the deprivation of rights and safeguards of the STs.
- To participate and advise in the planning process of the socio-economic development of the STs and to evaluate the progress of their development.
- The Commission shall provide reports on the operation of those safeguards to the President annually and as necessary.
- To make in such reports recommendations as to the measures that should be taken by the

Union or any State for effective implementation of those safeguards.

- The President, subject to the provisions of any law made by Parliament, may, by rule, discharge any other functions relating to the protection, welfare, development, and advancement of the STs.

International Relations

INTERPOL



- The International Criminal Police Organization (INTERPOL), commonly known as Interpol, is an **international organization facilitating international police cooperation against cross-border terrorism, trafficking, and other crime.**
- It is the world's largest international police organization, representing 195 member countries.
- It is headquartered in **Lyon, France.**
- **Official Languages:** Arabic, English, French, and Spanish.
- **Status:** It is 'not' a unit or part of a united nation system. It is an independent international organization.
- It is often the first point of contact for many countries pursuing an international investigation.
- It **does not actively investigate crimes.**

Governance:

- The General Assembly, consisting of one delegate from each member country, is Interpol's supreme decision-making body.
- Interpol's day-to-day operation is managed by a General Secretariat under the direction of a Secretary General, who is appointed for a five-year term by the General Assembly.

- An Executive Committee of 13 members, each representing a different region of the world, is appointed by the General Assembly at its annual meeting.
- The Executive Committee oversees the implementation of decisions made by the General Assembly and supervises the work of the Secretary General.

National Central Bureau (NCB):

- It has an NCB in each member country, which is the central point of contact for both the general secretariat and the other NCBs around the world.
- Each NCB is run by police officials of that country and usually sits in the government ministry responsible for policing. (Union Home Ministry in India.)
- The **Central Bureau of Investigation (CBI) represents Interpol in India as the country's NCB.**

Types of Notices issued by Interpol:

- It issues 8 types of notices (7 of which are colour-coded) which are in the form of alerts/requests allowing police in member countries to share critical crime-related information.
- **Red Notice:** To seek the location and arrest of a person wanted by a judicial jurisdiction or an international tribunal with a view to his/her extradition. It is the "closest instrument to an international arrest warrant".
- **Blue Notice:** To locate, identify, or obtain information on a person of interest in a criminal investigation.
- **Green Notice:** To warn about a person's criminal activities if that person is considered to be a possible threat to public safety.

- **Yellow Notice:** To locate a missing person or to identify a person unable to identify himself/herself.
- **Black Notice:** To seek information on unidentified bodies.
- **Orange Notice:** To warn of an event, a person, an object, or a process representing an imminent threat and danger to persons or property.
- **Purple Notice:** To provide information on modus operandi, procedures, objects, devices, or hiding places used by criminals.
- **Interpol-UNSC Special Notice:** To inform Interpol's members that an individual or an entity is subject to UN sanctions.

MONROE DOCTRINE



- The Monroe Doctrine, articulated by U.S. President James Monroe in 1823, is a significant U.S. foreign policy statement aimed at preventing European intervention in the Americas.
- Primarily the work of Secretary of State John Quincy Adams, the Monroe Doctrine forbade European interference in the American hemisphere but also asserted U.S. neutrality in regard to future European conflicts.
- The origins of the Monroe Doctrine stem from attempts by several European powers to

reassert their influence in the Americas in the early 1820s.

- In North America, Russia had attempted to expand its influence in the Alaska territory, and in Central and South America, the U.S. government feared a Spanish colonial resurgence.
- Britain too was actively seeking a major role in the political and economic future of the Americas, and Adams feared a subservient role for the United States in an Anglo-American alliance.
- The United States invoked the Monroe Doctrine to defend its increasingly imperialistic role in the Americas in the mid-19th century.
- However, it was not until the Spanish-American War in 1898 that the United States declared war against a European power over its interference in the American hemisphere.
- The doctrine has had lasting impacts on U.S. relations with its southern neighbors, reflecting America's desire to assert its influence while advocating for independence and self-determination in the region.
- The isolationist position of the Monroe Doctrine was also a cornerstone of U.S. foreign policy in the 19th century.
- It took the two world wars of the 20th century to draw a hesitant America into its new role as a major global power.

INTERNATIONAL ORGANIZATION OF MARINE AIDS TO NAVIGATION



- It was established in 1957 as a **Non-Governmental Organisation (NGO)**.
- It officially changed its status from a Non-governmental Organization (NGO) to an Intergovernmental Organization (IGO) based on a Convention ratified by 34 States in 2024.
- Its mandate is to harmonise global maritime navigation systems, promote maritime safety initiatives, and collaborate with member states, international organizations, and industry stakeholders to address emerging challenges in maritime safety and environmental protection.
- **Motto:** Successful Voyages, Sustainable Planet.
- **Governance:** The IALA Council is the key decision-making body of the intergovernmental organization responsible for marine aids to navigation.

It aims to:

- Foster safe, economic and efficient movement of vessels by improving and harmonizing aids to navigation worldwide and by other appropriate means.
- Encourage, support and communicate recent developments; develop international cooperation by promoting close working relationships and assistance among members;
- Enhance mutual exchange of information with organizations representing users of aids to navigation.
- **Members:** It comprises 200 members, 80 of which are national authorities and 60 are commercial firms. (India has been a member of this organization since 1957).
- **Headquarters:** Saint-Germain-en-Laye, France.

PAX SILICA INITIATIVE

Context: The US recently launched initiative Pax Silica to secure critical mineral supply chains excluding India.

About Pax Silica:

- Pax Silica is a US-led strategic initiative which aims to create a secure supply chain in areas of **critical minerals, emerging technologies, advanced manufacturing and semiconductors**.
- The alliance seeks to strengthen supply security for rare minerals and other resources vital for advanced AI technologies, reducing reliance on China, which currently controls nearly 70% of global rare earth mining.
- It features United States and **eight partner countries** including Singapore, Australia, Japan, South Korea, Netherlands, UK, Israel and United Arab Emirates.
- As the name suggests, Pax comes from Latin pax, meaning peace and stability, and silica, the base compound refined into silicon for computer chips.
- Pax Silica is a new kind of international grouping and partnership – one that aims to unite the countries that host the world's most advanced technology companies to unleash the economic potential of the new AI age, according to a US Department of State statement.
- **India is not** a part of this initiative.

BIOLOGICAL WEAPONS CONVENTION

Context: The Convention has been in the news as India recently hosted a global summit to mark the 50th anniversary of the Convention coming into force.



About the Biological Weapons Convention (BWC):

- It is a **legally binding** international treaty that bans the use of biological and toxin weapons which entered into force on 26 March 1975.
- It is the first multilateral disarmament treaty **banning an entire category of weapons of mass destruction (WMD)**. It prohibits the development, production, purchase, transfer, stockpiling and use of biological and toxin weapons.
- It has **almost universal membership** with 188 State Parties (those who have ratified) and 4 Signatory States (Egypt, Haiti, Somalia, Syria).
- It has a **Implementation Support Unit (ISU)** to provide administrative support for implementation, universalization of the Convention.
- 5 States - **Israel, Chad, Djibouti, Eritrea and Kiribati - have not signed** or acceded to the Convention.
- **States Parties meet approximately every 5 years** to review the BWC and its operations.

Gaps in BWC:

- **No Verification:** BWC has no independent compliance system to inspect laboratories or monitor threats.
- **No Technical Body:** Lacks a permanent scientific institution to track emerging bio-risks.
- **No Reporting Norms:** Countries are not required to submit transparent research logs or lab inventories.
- **Limited Enforcement:** Violations are challenging to investigate; only 19% of member states regularly submit confidence-building reports.

Measures taken by India to implement Biological Weapons Convention (BWC)

- **Manufacture, Use, Import, Export & Storage of Hazardous Micro-organisms, Genetically/Engineered Organisms or Cells Rules, 1989:** To protect the environment and health from impacts of gene technology and micro-organisms.
- **Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005:** It prohibits unlawful activities (such as manufacturing, transport, or transfer) related to weapons of mass destruction, and its means of delivery.
- **Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET):** SCOMET list is India's National Export Control List of dual use items, munitions and nuclear related items, including software and technology. Category 2 of the SCOMET list covers micro-organisms and toxins.
- **India and France jointly proposed establishing a database** to facilitate assistance under Article VII of BWC.
 - Article VII deals the undertaking to assist any State Party exposed to

danger as a result of a violation of the BWC.

VIENNA CONVENTION ON DIPLOMATIC RELATIONS

Context: Indian mission in Chittagong recently put visa operations on hold after a security incident.



About the Vienna Convention:

- The Vienna Convention on Diplomatic Relations (1961) is established to define fundamental principles and terms governing how countries must treat each other's diplomatic representatives.
- It was adopted on **14 April 1961** by the **United Nations Conference on Diplomatic Intercourse and Immunities** held at the Neue Hofburg in Vienna, Austria.
- **Ratified by:** 193 countries
- **India** has ratified the Convention through **Diplomatic Relations (Vienna Convention) Act 1972**.
- It sets out privileges and immunities which enable diplomatic missions to act without fear of coercion or harassment through enforcement of local laws.
- It makes provision for withdrawal of a mission – which may take place on grounds of

economic or physical security – and for breach of diplomatic relations which may occur in response to abuse of immunity or severe deterioration in relations between sending and receiving States.

- A receiving state is the host nation where the mission is located.



The difference between high commission and embassy is basically where they are situated. Commission applies to **Commonwealth member states** whereas Embassy applies to the rest of the world.

WORLD ANTI-DOPING AGENCY (WADA)

Context: For the third consecutive year, India has topped the WADA's global list of offenders.

About World Anti-Doping Agency:

- It was established in 1999 as an international independent agency to lead a **collaborative worldwide movement for doping-free sport**.
- **Role:** To develop, harmonize and coordinate anti-doping rules and policies across all sports and countries.
- Its activities include scientific and social science research; education; intelligence & investigations; development of anti-doping capacity; and monitoring of compliance with the World Anti-Doping Program.
- **Headquarters:** Montreal, Canada.

Governance Structure:

- **Foundation Board (Board):** It consists of 42-member and it is the agency's highest policy-making body, is jointly composed of representatives of the Olympic Movement (the IOC, National Olympic Committees, International Sports Federations, and

athletes) and representatives of governments from all five continents.

- **Executive Committee (ExCo):** It consists of 16-member to which the Board delegates the management and running of the agency, including the performance of all its activities and the administration of its assets.



For the past three years, India has topped the WADA's list of offenders.

KIMBERLY PROCESS

- It is a **tripartite initiative** involving **governments, the international diamond industry and civil society**.
- **Aim:** It is aimed at **preventing the trade in "conflict diamonds"**.
- **Conflict diamonds** are **rough diamonds** used by **rebel groups or their allies** to **finance conflicts that undermine legitimate governments**. (As defined in United Nations Security Council resolutions).
- **Governance:** Each year, the Vice-Chair becomes the Chair the next year. Chair and Vice-Chair are appointed by Plenary consensus.
- **Participants:** It currently has **60 participants** representing 86 countries, with the European Union counting as a single participant.
- This will be the **third time India has been entrusted with the chair of the Kimberley Process**.

Kimberley Process Certification Scheme (KPCS):

- It is the mechanism the KP uses to prevent the trade of conflict diamonds.
- It was **launched in 2003**, which is enforced individually by KP Participant countries to ensure that rough diamonds in the legitimate supply chain are KP-compliant.

- Since 2003, India has been actively participating in the KPCS process.
- **Department of Commerce** is the nodal Department.
- **Gem & Jewellery Export Promotion Council (GJEPC)** is designated as the KPCS Importing and Exporting Authority in India.
- GJEPC is responsible for issuing KP Certificates and is also the custodian of KP Certificates received in the country.

REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP (RCEP)

Context: With the India-New Zealand FTA coming into force, India will have trade agreements with all members of the RCEP grouping except China.



About RCEP:

- RCEP is a major economic agreement formed between the Association of Southeast Asian Nations (ASEAN) and their Free Trade Agreement (FTA) partners.
- It is the world's largest trading bloc.
- Its negotiations began in 2012 and it was **officially signed in 2020**, marking a major milestone in regional trade. It was **entered into force in 2022**.
- 15 countries signed RCEP in 2020: **10 ASEAN countries** (Brunei, Cambodia,

Indonesia, Malaysia, Myanmar, Singapore, Thailand, the Philippines, Laos, and Vietnam) and their 5 FTA partners - **China, Japan, South Korea, Australia, and New Zealand.**

- It covers several key areas, including: Trade in goods and services, investment, technical cooperation, intellectual property, competition policies, E-commerce and MSMEs.
- RCEP member countries collectively represent over **30% of the global Gross GDP** and cover about **one-third of the world's population.**
- **India was initially a part** of the RCEP negotiations but decided to **withdraw in 2019.**

Why did India Withdraw from RCEP?

- **"China Plus One" Strategy:**
 - India's decision aligns with the global trend of the "China Plus One" strategy, which aims to reduce over-reliance on China by diversifying supply chains and trade relationships.
- **Growing Trade Deficits:**
 - Since the implementation of RCEP, trade deficits have risen significantly for several member nations.
 - RCEP would have exacerbated India's trade deficit, as seen in other countries. For example, ASEAN's trade deficit with China increased

from USD 81.7 billion in 2020 to USD 135.6 billion in 2025.

- **Dumping of Chinese Goods:**
 - India was concerned of an influx of cheap Chinese products, which could harm domestic industries. Our trade deficit with China is already at USD 85 billion in 2023-24.
- **Protection of Domestic Industry and Rules of Origin Norm:**
 - Concerns over protection of domestic industries in sectors like dairy and steel, where tariff reductions from 35% to zero would expose them to competition from Australia and New Zealand.
 - Additionally, India was wary of the rules of origin provisions, fearing that products could bypass Indian tariffs by being routed via other countries, weakening safeguards for domestic industries.

Economy

'YOUR MONEY YOUR RIGHT' MOVEMENT

Context: Prime Minister Narendra Modi on Wednesday called on citizens across the country to actively participate in the "Your Money, Your Right" movement".



About 'Your Money Your Right' Movement:

- It was **launched by the central government** in October 2025.
- It is an initiative aimed at **enabling people to reclaim their unclaimed deposits, insurance proceeds, dividends, and other financial assets.**
- The effort brings together government agencies, regulators, banks, and financial institutions to identify and **return long-forgotten funds.**
- Indian banks are holding **Rs 78,000 crore of unclaimed money** belonging to our own citizens.
- Insurance companies have nearly Rs 14,000 crore lying unclaimed.
- Mutual fund companies have around Rs 3,000 crore, and dividends worth Rs 9,000 crore are also unclaimed.
- The deposits in accounts which are **not operated for a period of 10 years** are classified as **unclaimed deposits.**

- Under the initiative, individuals need to verify if their close family members or relatives have unclaimed deposits, insurance proceeds, mutual-fund payouts, or dividends.
- To facilitate this, the government has created dedicated portals as follows:
 - **Reserve Bank of India (RBI): UDGAM Portal** for unclaimed bank deposits & balances.
 - **Insurance Regulatory and Development Authority of India (IRDAI): Bima Bharosa Portal** for unclaimed insurance policy proceeds.
 - **Securities and Exchange Board of India (SEBI): MITRA Portal** for unclaimed amounts in mutual funds.
 - **Ministry of Corporate Affairs: IEPFA Portal** for unpaid dividends and unclaimed shares.
- **Facilitation camps** are being organised in districts across both rural and urban regions of the country.
- During the camps, the citizens will be provided on-the-spot guidance on how to search for their unclaimed assets, update records, and complete claim procedures.
- Digital tools and step-by-step demonstrations will also be showcased.
- On the national level, the campaign is coordinated by the Department of Financial Services (DFS), Ministry of Finance.

INTERNATIONAL FINANCIAL SERVICES CENTRES AUTHORITY (IFSCA)

Context; The GIFT City of Gujarat is earning substantial amounts of FDIs in the recent

months enhancing its importance in India's financial markets landscape.



About IFSCA

- It is a **statutory authority** established under the **International Financial Services Centres Authority Act, 2019 (IFSCA Act)**.
- The IFSCA is a **unified authority for the development and regulation of financial products, financial services, and financial institutions in the International Financial Services Centre (IFSC) in India.**
- The IFSCA aims to **develop a strong global connection and focus on the needs of the Indian economy as well as to serve as an international financial platform for the entire region.**
- Prior to the establishment of IFSCA, the domestic financial regulators, namely, RBI, SEBI, Pension Fund Regulatory and Development Authority (PFRDA), and Insurance Regulatory and Development Authority (IRDAI), regulated the business in IFSC.
- It is headquartered at **GIFT City, Gandhinagar, in Gujarat.**
- At present, the GIFT IFSC is the **maiden IFSC in India**

Members

- It consists of **nine members, appointed by the central government.**
- They will include the chairperson of the authority, a member each from the RBI, SEBI, IRDAI, and PFRDA.

- Two members from the Ministry of Finance.
- In addition, two other members will be appointed on the recommendation of a Selection Committee.
- All members of the IFSC Authority will have a term of three years, subject to reappointment.

INFLATION TARGETING

Context: India's retail inflation slightly increased to 0.7% in November 2025, up from the historic low of 0.25% in October.



About Inflation Targeting in India:

- Inflation targeting is a monetary policy in which a **central bank sets an explicit target for rate of inflation** and adjusts its policy instruments, such as interest rates, to achieve it.
- **New Zealand pioneered** inflation targeting in 1990, and it has since become widely adopted worldwide.
- In India, **Flexible Inflation Target (FIT)** framework was adopted in 2016.
- RBI has set an **inflation target of 4% with a tolerance band of +/- 2%** with regards to the Consumer Price Index (CPI). This means that RBI aims to keep inflation at 4% but will tolerate inflation between 2% to 6%.

Monetary Policy Committee (MPC):

- It was set up consequent to **Monetary Policy Framework Agreement (2015)** between Union Govt and RBI to task RBI

with the responsibility for price stability and inflation targeting.

- **RBI Act, 1934 was amended and by virtue of Section 45ZB**, Union Govt constitutes a six-member MPC. Thus, the MPC is a statutory body.
- Union Govt determines the inflation target **in terms of Consumer Price Index, once in every five years** in consultation with the RBI.
- Composition: Section 45ZB says the MPC shall consist of **6 members**:
 - RBI Governor as its ex officio chairperson,
 - Deputy Governor in charge of monetary policy
 - An officer of RBI
 - 3 persons appointed by Govt.
- Members of MPC **hold office for a period of four years and are not eligible for re-appointment**. The MPC is required to meet at least four times in a year, although in practice, they meet six times a year.

Wholesale Price Index (WPI)

- ✓ It measures changes in **prices of goods sold and traded in bulk** by wholesale businesses to other businesses.
- ✓ Released by Office of Economic Adviser, **Ministry of Commerce & Industry** on a monthly basis.
- ✓ Base year: 2011-12

Consumer Price Index (CPI)

- ✓ Measures price change from point of view of a retail buyer. It is released by **National Statistical Office (NSO)**.
- ✓ Calculates price change of **services and commodities** such as food, medical care, education, housing, fuel, etc.
- ✓ Has several sub-groups including food and beverages, fuel and light, housing and clothing, bedding and footwear.
- ✓ Four types of CPI are as follows:

- CPI for Industrial Workers
- CPI for Agricultural Labourer
- CPI for Rural Labourer
- CPI (Rural/Urban/Combined)
- ✓ Of these, first 3 are compiled by Labour Bureau. Fourth is compiled by NSO.
- ✓ Base Year for CPI is 2016.

BIMA TRINITY

Context: The Bima Trinity proposal has been in news recently in the context of India's proposal to allow 100% FDI in the insurance sector.



About Bima Trinity:

- Insurance Regulatory & Development Authority of India (IRDAI), under its **'Vision Insurance for all' by 2047**, aims to ensure that every citizen has a life, health and property insurance cover and every business is supported by appropriate insurance solutions.
- IRDAI **plans to launch Bima Trinity** - Bima Sugam, Bima Vistar, and Bima Vaahaks - **in collaboration with insurance firms**.

Components of Bima Trinity:

- **Bima Sugam:**
 - Unified platform that combines insurers and distributors to simplify policy purchases, service

requests, and claims settlement for customers.

- **Bima Vistar:**

- Comprehensive bundled policy that covers life, health, property, and accidents. It provides defined benefits for each risk category.

- **Bima Vaahaks:**

- Women's workforce that will operate at Gram Sabha level to educate women about benefits of comprehensive insurance, particularly Bima Vistar.

Insurance Sector in India

- ✓ According to Economic Survey 2022-23, life insurance density in India increased from USD 11.1 in 2001 to USD 91 in 2021.
- ✓ As per IRDAI, **insurance penetration in India** increased from **3.76% in 2019 to 4.21% in 2023** (11.7% growth).
- ✓ **Life insurance penetration in 2023 was 3.2%**, almost twice that of emerging markets and above the global average.
- ✓ **Insurance density increased from USD 78 in 2020-21 to USD 91 in 2023-24.**
- ✓ India is the **10th biggest insurance market globally** & is projected to be the **6th biggest market by 2032.**

About IRDAI:

- ✓ It is a statutory body established under the **IRDA Act 1999.**
- ✓ It **supervises and regulates the insurance sector** in India.
- ✓ Aims: Protect interests of insurance policyholders & to regulate and ensure orderly growth of insurance sector.
- ✓ Nodal Ministry: Ministry of Finance
- ✓ Head Office: **Hyderabad.**
- ✓ Composition: **IRDAI is a 10-member body** - a Chairman, five full-time

members, and four part-time members appointed by the Government of India.



Insurance penetration measures the contribution of insurance premiums to the GDP of a country in percentage terms. Insurance density, meanwhile, is the ratio of insurance premium to the total population.

MASALA BONDS



- They are **rupee-denominated bonds issued outside India** by Indian entities.
- The **International Finance Corporation (IFC)**, an arm of the World Bank, **issued the first masala bonds** in October 2013 as part of its \$2 billion-dollar offshore rupee programme.
- They are **debt instruments** which help to **raise money in local currency from foreign investors.**
- That means the **currency risk** - if exchange rates change - is **on the investor**, not the issuer. This helps Indian companies manage their risks better.
- To offset the risk of exchange rate fluctuations, bonds typically offer **attractive interest rates** that are frequently greater than those offered in the investors' home countries.
- Both **government and private entities** can issue these bonds.

- Investors outside India who would like to invest in assets in India can subscribe to these bonds.
- Any resident of that country can subscribe to these bonds which are **members of the Financial Action Task Force (FATF)**.
- That includes individuals, institutions, and even financial organisations from countries that follow international standards for fair and secure investing, like those under the International Organisation of Securities Commissions.
- It also covers multilateral and regional financial institutions of which India is a member.

Maturity Period:

- It depends on the size of the bond.
- For bonds up to **USD 50 million**, the maturity is usually **3 years**.
- For larger amounts, it can go **up to 5 years**, giving investors more flexibility based on their goals.

Usage of money raised:

- The funds raised through Masala bonds are generally earmarked for **productive and regulated purposes**.
- The proceeds can fund affordable housing, infrastructure, refinance rupee loans, or meet corporate working capital requirements.
- Activities like **buying land, investing in the stock market, or funding real estate projects are off-limits**—unless they've received specific government approvals.

FERTILISER SUBSIDY IN INDIA

Context: There have recently been discussions on the need for review and rationalization of the fertilizer subsidies provided by India.



About Fertiliser Subsidy in India:

- With the aim of raising agricultural growth, the Union Govt. has been providing **subsidized fertilizers to farmers since the 1970s**. Over this period, the govt. has devised separate mechanisms for Urea Subsidy and Non urea fertilizer subsidy.
- The allocation for fertilizer subsidy for FY25 was budgeted at **Rs 1.75 lakh crore**.
- The govt. **pays a subsidy to fertiliser producers** to allow farmers to buy fertilisers at below-market rates. The difference between cost of production or import of a fertiliser and the actual amount paid by farmers is the subsidy portion borne by the government.

Subsidy on Urea:

- In India, **urea is the most produced, imported, consumed and regulated** fertiliser of all. It is subsidised only for agricultural uses.
- The Centre pays a subsidy on urea to fertiliser manufacturers on the basis of cost of production at each plant and the units are required to sell the fertiliser at the **government-set Maximum Retail Price (MRP)**. The MRP of urea is currently fixed at Rs 5,628 per tonne.
- As this method encourages the fertilizer companies to remain inefficient, **New Urea Policy (2015)** addressed this anomaly. Under this Policy, all the manufacturing plants are divided into three groups and a specific energy norm is fixed for each

group. Urea plants falling in the same group will be getting the same amount of subsidy irrespective of their actual cost of production. This will force plants to become more energy efficient.

Subsidy on Non-Urea Fertilisers:

- The MRPs of non-urea fertilisers are **decontrolled or fixed by the companies**.
- But the government has, in recent times, and especially with the **global price surge post the Russia-Ukraine war**, brought these fertilisers under the control regime.
- All non-urea based fertilisers are regulated under **Nutrient Based Subsidy (NBS) Scheme**.
- Under NBS, the **market prices of these fertilizers are deregulated**. Manufacturers are free to decide the market price at which they want to sell and they receive a **fixed subsidy from the government based on the amount of nutrient (N, P & K) present in a given amount of fertilizer**.
- Under NBS Policy, **freight cost is also reimbursed** to the fertilizer companies on account of movement of P&K fertilizers.

DBT in Fertilizers:

- The Direct Benefit Transfer (DBT) model in fertilizers is different from the conventional system of DBT being implemented in LPG.
- Farmers would continue to get fertilizer at subsidised price whereas the **fertilizer companies receive subsidy, only after the fertilizers are sold to farmers by the retailer**.

RAPID FINANCING INSTRUMENT (RFI)



- The International Monetary Fund (IMF) has approved USD 206 million in emergency funding for **Sri Lanka under the RFI following Cyclone Ditwah**.
- It is an **IMF emergency lending facility that provides quick, low-access financial assistance** to member countries facing urgent balance-of-payments (BoP) needs, especially during crises such as natural disasters or domestic instability.

Funding under RFI:

- **Regular window:**
 - For BoP stress due to domestic instability, exogenous shocks, or fragility
 - Access up to 50% of IMF quota per year and 100% cumulatively
- **Large Natural Disaster window:**
 - Applicable when disaster damage exceeds 20% of GDP
 - Access up to 80% of IMF quota per year and 133.33% in total.
- **Conditionality framework:**
 - No ex-post conditionality or programme reviews

- Borrowing country expected to pursue policies addressing underlying BoP problems
- **Terms of lending:**
 - Repayment period: 3 to 5 years
 - Access: Generally one-off, with scope for repeated use in exceptional circumstances.

MONETARY POLICY COMMITTEE (MPC)

Context: Members of the MPC suggest that as inflation falls, GDP growth is also likely to get slower.

About Monetary Policy Committee:

- **Origin:** Under **Section 45ZB** of the amended (in 2016) RBI Act, 1934, the central government is empowered to constitute a **six-member** Monetary Policy Committee (MPC).
- **Objective:** to determine the Policy Rate required to achieve the inflation target.
- The decision of the Monetary Policy Committee shall be binding on the Bank.

Composition: 6 members comprising:

- RBI Governor as its ex-officio chairperson;
- Deputy Governor in charge of monetary policy,
- An officer of the Bank to be nominated by the Central Board,
- Three persons to be appointed by the central government.
 - This category of appointments must be from “persons of ability, integrity and standing, having knowledge and experience in the field of economics or banking or finance or monetary policy”.

NATIONAL SKILL DEVELOPMENT CORPORATION (NSDC)

Context: Several workers promised jobs in Israel under programs by the National Skill Development Corporation have been left behind and are now filing a case for recourse.



About National Skill Development Corporation:

- The National Skill Development Corporation was established in 2009 as a **not-for-profit company** by the **Ministry of Finance**, under **Section 25 of the Companies Act, 1956**.
- NSDC aims to **promote skill development** by catalyzing the creation of large, quality, and for-profit vocational institutions.
- NSDC provides funding to build scalable and profitable vocational training initiatives.
- Its **mandate** is also to enable a support system which focuses on quality assurance, information systems, and train the trainer academies either directly or through partnerships.
- NSDC acts as a catalyst in skill development by providing funding to enterprises, companies, and organizations that provide skill training.
- It also develops appropriate models to enhance, support, and coordinate private sector initiatives.
- The present equity base of NSDC is Rs. 10 Crore of which the Government of India, through the **Ministry of Skill Development**

& **Entrepreneurship** (MSDE), holds 49%, while the private sector holds the balance 51%.

DUTCH DISEASE



- Dutch Disease in economics refers to a phenomenon wherein **a country witnesses' uneven growth across sectors due to the discovery of natural resources**, especially large oil reserves.
- According to the concept, when a country discovers natural resources and starts exporting them to the rest of the world, it causes the **exchange rate of the currency to appreciate significantly** and this, in turn, **discourages the exports from other sectors while encouraging the import of cheaper alternatives**.
- The term 'Dutch disease' was **first coined by The Economist in 1977** to describe the decline of the manufacturing industry in the Netherlands.

Combating Dutch Disease:

- **Role of Fiscal Policy:** According to the researchers, the role of fiscal policy is important to control the boom following the discovery of natural resources. Rising income due to the export of natural resources should be adjusted with cautious spending on public welfare.
- **Promote public spending policies:** Public spending such as concentrating on imports of tradeables rather than non-tradeables would

help slow the impact of the Dutch disease. Private spending in order to improve the productivity of private firms would also help reduce the impact.

- **Role of Monetary Policy:** With the discovery of natural resources, the country sees a huge inflow of money, especially foreign currency. The export of natural resources tends to affect the equilibrium in the money and exchange rate markets. The Dutch disease can be prevented if the central bank raises the banking system reserve's requirement, which decreases domestic credit.

ROOFTOP SOLAR POWER

Context: An article in today's edition of The Hindu analyses the boom in rooftop solar installations in Rajasthan.



- Rooftop solar is a photovoltaic system that has solar **panels mounted on the rooftop of a residential/commercial building**.
- It is smaller when compared to ground-mounted photovoltaic power stations and has **capacities in the megawatt range**.

About Rooftop Solar Scheme:

- **Launched in 2014** to boost rooftop solar installations in residential sector.
- **Financial Assistance:** It offers **Central Financial Assistance and incentives** to distribution companies (DISCOMs).

- The programme aims to achieve a total of **40 GW of rooftop solar capacity by March 2026.**

Consumer Benefits:

- Consumers can access the scheme through DISCOM tendered projects or the National Portal.
- They have the flexibility to select vendors and solar equipment.
- Subsidies are directly transferred to their bank accounts & surplus power can be exported to the grid.

PM Surya Ghar Muft Bijli Yojana

- Announced in January 2024 and aims to install rooftop solar systems on **1 crore residential rooftops by 2027.**
- **Urban Local Bodies and Panchayats are incentivized** to promote rooftop solar systems.
- **Subsidies will be directly credited** to bank accounts of beneficiaries and highly concessional bank loans shall be provided.
- It is expected to generate annual savings of ₹15,000 to ₹18,000 for households, **boost the market for EVs**, and boost entrepreneurship and employment.
- **60% of installation costs** will be covered for 2 kW capacity systems and **40% of installation costs** shall be covered for systems of 2-3 kW capacity

India's Current Solar Power Capacity

- ✓ Total rooftop solar installed capacity is around 11.08 GW as of Dec 2024.
- ✓ Gujarat tops the list with 2.8 GW, followed by Maharashtra by 1.7 GW.
- ✓ Total solar power installed capacity in India crossed 100 GW as of February 2025.

- ✓ In total solar capacity, Rajasthan is at the top with 18.7 GW. Gujarat is at the second position with 10.5 GW.



As per a recent report by Council on Energy, Environment and Water, only around 20% of rooftop solar installations are in residential sector. The report suggests that India's 25 crore households could deploy 637 GW solar energy on rooftops, and just one-third of this could meet the entire residential electricity demand in India.

GLOBAL CAPABILITY CENTERS

- Global Capability Centres (GCCs), or Captive Centres, are **offshore offices or subsidiaries set up by multinational corporations (MNCs) to handle various business processes and services.**
- GCCs connect organizations to a global pool of top-tier talent, equipped with the latest technology and training needed to stay ahead of industry trends, continually innovate, and create sustained growth.
- These centres are responsible for a wide range of tasks, including IT support, research and development (R&D), data analytics, finance, human resources, and other back-office functions.
- Over time, many GCCs have evolved from being simple support centres to becoming strategic hubs that drive innovation and high-value business functions.

GCCs in India:

- Earlier, GCCs were established in India primarily **to reap cost benefits.**
- Customer support, data processing, and IT services that these centres mainly focused on.

- Due to its abundant skilled labour force and lower operational cost, India proved to be an ideal location for setting up GCCs.
 - However, GCCs have evolved over time to expand massively and now include critical business functions such as R&D, analytics, digital transformation, and innovation.
 - India now hosts 1,850 GCCs employing almost two million professionals.
 - India is projected to have more than 2,400 GCCs by 2030 and employ more than three million workers to achieve a \$125 billion market size, signalling a transition into strategic 'enterprise AI brains.'
 - Key GCC hubs are located in Bengaluru, Hyderabad, Pune, Chennai, Mumbai, and the National Capital Region (NCR).
- Small PPIs are divided into two categories: PPIs up to Rs 10,000 (with cash loading facility) and PPIs up to Rs 10,000 (without cash loading facility).
 - **Full-KYC PPIs:** They are issued by the banks and non-banks after completing the KYC of PPI holder. They can be used for purchase of goods and services; funds transfer or cash withdrawal.

PREPAID PAYMENT INSTRUMENT

- They are financial tools that help facilitate the purchase of goods and services, including financial services, remittances and fund transfer, among others, against the value stored in them.
- Examples: Mobile Wallets (semi-closed system PPIs), Gift Cards (closed system PPIs), Debit or Credit Cards (open system PPIs).
- **Issuance:** They can be issued as cards or wallets by banks and non-banks after obtaining necessary approvals from the RBI.
- **Types:** They are of two types– Small PPIs and Full KYC (Know Your Customer) PPIs.
 - **Small PPIs:** They are issued by the banks and non-banks after obtaining minimum details of the PPI holder. They can be used for purchase of goods and services from certain merchant locations, but fund transfer or cash withdrawal is not permitted.

Art & Culture

KASHI TAMIL SANGAMAM

Context: PM Modi has urged citizens to participate in the 4th Edition of the Kashi Tamil Sangamam, which will commence on December 2nd in Kashi (Varanasi).



About Kashi Tamil Sangamam:

- It is part of the Union Govt's 'Ek Bharat Shreshtha Bharat Yuva Sangam programme.' It aims to celebrate the many aspects of the **historical and civilizational ties between India's North and South**.
- The broader objective is to create an understanding of shared heritage and deepen the people-to-people bond between the North and South regions.
- **Nodal Ministry: Ministry of Education, in collaboration with other ministries** like Culture, Textiles, Railways, Tourism, etc., and the Govt of Uttar Pradesh.
- Implementing agencies: **IIT Madras and Banaras Hindu University**.
- It encompasses lectures covering literature, philosophy, spirituality, music, dance, yoga, and ayurveda.

- The endeavor is in sync with **NEP 2020's emphasis on integrating the wealth of Indian Knowledge Systems** with modern systems of knowledge.
- The Kashi Tamil Sangamam has been held annually since 2022.

Mythological Ties

- As per legend, **King Parakrama Pandya from the Madurai region in the 15th century traveled to Kashi** to acquire a lingam for constructing a grand Shiva temple. However, during his return, the cow carrying the lingam halted at a place. Considering this divine intervention, Parakrama Pandya installed the lingam there, and the site is now known as Sivakasi.
- To enable devotees who couldn't travel to Kashi, the **Pandya built the Kasi Viswanathar Temple in Tenkasi**, replicating the Kashi experience.
- In the 19th century, another king, **Adhivir Ram Pandyan constructed a Shiva temple in Tenkasi** after returning from a pilgrimage to Kashi, further solidifying the connection between these regions.

About sage Agasthyar:

- The 3rd Edition of the Kashi Tamil Sangamam (in 2024) was centered around the legacy of Sage Agasthyar.
- Agasthyar is a **revered sage in Hinduism**. He was an influential scholar in diverse languages of the Indian subcontinent. He is regarded in some traditions to be a **Chiranjivi** (immortal being).

- He and his wife **Lopamudra** are traditionally attributed as the authors of **many hymns in the Rigveda** and other Vedic literature.
- Agasthyar is considered to be the **father of Siddha system of medicine**. Agastya appears in numerous Itihasas and Puranas including the major **Ramayana and Mahabharata**.
- He is one of the seven most revered rishis (the **Saptarishi**) in the Vedic texts, and is referred to as “Tamil Siddhar” in the **Shaivite tradition**.
- He is credited with writing the earliest **grammar text in Tamil, “Agattiyam”**.
- He also played a key role in developing Shaivite centres in present-day Sri Lanka and South India. Depictions of him are found in ancient **sculpture and reliefs in Hindu temples of South Asia, and Southeast Asia**.

ADICHANALLUR ARCHAEOLOGICAL SITE

Context: The Madras high court has put an end to mining near the Adichanallur archaeological site.



About Adichanallur Archaeological Site:

- It is an ancient **Iron-age burial site** located in the **Thoothukudi District of Tamil Nadu**.
- It is situated along the banks of the **Tamirabarani River**.
- It holds significance in showcasing the **megalithic culture**.
- Additionally, the nearby ancient seaport of **Korkai**, mentioned in Sangam literature, is nearby.
- In 1903-04 British archaeologist **Alexander Rea** unearthed a treasure of over 9,000 objects in Adichanallur.
- Nearly 100 years later in 2004 and 2005 archaeologists found a lot of **iron objects**, and a **few copper objects but no bronze or gold**, as they were more focused on habitations.
- In October 2021 using the **Geological Survey of India (GSI) data** and clues discovered from Rea’s report, the ASI team zeroed in on the trenches to be dug.
- The recent excavations have yielded a wealth of materials, including **gold, metals and human remains**.
- Various Materials unearthed include **burial urns, 3000 years old Human skull, Bronze artefacts, Headgear, Spear, Arrowheads, Dog toy, Paddy**.
- Gold was an inland source from the region located north of the present northern borders of Tamil Nadu.
- Several gold workings are reported from the neighbourhood of the **Hutti gold mines**, the present Raichur district of Karnataka. Some of them have been dated to about 3,000 years ago.
- **Sanganakallu**, a Neolithic and Megalithic site near Ballari in Karnataka, has **yielded gold foils** but in small quantities and not from a burial context like at Adichanallur.
- From 1,000 BCE onwards since the beginning of the megalithic or Iron Age in south India, **gold was a traded commodity**. So it is not

surprising that it has been found in Adichanallur.

- Adichanallur is the **first archaeological site in Tamil Nadu where gold** was excavated.

Archaeological Survey of India (ASI)

- ✓ ASI is the premier organization for the archaeological research, scientific analysis, excavation of archaeological sites, conservation and preservation of protected monuments.
- ✓ It is an attached office under the Department of Culture, **Ministry of Culture**.
- ✓ ASI was founded in 1861 by **Alexander Cunningham** - the first Director-General of ASI.

Sangam Age

- ✓ The word 'Sangam' is the Tamil form of the Sanskrit word '**Sangha**' which means a **group of persons** or an association.
- ✓ The Sangam literature was largely consolidated from the **third Sangam** and throws information on conditions of life of people **around the beginning**.

HORNBILL FESTIVAL



- The Nagaland govt. is organizing the popular **Hornbill festival** from December 1 to December 10, 2025.
- The Hornbill Festival is also referred to as the "Festival of Festivals" in Nagaland as it showcases the vibrant culture, language

and traditions of the ethnic tribes of the state.

- It is an annual festival celebrated for the first ten days of December. The festival coincides with the **Statehood Day of Nagaland** (1st December), which adds to its significance.
- It is celebrated at the **Kisama Heritage Village**, located 12 km south of Kohima, the capital of Nagaland.
- It has enhanced the state's tourism brand by **attracting tourists from all over the world**, promoting cultural heritage, food and cuisine, music and architecture of the state.
- A key highlight of the festival is that it brings **17 major tribes of the state on a single platform**, displaying their folk dances, rituals, traditional attire, music and culture.

MAHAD SATYAGRAHA



- Mahad Satyagraha is often referred to as the **foundational event of the Dalit movement**. It was the first organized, large-scale protest where the Dalit community came together to assert their rights and demand equality.
- It took place in **March 1927** in Mahad, Maharashtra – under the **leadership of Bhimrao Ramji Ambedkar**. It was a protest against the discriminatory caste system and the denial of access to public water sources for Dalits.

- The Bombay Legislative Council passed a resolution in 1923 that granted Dalits the right to use public water sources, but this was not enforced on the ground due to opposition from upper-caste Hindus.
- On March 20, Ambedkar and his followers **marched to the Chavadar Tank**, where Dalits were prohibited from drawing water. Ambedkar drank water from the tank, symbolizing the rejection of untouchability and caste-based discrimination.
- In **December 1927**, **Ambedkar announced another protest in Mahad**, which was officially called a Satyagraha. A court injunction prohibited dalits from using the tank, but the satyagraha continued with nearly 4,000 participants.

NARSAPURAM LACE CRAFT



- Narsapuram is situated on the **bank of Godavari River** in the state of **Andhra Pradesh**.
- It is believed that the women of the farming community of this region started creating highly attractive artefacts from colourful lace, about 150 years ago.
- The craft has survived the Indian famine (1899) and the Great Depression (1929). By

the early 1900s, above 2,000 women were involved in the craft in the Godavari region.

- **Raw Materials used:** Primarily uses fine cotton threads in various thicknesses and colors.
- Artisans also incorporate silk, rayon, or synthetic threads for decorative pieces, with beads and sequins added to enhance export-quality designs.
- **Tool used:** The main tool is the crochet hook, available in different sizes to create diverse patterns and textures.
- **Design:** This craft showcases intricate floral, geometric, and paisley patterns inspired by nature and traditional motifs.
- Narsapur's famed hand-made crochet industry produces doilies, pillow covers, cushion covers, bed spreads, table-runners, and table cloths etc.
- It was recognized with the **Geographical Indication tag**

TANJAVUR PAINTING



- It is a classical South Indian art form originating in the town of Thanjavur (Tanjore), Tamil Nadu, around 1600 AD.
- Tanjore or Thanjavur paintings are created on wooden panels, commonly known as **palagai padam**.
- It flourished under the **Nayakas of Thanjavur**.
- It has received the Geographical Indication tag.

Features of Thanjavur Painting

- Tanjore paintings are traditionally created on **canvas affixed to wooden planks**, typically made from jackfruit or teak, and bound with Arabic gum.
- **Rich Colors:** These paintings are known for their vibrant colors. They often use bright shades of red, blue, green, and gold leafwork to create an opulent effect.
- **Gesso Work:** One of the unique features of Tanjore paintings is the use of gesso work. Gesso is a mixture of chalk, gypsum, and glue applied to the surface to create embossed patterns and motifs.
- **Theme:** Tanjore paintings typically depict Hindu gods and goddesses, especially figures like Lord Krishna, Lord Ganesha, and Goddess Lakshmi.
- **Gold Leaf:** Gold foil or leaf is extensively used in Tanjore paintings to embellish the artwork.

DEEPAVALI

Context: Deepavali has been inducted as the 16th item from India in the UNESCO List of Intangible Cultural Heritage.



About Deepavali:

- Deepavali, also known as **Diwali**, is the festival of lights celebrated across India.
- 'Deepa' means lamp or light and 'Vali' means string or row, and Deepavali means rows of lights.
- It is celebrated on Kartik Amaavasya, which typically falls in October or November.
- The fundamental philosophy of Deepavali encompasses the celebration of prosperity, renewal, and abundance for all individuals.
- It is added as the **16th Indian element on UNESCO's List of the Intangible Cultural Heritage of Humanity**.

Celebration of Deepavali:

- It begins with **Dhanteras**, a day of auspicious beginnings when families buy new metalware or essentials that symbolize prosperity.
- The second day marks **Naraka Chaturdashi**, observed with rituals and lighting lamps to dispel negativity and welcome positive energy.
- The third day is the highlight of Deepavali- the sacred **Lakshmi-Ganesha Puja**.
- On the fourth day, families and friends visit one another, exchange gifts, and reconnect, strengthening their bonds and shared happiness.
- The celebrations conclude with **Bhai Dooj**, a heartfelt tribute to the bond between brothers and sisters, observed with prayers, blessings, and meaningful rituals.

UNESCO Representative List of the Intangible Cultural Heritage of Humanity

- ✓ The **UNESCO Representative List of the Intangible Cultural Heritage** of Humanity highlights and preserves living cultural traditions, practices, and expressions that communities value as part of their identity.

What it does:

- ✓ Recognises and safeguards living cultural traditions practised by communities worldwide.
- ✓ Aims to promote cultural diversity, identity, and continuity of heritage.
- ✓ Encourages international cooperation for preserving intangible cultural heritage.
- ✓ Includes festivals, rituals, performing arts, traditional crafts, oral traditions, and community practices.
- ✓ Helps raise global awareness about the importance of protecting cultural knowledge and traditions.
- ✓ Ensures that these heritage elements are transmitted to future generations sustainably.

PONDURU KHADI

- Ponduru Khadi, is a famous **handspun and handwoven cotton fabric** from **Andhra Pradesh**.
- It is locally known as **Patnulu** and is produced in Ponduru village in **Srikakulam district**.
- It has been nominated for the **One District One Product (ODOP) scheme** from the **Srikakulam district**.
- During the pre – independence era Mahatma Gandhi mentioned its virtues in his Young India (the national weekly that Gandhiji edited).
- **Production:** It is produced from one of three types of cotton: hill cotton, punasa cotton, or red cotton.

- **Cotton Source:** Cotton is indigenous to Srikakulam district and is grown in and around **Ponduru**.
- **Process:** The entire process, from cotton to fabric, is carried out manually.
- **Cleaning:** The process of cleaning the cotton with the **jawbone of Valuga fish** is unique to Ponduru khadi and is not practiced anywhere else in the world.
- **Spinning:** Ponduru is the only place in India where **spinners still use single-spindle charkhas with 24 spokes**, also known as the “**Gandhi Charkha**”.
- **Yarn Count:** The final textile has a very high yarn count, around 100-120 counts.
- Recently Ponduru Khadi has been awarded the **geographical indication tag**.



RAMAPPA TEMPLE



- It is also known as the **Rudreshwara temple**, is a **Kakatiya style Hindu temple** dedicated to the god Shiva, located in Telangana.
- **Patronage:** The medieval Deccan Ramappa Temple which dates back to 1213 AD, was built by the patronage of the Kakatiya ruler Kakati Ganapathi Deva under the authority of his Chief Commander Rudra Samani.
- The temple got its name Ramappa because of its chief sculptor Ramappa. **Ramappa Temple is probably the only temple in India that is named after the architect.**

Architectural features:

- **Earthquake-proof:** Made out of clay mixed with acacia wood, chaff and myrobalan fruit (a family of amla), the bricks used in building the gopuram of the temple are light enough to float on water. Using this technique has made the temple light, meaning, in case of a natural event like an earthquake, the probability of it collapsing would be very low.
- **Sandbox technique:** The temple construction was done using the sandbox technique. This is a technique where the foundation pit is filled with a mixture of sand-lime, jaggery and black myrobalan fruit. This mix acts as a cushion in case of earthquakes.
- The temple's many carved pillars are positioned in such a way that when the sunlight hits these pillars. One of the pillars has a Lord Krishna carved into it. When gently hit, the pillar produces musical notes.
- In 2021, the temple was inscribed as a **UNESCO World Heritage Site** as Kakatiya Rudreshwara (Ramappa) Temple, Telangana.

NATYASHASTRA



- It is an **ancient Sanskrit treatise on performing arts**.
- The title is a combination of two Sanskrit words – Natya and Shastra.
- Natya refers to the technique of dance and drama, and shastra refers to science.
- It was composed by the **sage Bharata Muni**.
- It has been dated to between the **second century BCE and the second century CE**.
- It is the earliest known treatise on performative arts in South Asia.
- Its primary importance lies in its justification of Indian drama as a vehicle of religious enlightenment.
- It comprises around 36,000 verses detailing drama (natya), performance (abhinaya), music (sangita), emotions (bhava), and aesthetic experience (rasa).
- One of the text's most profound contributions is the **articulation of the concept of Rasa**, the essential emotional essence that lies at the heart of any great work of art.
- Bharata Muni identified **eight primary Rasas** - Shringara (love), Hasya (humor), Karuna (compassion), Raudra (anger), Veera

(heroism), Bhayanaka (fear), Bibhatsa (disgust), and Adbhuta (wonder).

- He also explained how the skilled performer, through the skillful deployment of bhava (emotional expression), could evoke these sentiments in the audience.
- **UNESCO** added Natyashastra to its **Memory of the World Register**, recognizing its global cultural significance.

MONUMENTS OF NATIONAL IMPORTANCE

Context: The Govt. provided a reply in Parliament on the activities undertaken for conservation of monuments of national importance.



About Monuments of National Importance (MNI):

- MNIs in India are legally protected under the Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958.
- This act **empowers Union Govt. to declare** certain monuments as MNIs through official notifications in the Gazette of India.
- It mandates protection, preservation and maintenance of MNIs to ensure their integrity and authenticity for future generations.
- **Act empowers Union Govt. to appoint authorities**, such as Archaeological Survey of India (ASI), to oversee the protection and management of MNIs.

Key Features of MNI Protection:

- Act prohibits certain activities within the precincts of MNIs, such as construction, excavation, & removal of artifacts, without prior approval from the relevant authorities.
- **Within a 100-meter radius of the monument, construction activities are prohibited** to prevent encroachment & damage. An additional 200-meter radius (100 + 200 meters) constitutes a regulated area where construction is subject to specific regulations to maintain the monument's surroundings.
- The Act requires the **maintenance of records and registers** documenting the history, conservation, and management of MNIs.

Process of Monument Delisting:

- Once delisted, monuments are no longer subject to ASI conservation efforts, allowing for regular construction activities in the vicinity.
- **Section 35 of the AMASR Act empowers the Union Govt. to delist of monuments** deemed to have lost national importance.
- The delisting process involves official notifications, with a 2-month public feedback period to address objections.

AMASR Act 1958:

- ✓ It provides for:
 - Preservation of monuments, archaeological sites & remains of national importance, which are over 100 years old
 - Regulation (of archaeological excavations)
 - Protection (of sculptures, carvings and other like objects.
- ✓ Archaeological Survey of India (ASI) functions under this act.

- ✓ ASI currently has 3,675 monuments under its purview.

INDIA'S LARGEST CIRCULAR STONE LABYRINTH

Context: Archaeologists recently discovered a circular stone labyrinth in the Boramani grasslands of Solapur, Maharashtra, identified as the largest of its kind ever recorded in India.



About India's Largest Circular Stone Labyrinth:

- It was discovered in the **Boramani grasslands** of Solapur, Maharashtra.
- It is approximately **50 feet by 50 feet** in size and has **15 concentric circles** formed from small stone blocks.
- The rings guide movement inward toward a **tightly coiled spiral** at the center, creating a design that reflects both precision and symbolic intent.
- This structure dates back to **nearly 2,000 years ago** and is **linked to Indo-Roman trade** during the **Satavahana dynasty period**.
- The presence of soil accumulation between the stone rings shows that this structure has remained untouched for several centuries.
- Its design resembles **classical labyrinth forms found in Mediterranean cultures**, including motifs seen on Roman-era coins,

while also incorporating a central spiral associated in India with the concept of the **Chakravyuh**.

- The **Chakravyūha** is a complex military formation described in the Hindu epic Mahabharata, designed to encircle and overwhelm enemies through multiple defensive layers.
- Before this discovery, the largest known circular labyrinth in India had **11 circuits**, making the Solapur example unprecedented in terms of circular complexity.
- Although there is a **larger square labyrinth in Gedimedu in Tamil Nadu**, this newly documented site is **the largest circular stone labyrinth identified in the country to date**.

Mazes vs. Labyrinths:

- Labyrinths and mazes are not the same; however both are patterns for a path from the entrance to the centre.
- Mazes are a kind of **puzzle with multiple paths and decision points**, and sometimes high walls.
- **Labyrinths**, by contrast, are **unicursal**: a single path twisting and turning through several concentric circles or circuits to arrive at a central goal, without walls or other obstructions to visibility.
- There are **no "wrong turns" in a labyrinth**.
- Labyrinths and/or labyrinth carvings in rock and stone date back more than 4,000 years.
- There are labyrinths etched in Roman mosaics, in caves, cliffs, and tombs, on stone floors of medieval churches, and cut into turf.

JNANPITH AWARD

Context: Jnanpith Award winner Vinod Kumar Shukla dies at 88.



About Jnanpith Award:

- Jnanpith Award is **India's highest literary honour**.
- Its name has been taken from Sanskrit words Jnana and Pitha which means knowledge-seat.
- It was **instituted in 1961 by Bharatiya Jnanpith trust** founded by the Sahu Shanti Prasad Jain family that owns the Times of India newspaper group.
- It is bestowed **upon any Indian citizen who writes in any 22 official languages of India mentioned in VIII Schedule of Constitution of India and English**.
- Prior to 1982, the award was only given for a single work by a writer.

- But after 1982, the award is given for lifetime contribution to Indian literature.
- The award carries cash prize of 11 lakh rupees, a citation plaque and a bronze replica of Saraswati, the Hindu goddess of knowledge and wisdom.
- Urdu poet Gulzar and Sanskrit scholar Jagadguru Rambhadracharya were selected for the 58th Jnanpith Award.
- The first recipient of the award for Malayalam poet **G. Sankara Kurup**.

Environment

GREAT NICOBAR PROJECT

Context: An article in today's edition of The Hindu criticizes the potential environmental impacts of the Great Nicobar Project.



About Great Nicobar Project:

- It is a **multi-development initiative** aimed at the holistic development of **Great Nicobar Island**, a strategic location in the southern end of the Andaman and Nicobar Islands.
- It was cleared by the **Ministry of Environment, Forests and Climate Change** in 2022 and is part of a broader strategy to enhance India's strategic presence and infra in the region.
- The project is expected to be developed over 30 years in a phased manner.
- Great Nicobar is the **southernmost island in the Andaman and Nicobar group**, separated from the Andaman Islands by the **Ten Degree Channel**.
 - It is also home to **Indira Point**, India's southernmost point, located < **150 km from Indonesia**.
- The island features **tropical wet evergreen forests**, mountain ranges up to **650 meters high**, and coastal plains.
 - It also houses **two national parks** (Campbell Bay National Park and

Galathea National Park) and a **biosphere reserve** (Great Nicobar Biosphere Reserve), supporting endangered species like the **leatherback sea turtle**.

- Tribal population:** The island is home to the **Shompen**, a hunter-gatherer tribe, and the **Nicobarese**.

Objectives:

- Strategic importance:** The project is designed to **counter expansionist activities** by neighbouring countries, particularly China, and to **safeguard India's maritime interests** by curbing illegal activities like poaching by Myanmar fishers.
- Infrastructure development:** The project is valued at **₹72,000 crore** and includes key infrastructure such as the development of an **international container trans-shipment terminal**, a **greenfield international airport** with dual military-civilian functions, **township development**, and a 450 MVA power plant (gas and solar-based).

Environmental and seismic issues:

- Deforestation:** Approximately **13,075 hectares of forest land**, or **about 15%** of the island's area, is slated for diversion, with nearly **9.64 lakh trees** expected to be felled.
- Seismic risks:** The region is seismically active, having experienced a major earthquake (**9.2 on the Richter scale**) in **2004**.
 - Experts suggest a similar event may not occur for another 400-750 years, though smaller quakes are anticipated.
 - The project will adhere to the National Building Code for earthquake-resistant structures.

BUXA TIGER RESERVE

- It is located in the Jalpaiguri district of **West Bengal**.
- Its northern boundary runs along the international border with Bhutan.
- The fragile **"Terai Eco-System"** constitutes a part of this reserve.
- It serves as an international corridor for elephant migration between India and Bhutan.
- The reserve has corridor connectivity across the border with the forests of Bhutan in the North, on the East it has linkages with the Kochugaon forests, Manas Tiger Reserve and on the West with the Jaldapara National Park.
- **Rivers:** Two rivers, namely the River Raidak and the River Jayanti, flow through the forest of Buxa.
- **Vegetation:** The forests of the reserve can be broadly classified as the 'Moist Tropical Forest'.
- **Flora:** Some of the important species are Sal, Champa, Gamar, Simul, and Chikrasi.
- **Fauna:** The main species include the Tiger, elephant, leopard cat, gaur, wild boar, sambar, hog deer, Chinese pangolin, etc

**SULTANPUR NATIONAL PARK**

- Sultanpur National Park is located in the **Gurgaon district in Haryana, 46 km from Delhi**.
- It consists primarily of marshy lakes and floodplains.
- It includes a core area of 1.21 sq. km containing the main Sultanpur Lake/Jheel.
- The Sultanpur Jheel is a seasonal freshwater wetland with fluctuating water levels throughout the year.
- This shallow lake is mostly fed by waters from **River Yamuna's** Gurgaon canal and the overflowing waters of the neighboring agricultural lands.
- It gained national attention in the late 1960s due to the conservation efforts of ornithologists Peter Michel Jackson and Dr. Salim Ali, who frequently visited the site for birding.
- It was recognised as a **Ramsar site** in 2021.
- It has been identified as an **Important Bird Area by BirdLife International**.

Flora:

- The vegetation of this park is tropical and dry deciduous, and the flora includes grasses, dhok, khair, tendu, ber, jamun, banyan tree, neem, berberis, Acacia nilotica, and Acacia tortilis.

Fauna:

- Over 320 bird species have been recorded at Sultanpur, making it a vital wintering ground.
- It forms a part of the 'Central Asian Migratory Flyway' and thousands of migratory birds from the countries of Russia, Turkey, Afghanistan, and Europe visit the park during the winter months.

- **Winter Migrants:** Greater Flamingos, Northern Pintails, Eurasian Wigeons, Common Teals, and Bar-headed Geese.
- **Resident Birds:** Indian Peafowl, Red-wattled Lapwings, Cattle Egrets, and White-throated Kingfishers.
- **Rare/Threatened Species:** Sarus Crane, Black-necked Stork, and Indian Courser have been recorded here.
- Other faunal species, such as Nilgai, Sambar, Golden jackals, wild dog, striped hyenas, Indian porcupine, mongoose, etc., are also found here.

NATIONAL TIGER CONSERVATION AUTHORITY

Context: The Union Environment Minister recently chaired a high level joint meeting of the National Tiger Conservation Authority.



About National Tiger Conservation Authority:

- It is a **statutory body** under the **Ministry of Environment, Forest, and Climate Change (MoEFCC)**.
- It was **established in 2006** under **Wildlife (Protection) Act 1972**.

Objectives:

- Providing **statutory authority to Project Tiger** so that compliance of its directives becomes legal.

- Fostering accountability of Center-State in management of Tiger Reserves by providing a basis for MoU with States within the federal structure.
- Providing for an **oversight by Parliament**.
- **Addressing livelihood interests of local people** in areas surrounding Tiger Reserves.

NTCA Composition:

- Minister in charge of MoEFCC (as Chairperson),
- Minister of State in MoEFCC (as Vice-Chairperson),
- three members of Parliament, the Secretary (MoEFCC), and other members.

Tiger

- Royal Bengal Tiger (**Panthera Tigris**) is the **National animal of India**.

Habitat: Tropical rainforests, evergreen forests, temperate forests, mangrove swamps, grasslands, and savannas.

Countries Where Tiger Population Is Found:

- Found only in **13 Tiger Range countries** – India, Nepal, Bhutan, Bangladesh, Myanmar, Russia, China, Thailand, Malaysia, Indonesia, Cambodia, Laos, and Vietnam.
- As per the latest report by **IUCN**, the **tiger has gone extinct in Cambodia, Laos, and Vietnam**.

Protection Status:

- **IUCN Red List:** Endangered
- **CITES:** Appendix I
- **WPA 1972:** Schedule I

Conservation Efforts

- **International Big Cats Alliance (IBCA):** For conservation of seven big cats, namely Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, and Puma (Launched by India)

- **Tx2 campaign:** Launched by WWF; stands for 'Tiger times 2', signaling the goal to **double the tiger population by 2022**.
- **Project Tiger:** Launched in 1973
- **Tiger Census:** Every 4 years

Threats: Habitat loss, Poaching and illegal trade, Human-Wildlife conflict

Tigers In India

- India has the **largest population**
- Largest population has been found in Central Indian Highlands & Eastern Ghats Landscape
- **Tiger Reserves:** India now has **57 tiger reserves**
- Ratapani Tiger Reserve in Madhya Pradesh is the latest.
- Nagarjunsagar (Andhra Pradesh) is the largest, while Bor (Maharashtra) is the smallest.

FOREST CONSERVATION ACT OF 1980 (FCA)

Context: The Act has recently been in the news due to the proposals for mining projects in the Aravallis and the expected loss of forest cover as a result of it.



About FCA 1980:

- It **applies to all kinds of forests**, whether under control of Forest or Revenue Dept. & mandates **statutory clearance before**

forests can be used for any non-forest purpose.

- Mandates that diversion of forests for non-forestry purposes can **only be approved by union govt.**
- Requires **payment of compensation for loss of forest cover** due to diversion of forestland. Amount of compensation is **based on net present value of diverted forestland** & funds collected are utilized for afforestation and reforestation activities.
- Mandates that state govts and tribal communities be consulted before approving diversion of forestland.
- Act requires that **equal area of non-forest land be afforested/reforested** as a compensatory measure for loss of forestland due to diversion.
- **Recognition to "deemed forests"** - areas not officially classified as forests but have forest-like characteristics and are ecologically sensitive.

Forest Advisory Committee (FAC):

- Statutory body of the Ministry of Environment Forests and Climate Change formed under the FCA
- It considers questions on diversion of forest land for non-forest uses and **advises union govt on issue of granting forest clearances.**
- For forest land beyond 5 hectares, approval for diverting land must be given by union govt via the FAC.

2023 Amendment to FCA:

- It seeks to **limit applicability of FCA only to land recorded as 'forest'**.
 - This **nullifies the SC verdict in the Godavarman Thirumalpad case (1996)**, which stated that "forests" were to be read as per dictionary

meaning and not just include areas which were officially recorded as forests.

- Now, only two types of land under purview of FCA: (i) land **notified as a forest under Indian Forest Act, 1927** or any other law, or (ii) land **notified as a forest after Oct. 25, 1980 in a govt record.**
- It exempts certain types of forest land from the provisions of FCA:
 - Along a **rail line or public road** maintained by govt, providing **access to a habitation** up to a maximum size of 0.10 hectare.
 - Within **100 km from borders** for constructing linear projects concerning national security.
 - Up to 10 hectares, for building **security-related infra.**
 - Constructing defense projects, **camps for paramilitary forces**, or public utility projects up to 5 hectares in **LWE affected areas.**
- States require approval of union govt to assign forest land to any entity not owned or controlled by the govt.
- Certain activities to be **excluded from definition of “non-forest purposes”**:
 - Conservation, management, & development of forest and wildlife such as establishing check posts, fire lines, fencing, and wireless communication.
 - Zoos and safaris
 - Ecotourism facilities
 - Silvicultural operations
 - Any other purpose specified by union government.

IUCN SPECIES SURVIVAL COMMISSION



- **Indian wildlife conservationist Vivek Menon** has been elected as the Chair of the IUCN Species Survival Commission (SSC) for 2025–2029. He is the first Asian to head the Commission in its 75-year history.
- The SSC is the **most influential scientific network of the International Union for Conservation of Nature (IUCN)**, dedicated to conserving species and halting biodiversity loss.
- It was **established in 1949**, alongside the formation of IUCN. It functions as one of the six expert Commissions of IUCN and works closely with national govts, NGOs, and research bodies.

Aims of SSC:

- Prevent species extinctions & support recovery of threatened species.
- Ensure that use of biodiversity is equitable and sustainable.
- Integrate science, policy, and on-ground action for conservation.

Functions of SSC:

- **IUCN Red List:** Provides scientific assessments categorising species as Endangered, Vulnerable, etc.
- **Knowledge generation:** Tracks status and trends of species across regions

- **Policy and guidelines:** Develops global conservation standards and best-practice frameworks
- **Conservation planning:** Supports species recovery plans, habitat management, and reintroductions.

LANTANA CAMARA



- It is an annual or perennial, small, broadleaf evergreen shrub in the verbena family.
- It is an **invasive alien plant species**.
- It is **native to the tropical and sub-tropical regions of Central and South America**.
- It is an **exotic weed** that aggressively proliferates and forms a dense mesh of bushes.
- In India, it was first introduced in the early 18th century as an ornamental plant by the British and since then, it has invaded almost all the tropical areas across the country.

Impact on Environment

- Lantana grows in a notoriously aggressive way, releasing chemicals into the soil that suppress other vegetation.
- Its leaves, flowers, and berries contain toxins that make them harmful to livestock.
- Its roots dig deep into the soil and spread wide in search of water and nutrients.
- Its timber is used for making furniture and also as fuelwood, etc.

Its biomass can be used to produce organic compost and vermicompost, which will be better for organic farming.

BIODIVERSITY CREDIT



- **Definition:** World Economic Forum defines Biodiversity Credits as verifiable, quantifiable and tradeable financial instrument that rewards positive nature and biodiversity outcomes through the creation and sale of either land or ocean-based biodiversity units over a fixed period.
- **Goal:** They are designed as innovative financing mechanisms to attract private investments in conserving and restoring biodiversity.

Mechanism:

- Just like carbon markets, they generate funds by selling credits, with proceeds being directed towards biodiversity protection and restoration.
- Credits are generated by non-profit organisations, governments, landowners or companies, which are purchased by private companies to meet their biodiversity commitments.
- **Examples:** Common biodiversity credit schemes include ValueNature, Terrasos, CreditNature, GreenCollar.
- **Market Value Estimation:** As per the World Economic Forum, the current value of

biodiversity credit market is \$8 million, with projections indicating a surge to \$2 billion by 2030 and \$69 billion by 2050.

Biodiversity Credit Alliance

- It is a voluntary international alliance that supports the realisation of the Kunming-Montreal Global Biodiversity Framework, specially Targets 19(c) and (d)
- These targets encourage the private sector to invest in biodiversity, utilising biodiversity credits.
- It was launched at the 15th Conference of Parties to the UN Convention on Biological Diversity in 2022.
- **Mission:** To develop biodiversity credit market by building a framework of high level, science-based principles.



CSB IAS ACADEMY
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Science & Technology

DHRUV64

Context: India recently unveiled its first indigenously developed microprocessor DHRUV64.



About DHRUV64:

- It is a **fully indigenously developed microprocessor** of India.
- It is developed by the **Centre for Development of Advanced Computing (C-DAC)** under the **Microprocessor Development Programme (MDP)**.
- **Processor Core & Speed:** It is a **64-bit dual-core processor** running at 1.0 GHz, giving it the ability to handle multiple tasks smoothly.
- **Execution Method:** It uses **superscalar execution**, which allows the processor to start more than one instruction in the same moment for better speed.
- **Instruction Handling:** It supports out-of-order processing, meaning it can complete instructions that are ready first, improving overall efficiency.
- **Packaging & Integration:** It includes built-in communication and control functions inside an advanced FCBGA package, making the chip compact and ready for use in many systems.

Potential Applications:

- It is capable of supporting strategic and commercial applications.
- DHRUV64 is suitable for sectors such as **5G infrastructure, automotive systems, consumer electronics, industrial automation and the Internet of Things (IoT)**.
- It provides homegrown microprocessor technology designed for startups, academia, and industry to build, test, and scale indigenous computing products without relying on foreign processors.
- DHRUV64 supports prototype development for new system architectures at lower cost.

AH-64E APACHE ATTACK HELICOPTER

Context: The Indian army has received the final batch of three AH-64E Apache attack helicopters.



About AH-64E Apache Attack Helicopter:

- It is the **world's most advanced multi-role combat helicopter**.
- It is widely used for **advanced reconnaissance, precision strikes, and close air support missions** globally.
- **Country of Origin:** United States
- **Manufacturer:** Boeing

- It is also known as the **Apache Guardian**.
- The AH-64E attack helicopter is the latest version of the Apache used by the US Army.
- **Other purchasers:** India, Egypt, Greece, Indonesia, Israel, Japan, South Korea, Kuwait, Netherlands, Qatar, Saudi Arabia, Singapore, UAE, and UK.
- **Apache for Indian defence forces:** The Indian Air Force has a fleet of 22 AH-64E Apache attack helicopters, and in 2020, Boeing signed an agreement with the Government of India for the acquisition of six more Apache helicopters for the Indian Army.

Features:

- **Length:** 17.8 m
- **Max Speed:** 300 kph
- It has a maximum operating weight of 10,432 kg and can climb up to more than 2,800 feet per minute.
- It is a heavily armed, **twin-engine** ground-attack helicopter.
- Armed with **Hellfire missiles**, 70 mm rockets, and a 30 mm chain gun, the helicopter can engage tanks, vehicles, troop concentrations, communications and logistics centres, etc.
- It can also fire **short-range air-to-air missiles** like the Stinger.
- The AH-64E includes a new integrated **infrared laser** that allows for easier target designation and enhanced infrared imagery that blends infrared and night vision capabilities.
- It can track up to 128 targets per minute and prioritise threat levels.

NITROFURANS

- Nitrofurans are **synthetic broad-spectrum antibiotics**.
- There are four parent compounds that comprise the nitrofuran class: furazolidone, furaltadone, nitrofurazone, and nitrofurantoin.

- The defining structural component is a furan ring with a nitro group.
- These were **once widely used in poultry, pigs, shrimp and other livestock** because they are cheap and highly effective.
- These are synthetic chemotherapeutic agents with a broad antimicrobial spectrum.
- They are **active against both gram-positive and gram-negative bacteria**, including Salmonella and Giardia spp, trichomonads, amebae, and some coccidial species.
- They are **much more active in acidic environments** (a pH of 5.5 is optimal for nitrofurantoin activity).
- They are primarily **bacteriostatic**, but at high doses they are also bactericidal.

Impacts on Human Health

- **Carcinogenic potential:** Some nitrofurans have shown carcinogenic effects in animal studies.
- **Toxicity concerns:** Potential toxicity and side effects in humans, particularly with prolonged use or high doses.

INS TARAGIRI



- INS Taragiri is the **fourth ship of the Nilgiri-class (Project 17A) frigates** of the Indian Navy. It is designed as a versatile, multi-mission platform for meeting present and future maritime challenges.

- Taragiri has an impressive **75% indigenous content**, showcasing India's expanding defence manufacturing ecosystem.
- Taragiri is powered by a **Combined Diesel or Gas (CODOG) propulsion** system. This consists of both diesel engines and a gas turbine, allowing flexibility in speed and fuel efficiency.
- A state-of-the-art **Integrated Platform Management System (IPMS)** ensures centralised and automated control of ship systems.

 Project 17A is an initiative to build seven advanced stealth frigates as successors to the Shivalik-class (Project 17). These seven ships are: Nilgiri, Udaygiri, Taragiri, Mahendragiri, Himgiri, Dunagiri, and Vindhyagiri.

KAVACH SYSTEM

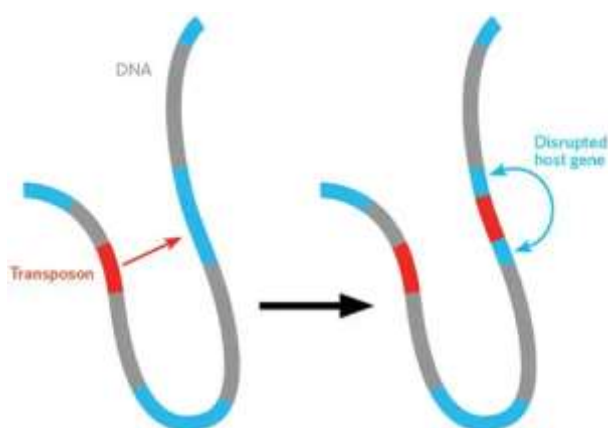


- Kavach is an **indigenously developed Automatic Train Protection (ATP) system designed to enhance railway operational safety**.
- It has been developed by the **Research Design and Standards Organisation (RDSO) under Indian Railways (IR)** in collaboration with Medha Servo Drives Pvt Ltd, HBL Power Systems Ltd, and Kernex Microsystems.
- Kavach is a highly complex digital safety ecosystem consisting of five major integrated

components, including continuous Optical Fibre Cable (OFC) laid along tracks and telecom towers for uninterrupted communication.

- The system uses a combination of electronic devices and Radio Frequency Identification (RFID) installed in locomotives, signalling systems, and railway tracks, which communicate using ultra-high radio frequencies.
- Based on pre-programmed safety logic, Kavach can alert loco pilots, automatically apply brakes, and prevent unsafe train movements.
- Field trials have been ongoing since 2016 on passenger trains before large-scale deployment.
- As of December 2025, Indian Railways has:
 - Laid 7,129 km of Optical Fibre Cable (OFC)
 - Installed 860 telecom towers
 - Connected 767 railway stations to data centres
 - Deployed trackside equipment along 3,413 km
 - Equipped 4,154 locomotives with Kavach
 - Around 40,000 technicians and operators have been trained, highlighting the technological sophistication of the system.
- **Consequential railway accidents have reduced by nearly 90%**, declining from 135 incidents in 2014 to about 11 currently, indicating tangible safety outcomes.

JUMPING GENES



- Jumping genes are **segments of DNA that can move from one position to another within the genome**, i.e., they can change their location in the DNA sequence. Jumping genes **move with the help of special enzymes** that allow them to cut, copy, or insert DNA.
- They **increase genetic diversity** by creating changes in the genome. These changes help populations adapt to changing environments.
- Jumping genes are **found in almost all living organisms** - including plants, animals, and humans.
- They are **used to introduce desired genes** into plants, animals, or cells for research. They are also being studied for gene therapy, where they may help in the treatment of genetic disorders.
- There are **two main types** of jumping genes - called DNA transposons and retrotransposons. **Each type moves in a different way** within the genome.
 - **DNA transposons** move by cutting themselves out of one location and inserting into another location in the DNA. This process is known as the cut-and-paste mechanism.
 - **Retrotransposons** move by making a copy of themselves through an RNA intermediate. The

original remains in place while the copy inserts into a new position.

MICROMETEORIDS

- Micrometeoroids are typically **extremely small**, with sizes ranging from a few micrometres (a millionth of a meter) to up to about two millimetres
- Most of them **originate from collisions between asteroids in the Asteroid belt (between Mars and Jupiter) with a small portion coming from comets.**
- **Distribution:** They exist everywhere in space, but due to the Earth's gravity pull their distribution is slightly higher near our planet.
- The micrometeoroids in Earth's orbital environment are effectively uncountable and they deliver billions of impacts to orbiting spacecraft annually.



Orbital Debris

- They are also called **space debris, space junk or space trash.**
- They consist of human-made objects in the Earth's orbit which no longer serves any useful purpose.
- All orbital debris originated primarily from exploded rocket stages, satellites, accidental collisions and intentional anti-satellite weapon tests.
- The typical average speed of orbital debris is about 10 km/s.

- Orbital debris is mostly concentrated in a “shell” around the Earth in Low earth Orbit (LEO) ranging from about 200 km up to 2,000 km altitude.

EKAM AI AND SAMBHAV



- It is a **fully indigenous and secure artificial intelligence platform designed for sensitive environments.**

Features of Ekam AI

- It enables users to analyse information, manage documents, and support decision-making without dependence on foreign software or external cloud systems.
- It allows personnel at different levels to leverage AI-enabled support without requiring specialised technical expertise.
- Significance:** It ensures complete data security and sovereignty, Ekam AI marks a significant step towards building trusted national digital systems.

About SAMBHAV

- It is a **portable communication system that provides mobile connectivity using satellite support.**
- Features:** The system can be deployed quickly in remote or disaster-affected areas, improving communication for both soldiers and civilians.

- Significance:** The project highlights how defence innovation can also strengthen national communication infrastructure

HERON UAV



- Heron is a family of **medium-altitude, long-endurance (MALE) unmanned aerial systems (UAS)** developed by **Israel Aerospace Industries (IAI)**. It is used globally for intelligence, surveillance, target acquisition, and reconnaissance (ISTAR) missions
- It can fly for up to 52 hours at an altitude of up to 35,000 feet.** With satellite communication, **its range exceeds 1,000 km.** It can carry a variety of sensors simultaneously, such as infrared cameras and radar systems, with a standard payload capacity of up to 250 kg.
- The **Indian Armed Forces use Herons for surveillance along borders.** Plans exist to upgrade and arm the fleet and **procure additional Heron Mk II drones.**

Variants:

- Heron 1:** The base model, also known as Machatz-1, has extensive operational flight hours.
- Heron Mk II:** An upgraded version with improved range, speed, and payload capacity.

- **Heron TP (IAI Eitan):** It has a heavier payload capacity (over 1000 kg) and a higher altitude ceiling (45,000 feet).

HIV/AIDS



- Acquired immunodeficiency syndrome (AIDS) is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV).
- **HIV attacks the body's immune system, making a person more vulnerable to other infections and diseases.**
- **If HIV is not treated, it can lead to AIDS.**

Transmission:

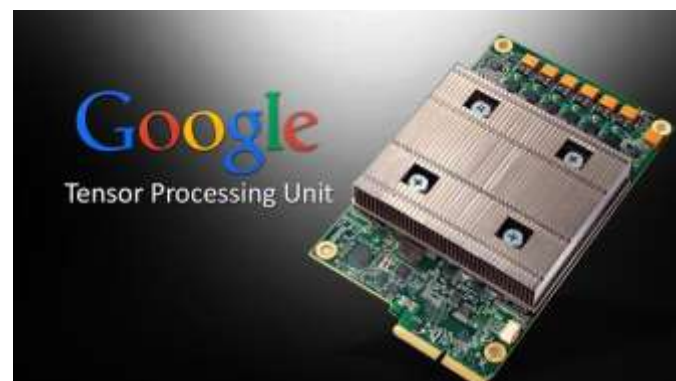
- It is a **sexually transmitted infection (STI)**.
- It can also be spread by contact with **infected blood, and from illicit injection drug use, or sharing needles.**
- It can also be **spread from mother to child during pregnancy, childbirth, or breastfeeding.**

Treatment:

- There is currently **no effective cure**.
- Once people get HIV, they have it for life.
- But with proper medical care, **HIV can be controlled**. People with HIV who get effective HIV treatment (called antiretroviral therapy, or ART) can live

long, healthy lives and protect their partners.

TENSOR PROCESSING UNIT



- A TPU is a specialized chip designed to accelerate AI and machine learning (ML) tasks.
- Unlike traditional computer processors (CPUs) or graphics processing units (GPUs), TPUs are specifically built to handle the complex calculations required for deep learning models.
- TPUs were developed by Google in 2016 to improve the performance of their AI applications, such as Google Search, Google Translate, and Google Photos.
- Since then, TPUs have become a key component in AI infrastructure and are widely used in data centers and cloud computing.

Working of TPUs Work

- AI models rely on a type of mathematical operation called tensor computation.
- A tensor is a multi-dimensional array of numbers, similar to a table of data.
- Deep learning models use these tensors to process large amounts of information and make predictions.
- TPUs are optimized for tensor computations, allowing them to process large datasets much faster than CPUs or GPUs.
- They achieve this through:

- **Massive parallelism:** TPUs can perform many calculations at once, making them highly efficient.
- **Low power consumption:** Compared to GPUs, TPUs use less energy while delivering high performance.
- **Specialized circuits:** TPUs have circuits specifically designed for AI workloads, reducing the need for unnecessary computations.
- While CPUs are great for general tasks and GPUs are an excellent choice for gaming and AI, TPUs are specifically designed to make AI models work faster and more efficiently.

BRAIN-COMPUTER INTERFACE (BCI)



- A Brain-Computer Interface (BCI) is a system that **enables direct communication between the brain and an external device, such as a computer or robotic limb.**
- It decodes brain signals and translates them into commands to control machines, bypass damaged neural pathways, and restore lost functions in persons with neurological disorders.
- Earlier BCI systems could only translate brain signals into text, and that too with limited vocabulary, slow processing speed, and reduced accuracy.

Working

- **Sensor implantation:** Electrodes were surgically placed on the motor cortex (brain region controlling movement).
- **Signal interpretation:** The system decodes neural signals of imagined movement, using machine learning to predict changes over time in signal patterns.
- **Virtual training:** The user was first trained using a virtual robotic arm, allowing refinement of mental control.
- **Real-world application:** The participant performed complex tasks like picking up blocks, opening a cabinet, and holding a cup under a water dispenser, indicating precise, consistent control.

Applications of BCI Technology

- The BCI also has potential for restoring speech in individuals with conditions like brainstem stroke or Amyotrophic Lateral Sclerosis (ALS).
- Fine electrodes and artificial neural networks can decode intended speech and generate text output, Audible speech, and a speaking avatar.
- One study showed a patient with ALS communicating at 62 words per minute, 3.4 times faster than previous BCI systems.

COSMIC FILAMENT



- Cosmic or galaxy filaments are the **largest 'threads' in the universe's cosmic web.**
- **Size:** A single cosmic filament is a structure spanning hundreds of millions of lightyears.
- These filaments are the largest known structures in the Universe which are vast,

thread-like formations of galaxies and dark matter that form a cosmic scaffolding.

- These cosmic web filaments serve as the nurseries where galaxies grow by accreting pristine gas that fuels their star formation.

Formation

- **It is formed as a result of gravity pulling in gas, dark matter, and galaxies into long, thin strands that link giant clusters of galaxies.**
- These filaments also surround large, empty regions of space called voids.
- A filament forms where sheets of matter intersect and collapse; they're also highways along which gas and smaller galaxies 'flow' towards big clusters.
- **Significance:** These filaments help decide where galaxies form, how fast they grow, and how much fresh gas they receive over billions of years.

LARGE LANGUAGE MODELS



- A large language model (LLM) is a **type of artificial intelligence (AI) program that can recognize and generate text, among other tasks.**
- LLMs are trained on huge sets of data—hence the name “large.”

- LLMs are **built on machine learning**: specifically, a type of **neural network called a transformer model.**
- In simpler terms, an LLM is a computer program that has been fed enough examples to be able to recognize and interpret human language or other types of complex data.
- Many LLMs are trained on data that has been gathered from the Internet—thousands or millions of gigabytes' worth of text.
- But the quality of the samples impacts how well LLMs will learn natural language, so an LLM's programmers may use a more curated data set.
- LLMs use a type of machine learning called **deep learning** in order to understand how characters, words, and sentences function together.
- **Deep learning** involves the probabilistic analysis of unstructured data, which eventually enables the deep learning model to recognize distinctions between pieces of content without human intervention.
- LLMs are then further trained via tuning: they are **fine-tuned or prompt-tuned** to the particular task that the programmer wants them to do, such as interpreting questions and generating responses, or translating text from one language to another.
- LLMs can be trained to do a number of tasks. One of the most well-known uses is their application as generative AI: when given a prompt or asked a question, they can produce text in reply.
- The publicly available LLM **ChatGPT**, for instance, can generate essays, poems, and other textual forms in response to user inputs.

QUANTUM SUPREMACY



- When a **quantum computer outperforms a classical supercomputer** on a well-defined computer science problem, this achievement is known as quantum supremacy.
- **Superposition** states allow qubits to carry more information.
- Because of quantum superposition, a quantum computer can mimic several classical computers working in parallel.
- This capacity of doing **several computations in parallel** gives quantum computers an advantage over classical computers, allowing them to perform a disproportionately greater number of operations.
- Google's quantum computer, named **Sycamore**, claimed 'supremacy' because it reportedly did the task in 200 seconds that would have apparently taken a supercomputer 10,000 years to complete.

NEW SPACE INDIA LIMITED (NSIL)

Context: NewSpace India Limited (NSIL) has signed 70 Technology Transfer Agreements to transfer technologies developed at ISRO to Industry.

About New Space India Limited:

- NSIL, incorporated on 6 March 2019 (under the Companies Act, 2013) is a **wholly owned Government of India company**, under the administrative control of Department of Space (DOS).
- It is the **commercial arm of Indian Space Research Organisation (ISRO)**.

Primary Responsibility:

- Enabling Indian industries to take up high technology space related activities.
- Promotion and commercial exploitation of the products and services emanating from the Indian space programme.
- The **major business areas** of NSIL include:
 - Production of Polar Satellite Launch Vehicle (PSLV) and Small Satellite Launch Vehicle (SSLV) through industry.
 - Production and marketing of space-based services, including launch services and space-based applications like transponder leasing, remote sensing and mission support services.
 - Building of Satellites (both Communication and Earth Observation) as per user requirements.
 - Transfer of technology developed by ISRO centres/units and constituent institutions of the Dept. of Space.
 - Marketing spinoff technologies and products/services emanating out of ISRO activities.
 - Consultancy services

GLOWCAS9 PROTEIN

- It is a **CRISPR protein** that **lights up while performing gene editing**.
- It is a **bioluminescent version of Cas9** that glows inside cells.

- **Structure:** GlowCas9 is created by fusing Cas9 with a split nano-luciferase enzyme derived from **deep-sea shrimp proteins**.

Properties of GlowCas9 Protein:

- The GlowCas9 is **very stable** and maintains its **structure and activity at higher temperatures** compared to the conventional enzyme.
- It **glows inside cells**, allowing for real-time monitoring of CRISPR operations.



Working of GlowCas9 Protein:

- The split nano-luciferase enzyme pieces reconnect when Cas9 folds correctly, producing light.
- This glowing activity allows scientists to monitor CRISPR operations in living cells, tissues, and even plant leaves—without harming them.

Benefits of GlowCas9 Protein:

- It can also increase the precision of **homology-directed repair (HDR)**.
 - **Homology-Directed Repair (HDR)** is a DNA repair process crucial for fixing hereditary mutations that are linked to genetic diseases like sickle cell anaemia, muscular dystrophy and so on.
- GlowCas9 pioneers the emerging field of **theratracking** or **visualizing molecular gene therapy** in motion.

AGENTIC AI



- Agentic AI is an advanced form of artificial intelligence focused on **autonomous decision-making and action**.
- It consists of AI agents—machine learning models that **mimic human decision-making** to solve problems in real time.
- Unlike traditional AI, which primarily responds to commands or analyzes data, **agentic AI can set goals, plan, and execute tasks with minimal human intervention**.
- "Agentic" indicates agency — the ability of these systems to **act independently**, but in a goal-driven manner.
- At its core, this technology is built on several key components:
 - **Perception:** Agentic AI starts by gathering information from its surroundings and different sources, such as sensors, databases, and user interfaces.
 - **Reasoning:** Using a large language model (LLM), agentic AI analyzes the gathered data to understand the context, identify relevant information, and formulate potential solutions.
 - **Planning:** The AI then uses the information it gathered to develop a plan. This involves setting goals, breaking them down into smaller steps, and figuring out the best way to achieve them.
 - **Action:** Based on its plan, the AI takes action. This could involve performing

tasks, making decisions, or interacting with other systems.

- **Reflection:** After taking action, the AI learns from the results. It evaluates whether its actions were successful and uses this feedback to adjust its plans and actions in the future.
- Agentic AI builds on generative AI (GenAI) techniques by using large language models (LLMs) to function in dynamic environments.
- While generative models focus on creating content based on learned patterns, agentic AI extends this capability by **applying generative outputs toward specific goals**.
- For example, a generative AI model like OpenAI's ChatGPT might produce text, images, or code, but an agentic AI system can use that generated content to complete complex tasks autonomously by calling external tools.

GEMINID METEOR



- The Geminid meteor shower is named after the constellation from which the meteors appear to radiate, **Gemini**.
- It peaks during mid-December each year and is considered to be one of the best and most reliable **annual meteor showers**.
- **Origin:** Unlike most meteor showers that originate from comets, **the Geminid stream appears to originate from an asteroid known as 3200 Phaethon**.
- The Geminids are best viewed during the night and predawn hours.

Meteors

- ✓ Meteors come from **leftover comet particles and bits from asteroids**.
- ✓ As they enter the Earth's atmosphere at high speed, they burn up, creating a spectacular "shower".
- ✓ When these objects come around the Sun, they leave a **dusty trail** behind them.
- ✓ Every year Earth passes through these debris trails, which allows the bits to collide with our atmosphere where they disintegrate to create fiery and colorful streaks in the sky.

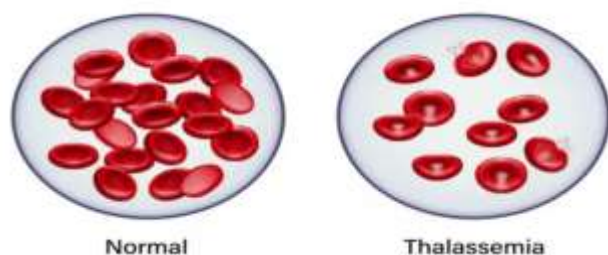
SUPERNOVA



- A supernova is the name given to the **cataclysmic explosion of a massive star**.
- They are the **largest explosions that take place in space**.
- A star can go supernova in one of two ways:
 - **Type I Supernova:** A star accumulates matter from a nearby neighbor until a runaway nuclear reaction ignites.
 - **Type II Supernova:** A star runs out of nuclear fuel and collapses under its own gravity.
- It can emit more energy in a few seconds than our sun will radiate in its lifetime of billions of years.

- These spectacular events can be so bright that they outshine their entire galaxies for a few days or even months.
- They can be seen across the universe.
- They're also the **primary source of heavy elements** in the universe.
 - The extreme temperature and pressure generated during a supernova allow the formation of elements heavier than iron.
- Astronomers believe that about two or three supernovas occur each century in galaxies like our own Milky Way.
- Because the universe contains so many galaxies, astronomers observe a few hundred supernovas per year outside our galaxy.

THALASSEMIA



- It is a **group of inherited conditions that affect the haemoglobin**. People with thalassemia **produce either no or too little haemoglobin**, which is used by red blood cells to carry oxygen around the body.
- **Thalassemia can cause anaemia**, leaving one fatigued. It mainly affects people of Mediterranean, South Asian, East Asian and Middle Eastern origin. It is caused by **faulty genes that affect production of haemoglobin**.
- A child can be born with thalassaemia only if they **inherit these faulty genes from both parents**. It is of two types:
 - **Alpha Thalassemia:** Four genes are inherited, two from each parent, that make alpha globin protein chains.

When one or more genes are defective, alpha thalassemia is developed.

- **Beta Thalassemia:** Two beta-globin genes, one from each parent are inherited. The symptoms and the severity depend on how many genes are defective and which part of the beta globin protein chain contains the defect.

BLUE BIRD BLOCK-2 MISSION

Context: The ISRO is scheduled to launch the LVM-3 rocket carrying its heaviest ever satellite – BlueBird Block-2 weighing nearly 6,100 kg.



About Blue Bird Block-2 Mission:

- LVM3-M6/**BlueBird Block-2** is a dedicated **commercial mission of ISRO's LVM3 launch vehicle**.
- The mission will launch the **BlueBird Block-2 communication satellite** of AST SpaceMobile, USA.
- It is the 6th operational flight of the LVM3 rocket.
- In this mission, LVM3-M6 will place the BlueBird Block-2 satellite into **Low Earth Orbit (LEO)**.
- LVM3 is a **three-stage launch vehicle**. It consists of two solid strap-on motors (S200),

a liquid core stage (L110), and a **cryogenic upper stage** (C25).

- The rocket has a lift-off mass of 640 tonnes, a height of 43.5 m, and **can carry 4,200 kg to GTO**.
- It will be the **largest commercial communications satellite** deployed in LEO.
- It will also be the **heaviest payload launched by LVM3 from Indian soil**.
- The BlueBird Block-2 satellite is designed to provide direct space-based cellular broadband connectivity to standard mobile smartphones.
- Earlier missions of LVM3 include Chandrayaan-2, Chandrayaan-3, and two OneWeb missions carrying 72 satellites.

DIRECTED ENERGY WEAPONS



- It uses **concentrated energy from electromagnetic or particle technology**, rather than kinetic energy.
- Directed Energy Weapon systems use **high-powered lasers** to inflict damage on targets.
- DEW uses directed energy to heat up and destroy or damage the target.

Capabilities of Directed Energy Weapons:

- **Precision and Low Collateral Damage:** DEWs can target specific weak spots of enemy systems, motors, electronics, or wings, minimising collateral damage.

- **Rapid Response:** DEWs engage with targets at the speed of light, eliminating fast-moving threats in real time.
- **Cost and Logistics:** DEWs have low operational costs, only requiring a continuous supply of electricity to work indefinitely.
- **Counter-Drone and Stealth Technology:** DEWs are uniquely positioned to tackle swarm drones while ensuring there are no sounds or explosions, giving them stealth capabilities.
- **Applications Directed Energy Weapons:** It has diverse military applications, offering rapid and precision strikes against threats such as unmanned aerial vehicles (UAVs), missiles and small vehicles and can be used in all war fighting environments.

INSV KAUNDINYA



- It is a **stitched ship** which is inspired by a **fifth-century vessel shown in Ajanta cave paintings**.
- It is named after the legendary mariner Kaundinya, who is believed to have sailed from India to Southeast Asia in ancient times.
- It has been built using **traditional stitching techniques** instead of metal nails. Artisans from Kerala used coconut fibre, coir rope, wooden joinery, natural resins, and cotton sails.
- It is a joint initiative of the **Indian Navy, Ministry of Culture, and Hodi Innovations**.

- It features symbolic motifs like
 - Gandabherunda (mythical two-headed eagle) symbol of the Kadamba dynasty and the Sun
 - The bow carries a Simha Yali
 - Harappan-style stone anchor on the deck
- **Significance:** INSV Kaundinya showcases India's ancient maritime traditions. It reflects India's historic role in trade, cultural exchange, and modern maritime diplomacy.

Who was Kaundinya?

- He is a legendary Indian mariner who sailed to Southeast Asia about 2,000 years ago.
- He married Queen Soma and founded the Funan kingdom.

TITAN



- Titan is **Saturn's largest moon**.
- Dutch astronomer **Christiaan Huygens** discovered Titan on March 25, 1655.
- It is the **second largest moon in our solar system**.
 - Only Jupiter's moon **Ganymede** is larger, by just 2 percent.
- It has a radius of about 2,575 kilometers, and is nearly 50 percent wider than Earth's moon.
- It is the **only moon** in the solar system with a **dense atmosphere**.
- It is the only world besides Earth that has **standing bodies of liquid**, including rivers, lakes, and seas, on its surface.
- Like Earth, **Titan's atmosphere is primarily nitrogen**, plus a small amount of methane.

- It is the sole other place in the solar system known to have an **earth-like cycle of liquids raining from clouds**, flowing across its surface, filling lakes and seas, and evaporating back into the sky (akin to Earth's water cycle).
- Titan takes **15 days and 22 hours** to complete a full orbit of Saturn.
- Titan is also **tidally locked in synchronous rotation with Saturn**, meaning that, like Earth's Moon, Titan always shows the same face to the planet as it orbits.

Cassini Spacecraft

- It is a joint project of **NASA, the European Space Agency, and the Italian Space Agency (ASI)**.
- Cassini was a sophisticated robotic spacecraft sent to **study Saturn and its complex system of rings and moons** in unprecedented detail.
- It was launched on **October 15, 1997**. It was one of the largest interplanetary spacecrafts.
- The mission consisted of **NASA's Cassini orbiter**, which was the first space probe to orbit Saturn, and the **ESA's Huygens probe**, which **landed on Titan**, Saturn's largest moon.

GHOST PAIRING



- Ghost pairing is a **cyber fraud technique** in which attackers gain **unauthorised access to a victim's WhatsApp account**.
- It occurs when fraudsters **secretly link the victim's WhatsApp account to another device** without the victim's knowledge.

How Ghost Pairing Works

- Cybercriminals use social engineering tactics to trick users into clicking malicious links or scanning QR codes.
- These links often appear as innocent messages such as “Hi, check this photo” or urgent alerts.
- Once the victim clicks the link or completes a verification step, the attacker pairs the victim’s WhatsApp account to their own device.
- This **gives the attacker full access to chats, contacts, photos, and videos** without requiring passwords or SIM swapping.

Techniques Used by Attackers:

- Fraudsters impersonate known contacts, bank officials, or government representatives to build trust.
- They use panic-inducing messages, such as threats of account freezing or number blocking, to force quick action.
- The attack relies on the victim’s lack of awareness rather than technical hacking.

Risks and Consequences:

- Attackers can read private conversations and download sensitive photos and videos.
- Victims may be blackmailed using personal data obtained from the account.
- Financial fraud may occur if banking details, IDs, or card information are stored on the phone.
- The attacker can also scam the victim’s contacts by impersonating them.

Government Advisory: The Ministry of Electronics and Information Technology has issued advisories warning users about ghost pairing and similar cyber threats. Citizens have been urged to remain cautious while using messaging platforms.

INS VAGSHEER

Context: President Droupadi Murmu recently undertook a submarine sortie in INS Vagsheer.

**About INS Vagsheer:**

- It is the sixth submarine of the first batch of six **Kalvari-class, or Scorpene-class, submarines** ordered by the Indian Navy under **Project-75**.
- It is named after the **sandfish, a deadly deep-sea predator of the Indian Ocean**.
- It was officially commissioned into the Indian Navy on 15 January 2025.
- It now joins its sister vessels **INS Kalvari, INS Khanderi, INS Karanj, INS Vela, and INS Vagir**.
- These submarines have been completely built by **Mazagon Dock Shipbuilders Limited (MDL)** through **French technology transfer**.

Features:

- It boasts **advanced stealth technologies**, including reduced radiated noise levels and sophisticated hydrodynamic design, making it one of the quietest submarines in the world.
- The 67.5-metre vessel reaches speeds of **20 knots submerged**, dives to **over 350 metres**, and endures **up to 50 days at sea**.
- Armed with **torpedoes, anti-ship missiles, and mine-laying capabilities**, it excels in

anti-surface and anti-submarine warfare, intelligence gathering, and surveillance.

- It consists of indigenously developed systems like the air-conditioning plant, internal communication network, and the Ku-Band SATCOM system.
- It can accommodate 8 officers and 35 sailors and is fitted with an **anti-torpedo countermeasure system**.

Project 75

- ✓ Project-75, the precursor to Project-75I, was initiated in 1997 with the aim of building two indigenous SSK (United States diesel-electric) submarines.
- ✓ The **Scorpene** class technology transfer from France enabled the creation of **Kalvari class** submarines.

Project 75I

- ✓ Project 75I (a follow-up to Project 75) is an improvement upon the design of Air Independent Propulsion (AIP) technology, along with other features of its predecessor.

radio frequency domain (say below 100GHz) with the optical domain (say above 200THz).

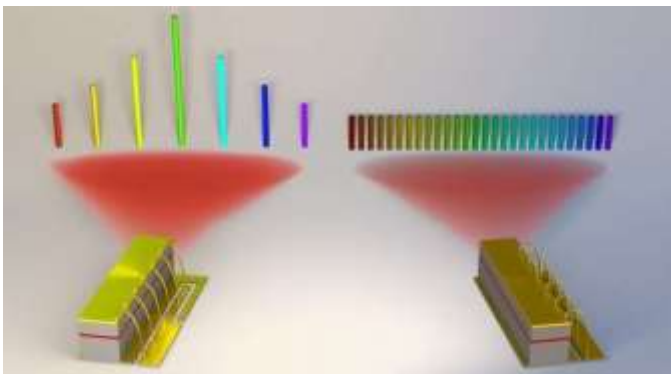
Characteristics:

- Instead of containing just one colour (one frequency), it emits a **large number of evenly spaced frequencies**. The spacing is extremely regular.
- Frequency combs are widely-used, **high-precision tools for measuring and detecting different frequencies colors — of light**.
- It has **high stability and precision**.

Applications:

- It helps scientists **compare an unknown light frequency to a stable reference** with extraordinary precision.
- Frequency combs are an important modern tool to **calibrate atomic clocks and measure shifts in light caused by gravity**.
- It is used to **detect exoplanets**.
- It is also used in **high-speed spectroscopy**.

FREQUENCY COMB



- It is a special kind of **laser light** whose spectrum, or **set of frequencies, resembles the teeth of a comb**.
- Frequency combs are simple and compact tools that phase coherently connecting the

Places in News and Geography

BLACK SEA



- It is a large inland sea in at the **southeastern part of Europe**.
- **Bordering countries:** Russia (East), Ukraine (North), Turkey (South), Bulgaria (West), Georgia (East) and Romania (West).
- Russia has the longest coastline (2,300 km), followed by Turkey (1,329 km) and Ukraine (1,282 km).
- The **Crimean Peninsula** extends into the Black Sea from the north.
- It **connects to the Aegean Sea** (Mediterranean) via the Bosphorus Strait, the Sea of Marmara, and the Dardanelles Strait. The **Kerch Strait** links it to the Sea of Azov.
- It has **lower salinity** than the world's oceans due to isolation from the Mediterranean Sea and due to many major rivers flowing into it, such as the Danube, Dnieper, Bug, and Rioni.

GUINEA



- Guinea, officially the Republic of Guinea, is a country in **West Africa**.
- It borders the **Atlantic Ocean** to the west, **Guinea-Bissau** to the northwest, **Senegal** to the north, **Mali** to the northeast, **Cote d'Ivoire** to the southeast, and **Sierra Leone** and **Liberia** to the south.
- It is sometimes **referred to as Guinea-Conakry**, after its capital Conakry, to distinguish it from other territories in the region, such as Guinea-Bissau and Equatorial Guinea.
- Formerly French Guinea, it achieved **independence in 1958**. Guinea has a history of military coups. After decades of authoritarian rule, it held its first democratic election in 2010. In **2021, a military faction overthrew the President** and suspended the constitution.
- It is split into **4 geographic regions**: Maritime Guinea on the Atlantic coast, the Middle Guinea highlands, the Upper Guinea savanna region, and the Guinea tropical forests.

- It is the world's **second-largest producer of bauxite** and has large deposits of diamonds and gold.
- As of 2021, 66.2% of its population is multidimensionally poor, according to the UNDP.

ARAVALLIS



- It is one of the oldest **fold mountains** of the world.
- It runs approximately 670 km (430 mi) in a south-west direction, starting near Delhi, passing through southern Haryana and Rajasthan, and ending in Gujarat.
- The **highest peak is Guru Shikhar** at 1,722 metres (5,650 ft). Guru is a peak in the **Arbuda Mountains** of Rajasthan.
- **Rivers:** Three major rivers and their tributaries flow from the Aravalli, namely **Banas and Sahibi rivers** which are **tributaries of Yamuna**, as well as **Luni River** which flows into the **Rann of Kutch**.

Formation:

- It is part of the **Aravalli-Delhi orogenic belt**, which is a large and complex geological structure formed due to the collision of tectonic plates during the **Proterozoic era**.

- It is part of the **Indian Shield** that was formed from a series of cratonic collisions.
- In ancient times, Aravalli were extremely high but since have worn down almost completely by millions of years of weathering.
- The range is **rich in mineral resources** like copper, zinc, lead, and marble.

It is divided into **two sections**: the **Sambhar-Sirohi ranges**, taller and including Guru Shikhar; and the **Sambhar-Khetri ranges**, consisting of three ridges that are discontinuous.

RWANDA

- It is a landlocked country located south of the equator in east-central Africa.
- It is part of the Great Rift Valley region of Africa.
- Often referred to as the “land of a thousand hills”, Rwanda’s landscape is mostly hilly and mountainous.
- **Borders:** Rwanda shares a border with the four nations of Burundi, Tanzania, Uganda, and the Democratic Republic of the Congo.
- **Capital:** Kigali
- **Languages:** Kinyarwanda, French, English



Population:

- It is one of the continent's most densely populated, with approximately a thousand people per square mile.
- The Hutu and Tutsi ethnic groups make up most of the country's population.
- The majority of both groups practice Christianity.
- **Government:** In 2003, Rwanda adopted a constitution mapping out a presidential system of government.
- **Major Mountain Ranges:** Albertine Rift and Virunga.

Major Rivers:

- Two major African rivers, the Nile and the Congo, flow through Rwanda.
- Other major rivers are Kagera, Nyabarongo, Ruzizi, Luhwa, and Akanyaru.
- 80% of Rwanda's rivers drain into the Nile through Lake Victoria, while the remaining 20% drain into the Congo via the Rusizi River which also has the lowest elevation in Rwanda at 950 m.

Lakes:

- Lakes are everywhere in Rwanda. Lake Kivu, located on the western border of the country with DRC, is the largest among them. It is one of the 20 deepest lakes in the world.
- Other notable lakes include Burera, Cohana, Ruhondo, Muhazi, Rweru, and Ihema.
- **Biodiversity:** It is one of the most ecologically diverse places in Africa.
- The continent's Albertine Rift region, which covers much of western Rwanda, is home to about a third of Africa's birds, 40 percent of its mammals, and 20 percent of the continent's amphibians and plants.

AFAR REGION



- **Location:** It is the northeastern part of Ethiopia, where the Red Sea meets the Gulf of Aden.
- The Afar depression, also known as the Danakil depression, forms the northern part of the region and is largely desert scrubland with shallow salty lakes and long chains of volcanoes.
- The Awash River valley forms the southern part of the area.
- **Tectonic Significance:** It is situated at a unique triple junction where the Red Sea, Gulf of Aden, and East African Rift converge.
- **Terrain:** The region's landscape is marked by deep rift valleys, volcanic plateaus, and extensive fissures, reflecting the dynamic forces reshaping the Earth's crust.
- It offers scientists a rare opportunity to observe the processes of continental break-up and ocean genesis in action.
- The region is well known for its early hominid fossil finds including 'Lucy', an Australopithecus afarensis, discovered in 1974.

BENIN



- Benin is a country in **West Africa**. It is bordered by **Togo** to the west, **Nigeria** to the east, **Burkina Faso** to the north-west, and **Niger** to the north-east.
- The majority of its population lives on the southern coastline of the **Bight of Benin**, part of the **Gulf of Guinea** (which is part of the Atlantic Ocean).
- The capital is **Porto-Novo**.
- Its population in 2021 was estimated to be approximately 13 million.
- It is a tropical country with an economy heavily dependent on agriculture and the **exports of palm oil and cotton**.
- In the late 19th Century, Benin was colonized by France - by incorporating it into **French West Africa** as French Dahomey.
- In 1960, **Dahomey gained full independence from France and renamed itself Benin**. As a sovereign state, Benin has had democratic governments, military coups, and military governments.
- The official language of Benin is **French**, with indigenous languages such as Fon, Bariba, Yoruba and Dendi also spoken.

- The largest religious group in Benin is Christianity (52.2%), followed by Islam (24.6%) & traditional religions (17.9%).

SUDDEN STRATOSPHERIC WARMING EVENT



- It refers to a **rapid rise in stratospheric temperatures that weakens or distorts the polar vortex** (a cold-air mass typically stabilized over the Arctic).

Occurrence of the Event

- It begins with large-scale atmosphere waves (called Rossby waves) getting pushed higher into the atmosphere.
- These waves can "break" (like waves in the ocean) on top of the polar vortex and weaken it.
- If waves are strong enough, the winds of the polar vortex can weaken so much that they can reverse from being westerly to easterly.
- This leads to cold air descending and warming rapidly.
- It can lead to a displacement or splitting of the polar vortex, so instead of cold air being locked above the polar region, it can push further south into the mid-latitudes.

About the Polar Vortex

- It is a **large area of low pressure and cold air surrounding both of the Earth's poles**.

- It extends from the tropopause (the dividing line between the stratosphere and troposphere) through the stratosphere and into the mesosphere (above 50 km).
- **It always exists near the poles, but weakens in summer and strengthens in winter.**
- Many times, during winter in the northern hemisphere, the polar vortex will expand, sending cold air southward with the jet stream.
- **Jet streams are relatively narrow bands of strong wind in the upper levels of the atmosphere, typically occurring around 30,000 feet (9,100 meters) in elevation.**
- This occurs fairly regularly during wintertime and is often associated with large outbreaks of Arctic air in the United States.
- This is not confined to the United States. Portions of Europe and Asia also experience cold surges connected to the polar vortex.

PREAH VIHEAR TEMPLE

- It is a Hindu temple located in the Preah Vihear Province, in the northern part of **Cambodia**.
- It is located atop a cliff on the Cambodia-Thailand border in the Dangrek Mountain range .
- It is dedicated to Lord Shiva.
- It was built primarily during the golden period of the **Khmer Empire**, in the eleventh and twelfth centuries.
- It was built firstly by **King Suryavarman I (1002-50) and then expanded upon by Suryavarman II (1113-50).**
- It is a **UNESCO World Heritage Site**



Architecture

- It is an outstanding masterpiece of **Khmer architecture**.
- The temple is composed of a series of sanctuaries linked by a system of pavements and staircases over an 800-metre-long axis.
- It features more than five successive gopuras.
- Unlike other structures of this kind, the gopuras here are connected by a long path and topped with multi-tiered platforms.
- Each gopura has a small staircase. Some of these gopuras have stone roofs, while others have wooden roofs, many of which are in ruins

Dispute

- Preah Vihear Temple is the subject of a long-running **territorial dispute between Thailand and Cambodia**.
- In 1962, the International Court of Justice ruled that it belonged to Cambodia.
- However, Thailand has maintained that the land surrounding the temple — especially a 4.6 sq.km. patch — remains unresolved.
- Tensions escalated again in 2008 after Cambodia succeeded in registering Preah Vihear as a UNESCO World Heritage Site.
- Thai nationalists objected, and skirmishes broke out, culminating in a deadly exchange in 2011 that killed at least 15 people.

- The ICJ reaffirmed its ruling in 2013, this time declaring that the surrounding land was also Cambodian — a decision that still stings in Bangkok.

BRUNEI



- Location:** It is located along the northern coast of Borneo Island in Southeast Asia.
- Bordered by:** Brunei is bordered by the South China Sea in the north and on all other sides by Malaysia.
- Brunei is divided into two non-contiguous parts by a portion of the Malaysian State of Sarawak.
- Capital:** Bander Seri Begawan – the capital and largest city of Brunei.
- It is a member country of the Commonwealth and ASEAN
- It is also a **major oil producer in Southeast Asia.**

KOLLERU LAKE



- It is one of the largest **freshwater lakes** in India, located in the state of **Andhra Pradesh**.
- It is located in the **inter-deltaic plain of rivers Krishna and Godavari** near the city of Eluru and serves as a natural flood-balancing reservoir for these two rivers.
- It spreads over an area of about 308 sq. km. and expands up to 954 sq.km. at the highest flood level.
- It is the **largest freshwater lake in Andhra Pradesh**.
- Characteristically, it is a **shallow lake**.
- It receives water from **four rivers**, namely **Budameru, Ramileru, Tammileru, and Errakalva**, and 18 drains.
- This lake empties its water into the Bay of Bengal through an outlet called '**upputera**'.
- This lake is also known as the "Peerless Fisherman's Paradise and Bird Heaven".
- The lake was declared as a wildlife sanctuary in November 1999.
- It was designated as a **wetland of international importance** in November 2002 under the **International Ramsar Convention**.
 - It is the only Ramsar site in Andhra Pradesh.

- It supports **over 20 million migratory birds annually**, including grey pelicans, painted storks, and open-billed storks.
- It is a haven for species migrating from Siberia, Central Asia, and the Himalayas, making it one of India's richest avian habitats.
- The lake is deeply intertwined with local livelihoods, sustaining thousands who depend on fishing, duck farming, and paddy cultivation.

PARVATI-ARGA BIRD SANCTUARY



- **Location:** It is situated in Gonda district of **Uttar Pradesh**.
- It is a **permanent freshwater environment** consisting of **two oxbow lakes** namely **Parvati and Arga**.
- It is designated as **Ramsar site**.
- **Fauna:** The critically endangered **white-rumped vulture** (*Gyps bengalensis*) and **Indian vulture** (*Gyps indicus*), and the endangered **Egyptian vulture** (*Neophron percnopterus*) have all been recorded.
- Invasive species such as the **common water hyacinth** (*Eichhornia crassipes*) is also found here.
- **Flora:** The Vegetation of the Sanctuary is representative of that of the indo-gangetic ecosystem.
- The Government has declared the Parvati-Arga Bird Sanctuary of Uttar Pradesh as an **Eco sensitive zone**.

Eco-Sensitive Zone

- It is also known as **Ecologically Fragile Areas (EFAs)**.
- These are areas notified and regulated by the **Union Ministry of Environment, Forest and Climate Change (MoEFCC)** around **Protected Areas, National Parks and Wildlife Sanctuaries**.
- Purpose: To create some kind of shock absorbers to the protected areas by regulating and managing the activities around such areas.
- It acts as a **transition zone** from areas of high protection to areas involving lesser protection.
- **Extent of ESZ:** An ESZ could extend up to 10 km around a protected area.

NATHU LA PASS



- A MP from Sikkim has urged the Centre to immediately resume border trade through the Nathu La Pass, highlighting livelihood impacts due to its suspension since 2020.
- It is a high-altitude **Himalayan pass in Sikkim** on the **India-China border**, standing at 4,302 meters.
- It is one of the highest motorable roads globally and is an important strategic and

border trade point. It is one of the two ancient passes connecting Sikkim and Tibet, the other being **Jelep La**.

- It is part of an **ancient Silk Road offshoot**, historically facilitating trans-Himalayan trade.
- The **Mansarovar pilgrimage route via Nathu La** is fully motorable, requiring no trekking except the last 35–40 km close to Mount Kailasa.
- The pass was **closed in 1962** after the Sino-Indian War. It was **reopened in 2006** following bilateral agreements.
- However, **trade was disrupted again in 2020** during the Covid-19 pandemic and Indo-China border tensions and has not resumed since.

YELLOW SEA



- It is a **marginal sea of the western Pacific Ocean**.
- The Yellow Sea is **situated between mainland China to the west and north, the Korean Peninsula to the east**, and the Shandong Peninsula and Liaodong Peninsula to the south.
- It connects with the Bohai Sea to the northwest.

- It is **one of the largest shallow areas of continental shelf in the world** with an average depth of 44 metres and a maximum depth of 152 metres.
- **Inflow:** Several major rivers, including the Yellow River and the Yangtze River, discharge into the Yellow Sea, carrying significant amounts of sediment and nutrients.
- **Islands:** The Yellow Sea is dotted with numerous islands, the largest of which include Jeju Island (South Korea), Shandong Peninsula islands (China), and Ganghwa Island (South Korea).
- **Climate:** The climate is characterized by very cold, dry winters and wet, warm summers.

MIYAKO STRAIT



- The Miyako Strait is a 250 km-wide maritime passage of international waters and airspace between **Miyako Island and Okinawa Island in Japan's Ryukyu archipelago**.
- It is also known as the **Kerama Gap**.
- It is the widest strait in the Ryukyu Islands.
- It is connecting the **East China Sea with the Pacific (Philippine Sea)**.
- It is vital for freedom of navigation, maritime security, and monitoring naval movements in the Indo-Pacific region.

- **Geopolitical significance**

- It provides a deep, navigable route from the East China Sea to the open Pacific.
- It is one of the few international waterways for China's People's Liberation Army Navy to access the Pacific Ocean from the East China Sea.
- It has been in news in relation to **recent standoff between Japan and China.**



GULF OF OMAN

- The Gulf of Oman, also called the **Gulf of Makran**, is the western extension of the Arabian Sea in the Middle East, forming the only **entrance to the Persian Gulf from the Indian Ocean.**
- It **connects the Arabian Sea to the Strait of Hormuz, which leads into the Persian Gulf.**
- It borders Iran and Pakistan on the north, Oman on the south, and the United Arab Emirates on the west.
- The small ports along the gulf include Şuḥār, al-Khābūrah, Muscat, and Şūr, in Oman, and Jāsk and Chāh Bahār, in Iran.
- Some of the significant islands that are located in the Gulf of Oman include Sheytan Island, Al Fahal Island, Dimaniyat Islands, and the Sawadi Islands.
- Some fishing is carried on, but the Gulf's main importance is as a shipping route for the oil-producing area around the Persian Gulf.
- The Gulf of Oman offers the **only entrance from the Arabian Sea and the Indian Ocean into the Persian Gulf.**
- The world's major oil exporters and importers have a joint interest in its security.
- **Roughly one-third of the world's oil** is exported via the Strait of Hormuz and the Gulf of Oman.

LIBERIA



- It is located along the coast of **western Africa.**
- It is the only state in Africa which was **never subjected to colonial rule and is Africa's oldest republic.**
- It is bounded by **Sierra Leone to the northwest, Guinea to the north, Côte d'Ivoire to the east**, and the Atlantic Ocean to the south and west.
- The Atlantic Ocean borders Liberia to the south-southwest.
- It has Cape Mount (about 1,000 feet in elevation) in the northwest, Cape Mesurado in Monrovia, and Cape Palmas in the southeast.
- **Major Rivers:** The Mano and Morro Rivers in the northwest and the Cavalla in the east and

southeast are major rivers and form sections of Liberia's boundaries.

- **Natural resources:** It has natural resources like Iron diamonds, gold, lead, manganese, graphite, cyanite.

JORDAN



- PM Modi has embarked on a three-nation tour (Jordan–Ethiopia–Oman) beginning with Jordan, **Egypt, Sudan, Eritrea, Djibouti** (on the African side) and **Saudi Arabia, Yemen** (on the Asian side), marking 75 years of India–Jordan diplomatic relations.
- It is a country in West Asia situated at the crossroads of Asia, Africa and Europe **in the Levant region**.
- Jordan is bordered by **Saudi Arabia** to the south and east, **Iraq** to the northeast, **Syria** to the north, and **Israel, Palestinian West Bank, and the Dead Sea** to the west.
- The **Jordan River**, flowing into the Dead Sea, is located along the country's western border within the **Jordan Rift Valley**.
- **Amman** is the country's capital and largest city, as well as the most populous city in the Levant.
- It has a **very narrow coastline on the Gulf of Aqaba** in the **Red Sea** in the Southwest. The **Gulf of Aqaba** separates Jordan from **Egypt**.

- It is a **constitutional monarchy**, but the king holds wide executive and legislative powers.

ZAMBEZI RIVER



- It is the **fourth-longest river in Africa** (after Nile, Congo, Niger) and Africa's longest east-flowing stream.
- It starts off in Angola's southern highlands. It flows through **Angola, Zambia, Namibia, Botswana, Zimbabwe, and Mozambique**.
- The main tributaries of the Zambezi River include the Shire, Kafue, Luangwa, Kabompo, and Cuando (Kwando) rivers.
- The river is known for several notable waterfalls, including **Victoria Falls**, one of the world's largest waterfalls, and the **Chavuma Falls** on the Zambia–Angola border.
- **Major Dams:** Cohara Bassa & Kariba.
 - Lake Kariba, formed by the Kariba Dam's reservoir, is the world's largest artificial lake and reservoir by volume.
- It drains into the **Indian Ocean** via a 100-km-wide delta.

CHO LA AND DOK LA PASSES

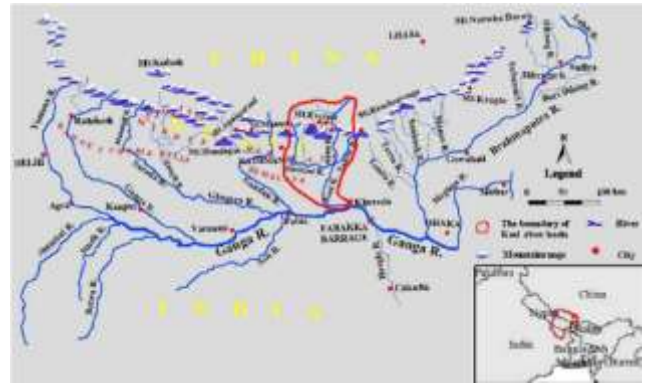


- Cho-La and Dok-La were opened for tourists under the **Bharat Ranbhoomi Darshan** initiative.
- **Cho-La Pass is a high-altitude mountain pass in east Sikkim**, located in the eastern Himalayas along the India–China border. It is situated at an altitude of around 5420 meters above sea level.
- **Dok-La, also known as Doklam**, is a plateau located at the tri-junction of India, Bhutan, and China. It lies in the **Chumbi Valley in Sikkim**.
 - It lies about 68 km east of Gangtok, at an altitude of 4750 meters above sea level.
 - It got **attention in 2017 during a 73-day military standoff** between India & China.
 - It holds strategic importance because of its **proximity to the Siliguri Corridor**.



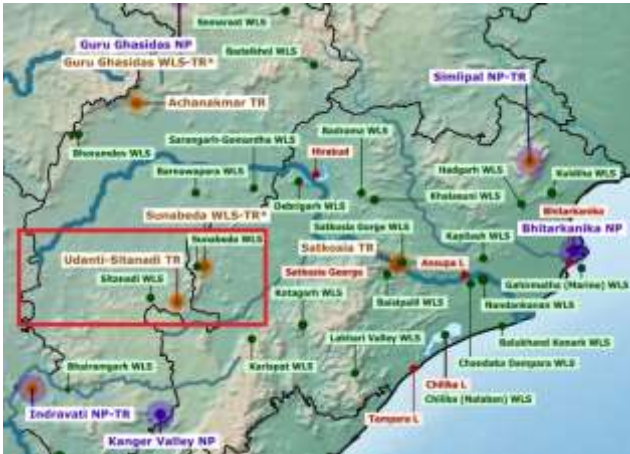
Bharat Ranbhoomi Darshan is an initiative by the Ministry of Defence & Ministry of Tourism to promote border tourism and improve the livelihoods of people living in remote border villages. It offers tours of major battlefields and border areas in India - thus also seeking to enhance awareness of India's military history and valor.

KOSI RIVER



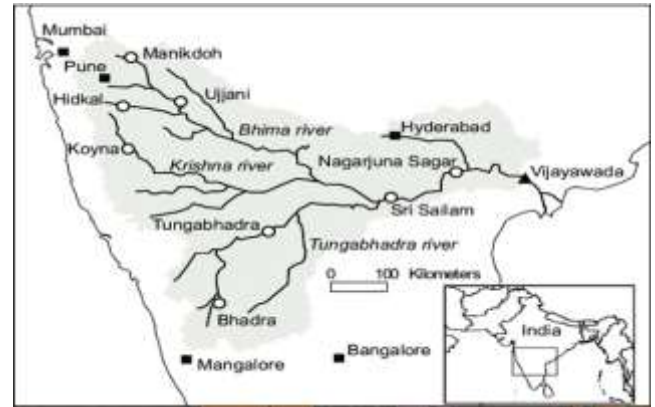
- The Kosi River is formed by the **confluence of the Sun Kosi, Arun Kosi, and Tamur Kosi** - originating in **Nepal** and enters India in Bihar.
- The river basin is surrounded by ridges which separate the Kosi from the Yarlung Tsangpo River (Brahmaputra) in the north, the Gandaki River in the west and the Mahananda River in the east.
- It is **called Saptakoshi** because it has seven main tributaries, namely Sun Kosi, Tama Kosi, Dudh Koshi, Indravati, Arun Kosi, Likhu Khola, and Tamur.
- **It joins the Ganga** River near Kursela in the Katihar district of Bihar.
- It is the **third-largest tributary of the Ganga** by water discharge after the Ghaghara and the Yamuna.
- It is known as the **"Sorrow of Bihar"** due to frequent floods and rapid westward shifting of its river channel.
- Its **vast alluvial fan in north-east Bihar** is one of the largest in the world and supports fertile agriculture.
- The Kosi River, known as **Kausiki in the Mahabharata**, is the lifeline of the **Mithila** region (Bihar-Nepal border region).

UDANTI-SITANADI TIGER RESERVE



- The Udanti-Sitanadi Tiger Reserve is **located in Chhattisgarh**. It includes the Udanti Wildlife Sanctuary and the Sitanadi Wildlife Sanctuary
- It was declared as a tiger reserve in the year 1984. It acts as a **buffer for Sunabeda Wildlife Sanctuary** and forms a larger **Chhattisgarh-Odisha tiger conservation unit**.
- The Tiger Reserve is named after the **rivers Udanti and Sitanadi** flowing through this area.
 - They are both tributaries of the **Mahanadi**.
- The forest type here is predominantly **tropical dry and moist deciduous**, with a mix of sal (*Shorea robusta*), bamboo, and other hardwood species.
- The **Asiatic Wild Buffalo** is the most important endangered species found in the reserve. Other notable animals include the tiger, leopard, Indian wolf, sloth bear, and mouse deer.

BHIMA RIVER



- Karnataka has urged the Central Water Commission (CWC) to intervene, alleging excess and unauthorized use of Bhima river water by Maharashtra, contrary to agreed allocations.
- It is a **major perennial river** of western and southern India and a key **tributary of the Krishna River**.
- It is also locally known as the **Chandrabhaga River**, especially near Pandharpur.
- It originates near **the Bhimashankar Hills** in the Western Ghats, close to the Bhimashankar Temple in Pune district, Maharashtra.
- It flows southeast for about 861 km through **Maharashtra, Karnataka and Telangana** before joining the Krishna.
- Major tributaries of Bhima:
 - Left bank: Sina, Nira, Ghod, Vel
 - Right bank: Indrayani, Mula-Mutha, Pavana, Man, Bhogavati
- It is associated with major religious beliefs such as the **Pandharpur Wari festival** (of the Warkari/Vithobha Sect) in Maharashtra.

SUBANSIRI LOWER HYDROELECTRIC PROJECT



- The National Hydroelectric Power Corporation (NHPC) has begun the commissioning of the Subansiri Lower Hydroelectric Project (SLHEP), India's largest hydropower project.
- It is a **run-of-the-river hydroelectric project** located on the Subansiri River, close to the Arunachal Pradesh-Assam border. It plans to have an installed capacity of **2,000 MW (2 GW)**.
- It is expected to generate 7,500 MUs annually, contributing to clean power supply, flood moderation, irrigation, and drinking water for Assam.
- **Construction began 2005**, but was stalled in 2011 due to environmental protests; and resumed in October 2019 after National Green Tribunal (NGT) clearance.
- Subansiri river arises in **Tibet**, flows southeast through **Miri Hills** (Arunachal Pradesh), enters Assam, and joins the Brahmaputra.
- It is the **largest right-bank tributary** of the Brahmaputra, contributing ~7.9% of total river flow. Its basin covers an area of 32,640 sq. km, combining steep Himalayan terrain and fertile plains. It is also known as the **"Gold River"** due to historic alluvial gold traces in its sands.

BLUE LINE



- It is a **United Nations-identified withdrawal line, not an international border**, which is used to verify **Israel's withdrawal from Lebanon** as mandated by UN Security Council resolutions.
- It is located in southern Lebanon. It extends for about 120 kilometres from the Mediterranean coast to the **tri-border area (Lebanon, Israel, Syria) near the Golan Heights**.
- It was established in 2000 by the UN to confirm Israel's compliance with **UN Security Council Resolutions 425 (1978) and 1701 (2006)** after Israeli withdrawal from Lebanon.
- It serves as a line of withdrawal, not a legally recognised international border. It is patrolled by the **UN Interim Force in Lebanon (UNIFIL)** to prevent escalation.
- Resolution 1701 calls for a zone free of armed groups between the Blue Line and the Litani River (except Lebanese armed forces and UNIFIL).
- It is subject to violations, construction disputes, and cross-border firing, making it one of the most sensitive frontiers in West Asia.

SOMALILAND



- Israel has become the first country to formally recognize Somaliland as an independent sovereign state, triggering opposition from Somalia, the African Union, & regional powers.
- Somaliland is a self-declared independent state in the Horn of Africa that separated unilaterally from Somalia in 1991 after the collapse of the Somali government.
- Though it has its own government, currency, army, and institutions, it lacks international recognition.
- It is located close to Puntland, a semi-autonomous state that considers itself to be part of Somalia, despite not accepting the legitimacy of Somalia's current governing administration.
- Hargeisa is its political capital, while Berbera serves as the main economic and strategic hub with a growing deep-sea port. Berbera Port is being developed as a regional trade and logistics corridor, particularly serving landlocked Ethiopia.
- The economy is largely livestock-based, with exports to Gulf countries forming a major revenue source.

YEMEN



- **Location:** South-Western tip of the Arabian Peninsula in Middle East.
- **Land Boundaries:** Saudi Arabia (North), Oman (East).
- **Maritime Boundaries:** Red Sea (West), Gulf of Aden (South), Arabian Sea (Southeast).
- Capital ; Sanaa
- **Strategic location:** On Bab el Mandeb, the strait linking Red Sea and Gulf of Aden, an important shipping route.
- Yemen's Socotra Archipelago is located in the Indian Ocean.
- **Geographical Features:**
 - **Climate:** Hot and humid along west coast; temperate in western mountains affected by seasonal monsoon; dry, harsh desert in east (Rub' al-Khali desert).
 - **Natural resources:** Petroleum, fish, rock salt, marble etc.

About Houthis

- The Houthis are a large clan belonging to the Zaidi Shia sect, with roots in Yemen's northwestern Sa'dah province.
- **Houthi Movement:** It began in the 1990s against the dictatorship of Yemeni President Ali Abdullah Saleh.
- **Yemen Civil War:** Houthis are one faction in a civil war and control territory in the west

and northwest of Yemen, including the capital Sana.

- **Other Factions:** Yemeni government, Al-Qaeda in the Arabian Peninsula, Ansar al-Sharia, etc.
- **Anti-Israel:** Houthis, **backed by Iran**, are a part of **“The Axis of Resistance”** which is an informal **anti-Israel and anti-West** political and military coalition that it leads.

PANGONG TSO LAKE



- It is an **endorheic lake** (landlocked) located in eastern Ladakh.
- It derives its name from the Tibetan word, “Pangong Tso”, which means **“high grassland lake”**.
- It lies **partly in India’s Ladakh region and partly in Tibet**.
- It is the **world’s highest saltwater lake**.
- The Karakoram Mountain range which crosses Tajikistan, Afghanistan, Pakistan, China and India ends at the north bank of Pangong Tso.
- Pangong Tso is also known to change colours, appearing blue, green and red at different times of a day.

Importance of the lake

- The importance of the lake is due to the fact that it lies in the path of the Chushul approach of China.
- China uses Chushul **valley** for performing offensive activities into Indian-held territory.
- The legendary 19th century Dogra general **Zorawar Singh** is said to have trained his soldiers and horses on the frozen Pangong lake before invading Tibet.
- LAC (Line of Actual Control) mostly passes on the land, but Pangong Tso is a unique case where it passes through the water as well.

Government Schemes

ATAL PENSION YOJANA

Context: The Union Govt. recently highlighted the role played by the Atal Pension Yojana in improving the social security landscape in India.



About Atal Pension Yojana (APY):

- The Atal Pension Yojana (APY) is a **government-backed pension scheme** launched in 2015 to offer social security to workers in the unorganized sector.
- Operated under the **Pension Fund Regulatory and Development Authority (PFRDA)** through the **National Pension System (NPS)**, the APY ensures a fixed monthly income to subscribers post the age of 60. It is a crucial step towards promoting the retirement planning, especially among individuals with no access to formal pension mechanisms.
- Any citizen of India** can join APY. Age of subscriber should be **between 18 and 40**. Contribution levels would be low if a subscriber joins early and would increase if they join late.
- Subscriber should have a **valid post office or bank savings account** and should **not be an income tax payer**.
- Monthly pension is available to the **subscriber and their spouse**. After their death, the pension corpus, as accumulated

at age 60, would be returned to the nominee.

- In case of premature death of subscriber (before age of 60), spouse of the subscriber can continue contribution to APY account for the remaining period, till the subscriber would have attained the age of 60.

Benefits of APY:

- It provides a **minimum guaranteed pension** ranging from Rs 1000 to Rs 5000 on attaining 60 years of age.
- Contributions to APY are **eligible for tax benefits**, similar to NPS.

Achievements of APY:

- Rapid Expansion:** Total gross enrolments have surpassed 8.11 crore, with 1.17 crore new subscribers in FY 2024-25.
- Growing popularity with women:** In FY 2024-25, women accounted for 55% of new enrolments. Among the total enrolment in APY, women account for 48% of subscribers.
- Popularity among youth:** Almost 70% of enrolments for APY are by individuals aged 30 or below.

Pension Fund Regulatory and Development Authority (PFRDA)

- ✓ It is a **statutory authority** to regulate, promote and ensure orderly growth of the NPS.
- ✓ It works under the Dept. of Financial Services under the **Ministry of Finance**.

National Pension System (NPS)

- ✓ NPS is a **govt-sponsored contributory pension** scheme.
- ✓ It was launched in 2004 solely for government employees. But now, **any**

individual citizen of India (both resident & non-resident) in the age group of 18-65 can join NPS.

AGNIPATH SCHEME

Context: Union home ministry has decided to enhance reservation for ex-Agniveers in the Group C posts of the Central Armed Police Forces (CAPF).



About Agnipath Scheme:

- It is a new scheme for recruiting soldiers across three services that was introduced in 2022.
- It is a short service scheme where motivated youth can serve for a period of **4 years**.
- Under this scheme, the youth joining the army will be called **Agniveer**.
- Around 45,000 to 50,000 soldiers will be recruited annually, and most will leave the service in just four years.
- After four years, only **25%** of the batch will be recruited back into their respective services, for a period of **15 years**.
- This is expected to reduce the government's defense pension bill.

Eligibility:

- Only for personnel below officer ranks (those who do not join the forces as commissioned officers).
 - **Commissioned officers** are the army's highest ranked officers.
 - Commissioned officers hold an exclusive rank in the Indian armed forces. They often hold a commission under the president's sovereign power and are officially instructed to protect the country.
- Aspirants between the ages of **17.5 years and 23 years** will be eligible to apply.

Objectives:

- The scheme envisions that, the average age in the forces is **32 years today**, which will go down to **26** in six to seven years.

Benefits for Agniveers:

- Upon the completion of the 4-years of service, a one-time '**Seva Nidhi**' package of Rs 11.71 lakhs will be paid to the Agniveers that will include their accrued interest thereon.
- They will also get a **Rs 48 lakh life insurance cover** for the four years.
- In case of death, the pay-out will be over Rs 1 crore, including pay for the unserved tenure.
- The government will help rehabilitate soldiers who leave the services after four years. They will be provided with **skill certificates** and **bridge courses**.

NATIONAL MISSION ON NATURAL FARMING (NMNF)

Context: The Indian Council of Agricultural Research has urged all State & Central agriculture universities to launch courses and research programmes in natural farming under the aegis of NMNF.

About Natural Farming:

- Natural farming is an agricultural practice that emphasizes **minimal intervention** and the **use of natural resources** to cultivate crops.
- It seeks to enhance soil health, biodiversity, and ecosystem balance without relying on synthetic fertilisers, pesticides, or herbicides.
- It is largely based on **on-farm biomass recycling** with major stress on **biomass mulching, use of on-farm cow dung-urine formulations**; maintaining **soil aeration** and **exclusion of all synthetic chemical inputs**.

Aims and Objectives:

- Preserve natural flora and fauna
- Restore soil health and fertility
- Maintain diversity in crop production
- Efficient utilization of land and natural resources
- Promote natural beneficial insects, animals, and microbes
- Promotion of local breeds for livestock integration
- Use of natural/local resources & inputs
- Reduce input cost for farmers
- Improve economics of farmers

Components:



About National Mission on Natural Farming (NMNF):

- It **replaces the Bhartiya Prakritik Krishi Paddhati (BPKP)**, which was launched in 2019 as a sub-mission under the **Paramparagat Krishi Vikas Yojna (PKVY)**.
- The PKVY is a part of the centrally-sponsored umbrella scheme of **National Mission for Sustainable Agriculture** (which is one of the eight missions under India's National Action Plan on Climate Change).
- The Union Govt. also promoted natural farming in a five-kilometer belt along the Ganga River under the Namami Gange scheme in 2022-23.
- The govt has now decided to **upscale the experience gained from the BPKP** through the NMNF.
- In the 2024 Budget, the Union Govt. announced a plan to **initiate one crore farmers** into natural farming in the **next two years**.
- An overall area of **22 lakh hectares** is presently under natural farming in India, with **34 lakh farmers engaged** in the practice. This includes 4 lakh hectares under BPKP and 88,000 hectares under Namami Gange. About **17 lakh hectares are covered under various state government initiatives** to promote natural farming.
- The NMNF mission aims to bring an **additional 7.5 lakh hectares** of area under natural farming.
- It has an outlay of Rs. 2,481 crores, of which the union govt will contribute Rs.1584 crore, till the **15th Finance Commission period (2025-26)**.
- Under NMNF, around **2000 Natural Farming Model Demonstration Farms shall be established** at Krishi Vigyan Kendras (KVKs), Agricultural Universities (AUs) and farmers' fields, and shall be

supported by experienced and trained **Farmer Master Trainers**.

 Bio-Input Resource Centres (BRCs) are cluster-level enterprises aimed to support local production, availability and supply of ready-to-use bio-inputs for natural farming to farmers who may not be able to produce them individually. It is also envisaged as a centre to disseminate knowledge and experience to farmers who face challenges while transitioning to natural farming.

VIBRANT VILLAGES PROGRAMME

Context: The Defence Minister inaugurated 125 border infra projects and highlighted the role of the Vibrant Villages Programme in this regard.



About Vibrant Villages Programme (VVP):

- VVP is a **centrally sponsored scheme** announced in the **2022-23 Budget (to be implemented till 2025-26)** for the **development of villages on India's borders**, thus improving the quality of life of people living in identified border villages.
- It originally covered only the **Indo-China border**, along the states of Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Sikkim, & the UT of Ladakh.
 - In 2025, the Union Govt approved the **Vibrant Villages Programme-II (VVP-II)** and expanded the

scheme beyond the Chinese border areas covered in the first phase. With an outlay of ₹6,839 crore for 2024-25 to 2028-29, the expansion brings under its ambit **villages located along all international land borders**.

- It will cover **2,963 villages** with 663 of them to be covered in the 1st phase.
- The scheme has been allocated **Rs. 4,800 crore** for 2023-24, 2024-25 and 2025-26. The amount allocated for road construction is Rs. 2,500 crore.
- Work is ongoing in order to provide **4G connectivity in these areas by Dec 2024**. Steps are being taken to ensure **financial inclusion in these villages** and India Post-Payment Banks (IPPB) are also being facilitated as part of the VVP Scheme.
- Tourist circuits will be developed in these villages to promote tourism. **Capacity building and tourism-related infra are being developed** in coordination with the Ministry of Tourism.
- Vibrant Village Action Plans** will be created by the district administration with the help of Gram Panchayats.
- It will **not have any overlap with the BADP** (Border Area Development Programme) of MHA.
- Nodal agency: **Ministry of Home Affairs (MHA)**

Objectives of VVP:

- The scheme aids to **identify and develop the economic drivers** based on local, natural, human and other resources of the border villages on the northern border;
- Development of growth centres on 'hub and spoke model'** through promotion of entrepreneurship and women and youth empowerment through skill development and entrepreneurship;

- **Leveraging full tourism potential** through promotion of local, cultural, traditional knowledge and heritage;
- **Development of sustainable eco-agri businesses** based on 'one village one product' through community-based organisations, cooperatives, NGOs.
- Focus Areas: **Road connectivity, drinking water, electricity** including solar & wind energy, **mobile and 4-G connectivity, and healthcare infra.**

 In April 2023, the Union Govt. announced that the VVP will be integrated with the PM Gati Shakti mega project for infrastructure development.

ASPIRE SCHEME

ASPIRE Scheme



- ASPIRE scheme stands for A Scheme for Promotion of Innovation, Rural Industry, and Entrepreneurship.
- Implemented by: **Ministry of Micro, Small and Medium Enterprises**
- It is to **promote entrepreneurship and livelihood opportunities in rural areas** by creating an ecosystem for innovation, skill development, and enterprise creation.
- The scheme intends to strengthen rural livelihoods by providing incubation and handholding **support to aspiring entrepreneurs.**
- It **complements other MSME initiatives** such as the PM's Employment Generation Programme, which supports self-employment through credit-linked subsidies.

- It also aligns with the **MSME Champions scheme**, which focuses on enterprise modernization, competitiveness, and innovation.
- The scheme supports the establishment of **Livelihood Business Incubators** to nurture rural entrepreneurs. These incubators provide training, mentoring, and business support services to beneficiaries. As of now, 109 such Incubators have been approved across different parts of India.

ULLAS SCHEME

Context: The Union Education ministry's literacy programme ULLAS has hit a hurdle in Bihar – the state among those with lowest literacy rates.



- **Understanding Lifelong Learning for All in Society (ULLAS)** is a **centrally sponsored scheme** implemented from 2022-2027 by the **Ministry of Education.**
- It aims to equip **5 crore 'non-literate individuals' over the age of 15** across the country with **foundational literacy and numeracy skills.**
- The scheme, aligned with NEP 2020, aims to empower those adults aged 15 years and above from all backgrounds **who could not get proper schooling** and mainstream them with society to be able to contribute more to the growth story of the country.
- The scheme has five components - **Foundational Literacy and Numeracy, Critical Life Skills, Basic Education, Vocational Skills** and **Continuing Education.**

- The **ULLAS App** can be used for registration of learners and volunteers either through self-registration or by surveyors.
- The ULLAS App will serve as a digital gateway for learners to engage in diverse **learning resources through the DIKSHA portal of NCERT.**

NATIONAL AIDS CONTROL PROGRAMME

Context: World AIDS Day is observed annually on December 1st, and this has brought attention on India's initiatives to tackle the spread of the viral disease.



About the National AIDS Control Programme (NACP):

- It was **launched in 1992** and is being implemented as a **comprehensive central sector programme** for the prevention and control of HIV/AIDS.
- Over time, its focus has **shifted from raising awareness to behavioural change** and from a **national response to a more decentralized response** and to increasing **involvement of NGOs and networks of People living with HIV (PLHIV).**
- The **NACP I started in 1992** was implemented with an objective of slowing down the spread of HIV infections and reduce mortality.
- In **Nov 1999, NACP II was launched** to reduce spread of HIV infection and to increase India's capacity to respond to HIV/AIDS on a long-term basis.
- **NACP III was launched in July 2007** with the goal of halting and reversing the spread of HIV/AIDS over a five-year period.
- **NACP IV was launched in 2012** and aims to accelerate the process of reversal and further strengthen the epidemic response in India through a cautious and well-defined integration process over a five-year period.
- **NACP V was launched in 2017** for a five-year period. In 2022, Phase V was **extended till 2026.** It aims to put measures in place to **attain the UN Sustainable Development Goal 3.3** of ending the HIV/AIDS epidemic as a public health threat by 2030.

About HIV-AIDS:

- ✓ It is caused by the **Human Immunodeficiency Virus (HIV).**
- ✓ **HIV attacks CD4, a type of White Blood Cell (T cells)** in the body. T cells are those cells that move around the body **detecting all anomalies and infections** in cells.
- ✓ After entering body, HIV multiplies itself and destroys CD4 cells, thus severely damaging the human immune system. **Once this virus enters the body, it can never be removed.**
- ✓ In a healthy body, CD4 count is between 500-1600, but in an infected body, it can go as low as 200.
- ✓ HIV is **spread through exchange of bodily fluids** such as blood, semen, vaginal fluids, and breast milk.
- ✓ If untreated, HIV destroys the immune system & **progresses to a stage called AIDS (Acquired Immuno-Deficiency Syndrome),** where they get several infections that may cause death.

- ✓ Although **there are no cures or vaccines** for it at present, it can be **managed via anti-retroviral therapy**.

Other Govt. Steps to tackle HIV-AIDS:

- ✓ *HIV and AIDS (Prevention and Control) Act, 2017:*
 - According to this act, **union and state govts** shall take measures to prevent the spread of HIV-AIDS.
 - The Act lists various grounds on which **discrimination against HIV positive persons and those living with them is prohibited**.
- ✓ *Project Sunrise:*
 - Launched by Ministry of Health and Family Welfare in 2016 to tackle the **rising HIV prevalence in the north-eastern states of India**, especially among drug users.



About SHAKTI Scholars Young Research Fellowship:

- It is a **six-month program** aimed at supporting emerging scholars in researching women's issues in India.

Objectives:

- Encourage research on women's issues from a multidisciplinary perspective.
- Promote academic and policy-oriented studies that contribute to gender equality, safety, and empowerment.
- Provide opportunities for young scholars to engage in meaningful research that can support the Commission's mandate
- **Duration:** 6 months.
- **Research areas:** Women's safety and dignity, gender-based violence, legal rights and access to justice, cyber safety, implementation of the Prevention of Sexual Harassment (POSH) framework ETC.
- It is an initiative of the **National Commission for Women**.

Eligibility:

- **Academic:** Must hold at least a graduate degree; preference is given to those completed

 Anti-Retroviral Therapy refers to a combination of medications. It helps in protecting CD4 cells, thus keeping the immune system strong. Besides reducing the risk of transmission of HIV, it also helps in stopping its progression to AIDS.

SHAKTI SCHOLARS YOUNG RESEARCH FELLOWSHIP

Context: Recently, the National Commission for Women launched 'SHAKTI Scholars' young research fellowship on women-centric policy issues.

or pursuing Masters, M.Phil., or Ph.D. in relevant fields.

- **Nationality & Age:** The fellowship is open to Indian citizens aged between 21 and 30 years who hold at least a graduation degree from a recognised institution.
- **Financial Support:** Selected candidates will receive a research grant of Rs 1 lakh to undertake a six-month study.

SWACHH BHARAT MISSION

Context: Ministry for Housing and Urban Affairs released the toolkit for the 10th edition of Swachh Survekshan, which is the world's largest urban cleanliness survey.



SWACHH BHARAT ABHIYAN

About Swachh Bharat Mission (SBM):

- It was **launched on Oct 2, 2014**, to fulfil the vision of a clean India. Its objectives were to **eliminate open defecation, eradicate manual scavenging, and promote scientific solid waste management.**
- It consists of two separate sub-missions:
 - **SBM-Grameen (under Ministry of Jal Shakti)**
 - **SBM-Urban (under Ministry of Housing and Urban Affairs)**
- Since its launch, it has helped **construct over 6 lakh community and public toilets** across India.
- It emphasized **behavioural change** through mass awareness campaigns,

encouraging citizens to adopt cleaner practices.

- It uses **Swachhta leagues & rankings to create a healthy competition** between states, towns, and cities.

SBM – Grameen (SBM-G):

- It aims to accelerate the efforts to achieve **universal sanitation coverage** and to put **focus on sanitation in policy making.**
- It is being implemented as nation-wide campaign to **eliminate open defecation in rural areas.**
- The rural sanitation coverage at the time its launch was reported as **38.7%. This reached 100% by 2019 (ODF Status).**
 - Now the subsequent goal is to transition **all villages to ODF Plus by 2024-25.**
 - Currently, **85% of villages have attained ODF Plus status.**
- According to the National Annual Rural Sanitation Survey (NARSS) Round 3 - **95% of India's rural population had toilet access, with 79% owning their facilities**
- **SBM(G) Phase-II:** It emphasizes the **sustainability of achievements under Phase I** and aims to provide adequate facilities for **Solid/Liquid & plastic Waste Management (SLWM).**
 - It will be implemented from **2020-21 to 2024-25** in with an outlay of Rs. 1,40,881 crores.
- The SLWM component of ODF Plus will be monitored based on **output-outcome indicators for 4 key areas:**
 - Plastic waste management
 - Biodegradable solid waste management
 - Greywater (Household Waste-water) management
 - Faecal sludge management.

- Top 5 performing states: **Tamil Nadu, Telangana, Odisha, Uttar Pradesh and Himachal Pradesh** (maximum number of ODF Plus villages).

SBM – Urban (SBM-U):

- It aims to make cities and towns across India free from open defecation. It focuses on **door-to-door waste collection, waste segregation, and scientific waste processing via bio-methanation plants & material recovery facilities.**
- It has mobilized over Rs **20,000 crores for investment in solid and liquid waste management systems** to strengthen urban infra across India.
- **Phase 1 focused on making urban India ODF** by providing access to toilets and promoting behavioural change.
 - SBM-U 1.0 was successful in achieving its targets and **100% of urban India was declared ODF in 2019** - covering **4.715 urban local bodies (ULBs).**
 - **3,547 ULBs are ODF+** with functional and hygienic community and public toilets.
 - **1,191 ULBs are ODF++**, having complete faecal sludge management.
 - **14 cities are certified Water+**, which entails treatment of wastewater & optimum reuse.
- **SBM-U 2.0 was announced in Budget 2021-22**, and is the continuation of SBM-U first phase. It will be implemented from 2021 to 2026.
 - **SBM-U 2.0 will go beyond ODF++ and will focus on making urban India garbage-free.** It focuses on sustainable sanitation practices, waste management, and promotion of a circular economy.

- **Waste Processing in India has gone up by over 4 times from 17% in 2014 to 75% in 2023**, aided through **100% door-to-door waste collection in 97% wards.**
- **Source segregation of waste** is being practised by citizens across **almost 90% wards in all ULBs.**
- **Garbage Free Cities (GFC) Star Rating** protocol was launched in Jan 2018. The number of GFC cities has increased from **only 56 cities in 2018 to 445 cities in 2023**, with a target of at least **1,000 GFC cities by 2026.**
- **2023 Budget has further reinforced India's commitment to building a circular economy** through an enhanced focus on scientific management of dry and wet waste.

Open Defecation Free (ODF) Status:

- ✓ **ODF:** An area is ODF if at any point of the day, not even a single person is found defecating in the open.
- ✓ **ODF+:** At any point of the day, not a single person is found defecating in the open, and all public toilets are functional and well maintained.
- ✓ **ODF++:** Area is already ODF+ and faecal sludge/septage and sewage are safely managed & treated, with no dumping of untreated faecal sludge and sewage into open drains or water bodies.

JAL JEEVAN MISSION



- It was launched on August 15, 2019.
- JJM is envisioned to **provide safe and adequate drinking water through individual Functional Household Tap Connections (FHTCs) to all households in rural India.**
- It is based on a community approach to water and will include extensive Information, Education and communication as key components of the mission.
- **Nodal Ministry:** Ministry of Jal Shakti.

Components of the Mission

- Development of in-village **pipd water supply infrastructure** to provide tap water connections to every rural household.
- **Bottom-up planning:** Community engagement in planning, implementation and Operation and Maintenance (O&M)
- **Women empowerment:** Involvement of women in planning, decision-making, implementation, monitoring, and O&M
- **Focus on future generations:** Provision of tap water supply to schools, tribal hostels, and anganwadi (daycare) centers
- **Skill development and employment generation:** Local people are skilled for building and maintaining water supply structures

- **Greywater management:** Reuse and recycle waste water for source sustenance
- **Source sustainability:** Promote groundwater recharge and water conservation
- **Water Quality:** Ensure safe drinking water to reduce water-borne ailments

Funding Pattern

- 50:50 between Centre and States
- 90:10 for Himalayan and North-Eastern States.
- In case of UTs, 100% of the funding is provided by the Central government

PM INTERNSHIP SCHEME

PM Internship Scheme 2025



- PM Internship Scheme is a remarkable initiative launched by the Indian government, designed to provide valuable internship opportunities for the youth of India.
- It aims to provide young individuals aged **21-24 years from low-income households with 12-month internship opportunities in the country's top 500 companies.**
- The pilot phase targets 1.25 lakh youth, with a five-year goal to facilitate internships for one crore young individuals.
- These internships span 24 sectors, including oil, gas, energy, travel, hospitality, automotive, banking, and financial services.

Eligibility Criteria:

- Passed 10th, 12th, ITI, Polytechnic, or Diploma courses.
- Fresh graduates from non-premier institutions.
- Anyone from a household that includes a person who earned an income of Rs.8 lakh or less in 2023-24.
- No family member has a government job.
- **Note:** Students from IITs, IIMs, National Law Universities, and individuals with professional degrees like CA, MBA, MBBS, etc., are excluded to promote inclusivity for underrepresented groups.
- The program, part of the larger vision for skill development and employment, aims to bridge the gap between academic learning and real-world experience.

NATIONAL LEPROSY ERADICATION PROGRAMME

Context: The Supreme Court is hearing a batch of petitions which contended that many Central and State laws discriminate against persons affected by leprosy.

About National Leprosy Eradication Programme (NLEP):

- It is a **centrally sponsored scheme** under the National Health Mission (NHM).
- India has eliminated leprosy as a public health problem i.e., less than 1 case per 10,000 people.
- The NLEP aims at **eliminating leprosy in all districts by 2030**.
- In 2017, Union Govt. launched **Sparsh Leprosy Awareness Campaign**, which aims at communicating importance of early detection and treatment.

- NLEP has adopted the **National Strategic Plan and Roadmap for Leprosy (2023-2027)** - to interrupt transmission & achieve zero indigenous cases by 2030.
 - This is aligned with the Global Leprosy Strategy 2021-2030 & WHO Neglected Tropical Diseases Roadmap, aiming to end leprosy transmission by 2030 & recover from the Covid-19 impact on health services.

Prevalence of the Disease:

- Leprosy is **endemic in several Indian states and UTs**, with an annual rate of detection of 4.56 per 10,000 people. India reports more than 1,25,000 new patients of leprosy every year.
- It is **classified by WHO as a Neglected Tropical Disease (NTD)**, with more than 2 lakh new cases every year.

About Leprosy:

- Also known as **Hansen's disease**, it's a chronic infectious disease caused by a **bacterium**, *Mycobacterium leprae*.
- Predominantly affects the **skin and peripheral nerves**. Left untreated, it can cause permanent disabilities.
- Transmitted via **droplets from the nose and mouth** during close and regular contact with untreated cases.
- **Clofazimine**, along with **Rifampicin** and **Dapsone**, are the three essential drugs for Multi-Drug Treatment of Multibacillary Leprosy (MB-MDT).
- Currently the only vaccine protection has come from **BCG (Bacillus Calmette-Guerin) vaccine**, which is primarily used for tuberculosis. In some cases, single dose of BCG gives 50% or higher protection against leprosy.

Neglected Tropical Diseases (NTDs):

- A group of infections most common among communities in developing regions of **Africa, Asia & Americas**.
- It is especially common in tropical areas where people lack access to clean water or safe ways to dispose human waste.
- Generally, they **receive less funding for research and treatment** than diseases like tuberculosis, AIDS and malaria.
- Examples: Snakebite, Scabies, Yaws, Trachoma, Leishmaniasis, Chagas disease etc.
- **London Declaration on NTDs** was adopted on 30th January, 2012 by the WHO to recognise the global burden of NTDs.



National Mission on Edible Oils-Oil Palm

- It is focused on expanding oil palm cultivation and increasing domestic crude palm oil output.
- It was approved in 2021, as a Centrally Sponsored Scheme, with the aim to enhance the edible oilseeds production and oils availability in the country by area expansion and increasing Crude Palm Oil (CPO) production.
- It focuses on increasing production of seedlings by establishment of seed garden, and nurseries of oil palm in order to assure domestic availability of seedlings as per target fixed under NMEO-OP.
- **Targets:** To bring 6.5 lakh hectares under oil palm cultivation by 2025–26 and increase crude palm oil production to 28 lakh tonnes by 2029–30.
- **Implementation:** The Department of Agriculture & Farmers Welfare (DA&FW) serves as the nodal central authority.

National Mission on Edible Oils– Oilseeds

- It is aimed at improving productivity, seed quality, processing, and market linkages for traditional oilseed crops.
- **Target:** To increase oilseed production from 39 to 69.7 million tonnes by 2030–31 through cluster-based interventions and improved seed systems.

NATIONAL MISSION ON EDIBLE OILS

- It aims to strengthen the country's oilseed ecosystem and achieve Atmanirbharta in edible oil production.

Targets of the mission

- It targets to increase the area coverage from 29 million ha (2022-23) to 33 million ha, primary oilseed production from 39 million tonnes (2022-23) to 69.7 million tonnes, and yield from 1,353 kg/ha (2022-23) to 2,112 kg/ha by 2030-31.
- This mission **targets domestic edible oil production at 25.45 million tonnes by 2030-31**.
- The Mission also seeks to expand oilseed cultivation by an additional 40 lakh hectares by targeting rice and potato fallow lands.
- It has two-pronged approach which is as follows

- It was approved in 2024, for a seven-year period, from 2024-25 to 2030-31.
- **Focus:** Increasing production of key primary oilseed crops such as Rapeseed-Mustard, Groundnut, Soybean, Sunflower, Sesamum, Safflower, Niger, Linseed and Castor.
- It also focuses on increasing collection and extraction efficiency from secondary sources like cottonseed, coconut, rice bran as well as Tree-Borne Oilseeds (TBOs).
- **Implementation:** It will be implemented in all States/UTs with the funding pattern of 60:40 in case of general States, Delhi & Puducherry and 90:10 in case of North-Eastern States and hill States, and 100% funding for UTs and Central Agencies.

GREEN TUG TRANSITION PROGRAMME



- It aims to transition India's harbour tug fleet from conventional diesel-powered vessels to greener alternatives.
- It was launched by the **Ministry of Ports, Shipping and Waterways in 2024**.
- Under this programme, **50 green tugs will be inducted by 2030**, with 16 to be deployed in the first phase between 2024 and 2027.
- In Phase 1, two green tugs each will be stationed at DPA, Paradip Port Authority,

Jawaharlal Nehru Port Authority and V.O. Chidambaranar Port Authority.

- One tug each will be deployed at the remaining eight major ports.
- This is achieved through a phased approach spanning five phases from 2024 to 2040.
- **Nodal Agency:** National Centre of Excellence in Green Port & Shipping (NCoEGPS) will act as the nodal entity for this programme
- 'Green Hybrid Tugs' will be powered by **Green Hybrid Propulsion systems**. These Green hybrid tugs will subsequently adopt non-fossil fuel solutions like (Methanol, Ammonia, and Hydrogen).

RBI'S LARGE EXPOSURES FRAMEWORK (LEF)



- The LEF is designed to manage and limit concentration risk in banks by capping the maximum exposure a bank can have to a single counterparty or group of connected counterparties.
- **Scope:** It applies to all exposures of banks, including loans, investments, and off-balance-sheet exposures, ensuring that banks do not overexpose themselves to a single party or group.
- **Exposures Covered:** The framework covers domestic exposures, exposures to foreign branches, and intragroup exposures between the bank's branches and head office or other subsidiaries.

- **Exposure Limits:** Banks must ensure that their exposure to a single counterparty or group does not exceed a specified percentage of their Tier I Capital.
- For globally systematically important banks (G-SIBs), exposure limits are capped at 20% of Tier I capital for exposures to their head office or other G-SIBs, and 25% for non-G-SIBs.
- For non-G-SIB foreign banks, the limits are reversed: 25% for exposures to their head office or non-G-SIBs and 20% for exposures to G-SIBs.
- Exposures between foreign bank branches in India and their head office or overseas branches must be treated as regular counterparty exposures and fall within LEF limits.
- Transactions between foreign branches in India and their head offices or overseas branches must be computed on a gross basis (i.e., no netting), ensuring a conservative approach to risk assessment.
- **Exposures are calculated based on credit and investment exposure, excluding equity and regulatory capital instruments.**
- The changes were made to remove ambiguities in how foreign bank exposures are treated, aligning the framework with global banking practices and evolving bank structures.
- Banks that breach the intergroup exposure limits will be given six months to rebalance their exposures to comply with the framework.
- The RBI has repealed certain older measures, including a chapter focused on enhancing credit supply for large borrowers through market mechanisms, signaling a shift in its approach to concentration risk.

RBI INTEGRATED OMBUDSMAN SCHEME



- It **integrated the erstwhile three Ombudsman schemes of RBI** namely: the Banking Ombudsman Scheme, 2006, the Ombudsman Scheme for Non-Banking Financial Companies, 2018 and the Ombudsman Scheme for Digital Transactions, 2019.
- It adopted the **'One Nation One Ombudsman' approach** by making the RBI Ombudsman mechanism jurisdiction neutral.
- **Objective:** To provide customers of regulated entities (REs) a speedy, cost-effective and expeditious alternate grievance redress mechanism

Features

- It defines **'deficiency in service' as the ground for filing a complaint, with a specified list of exclusions.**
- **Covered Banks:** It covers all commercial banks, Non-Banking Financial Companies (NBFCs), RRBs, Payment System Participants, most Primary (Urban) Cooperative Banks with a deposit size of ₹50 crore and Credit Information Companies.
- A Centralized Receipt and Processing Centre has been set up at RBI, Chandigarh, for receipt and initial processing of physical and email complaints in any language.

- Under this scheme, compensation up to Rupees 20 lakh, in addition to, up to 1 lakh for the loss of the complainant's time, expenses incurred and for harassment/mental anguish suffered by the complainant can be awarded.

UDAN SCHEME

Context: A water aerodrome is being planned in Kerala's Kasaragod under the UDAN Scheme.



About UDAN (Ude Desh ka Aam Naagrik) Scheme:

- The scheme was launched by the **Ministry of Civil Aviation** for regional airport development and regional connectivity enhancement.
- It is a **part of the National Civil Aviation Policy 2016** and is applicable for a period of 10 years.
- Aim: Expand access to **air travel for Tier 2 & Tier 3 cities** and shift traffic pattern away from Metro routes.

Key Features:

- Under the scheme, airlines have to **cap airfares for 50% of the total seats at Rs. 2,500 per hour** of flight.
- This would be achieved through:
 - Financial stimulus/concessions from Central & State govts.
 - **Viability Gap Funding (VGF)** - A govt grant provided to bridge gap between cost of operations and expected revenue.

- **Regional Connectivity Fund (RCF)** was created to meet VGF requirements of the scheme.

Phases of the Scheme:

- **Phase 1** was launched in 2017 to connect underserved and unserved airports in the country.
- **Phase 2** was launched in 2018 to expand air connectivity to more remote and inaccessible parts.
- **Phase 3** was launched in Nov 2018 to enhance air connectivity to hilly and remote regions of the country.
- **Phase 4** was launched in Dec 2019, with a focus on connecting islands and other remote areas of the country.
- **Phase 5** launched in April 2023 with a focus on Category-2 (20-80 seats) and Category-3 (>80 seats) aircrafts with no restriction on distance between origin and destination.

Status of India's Aviation Sector

- ✓ Among the fastest-growing aviation markets globally – it is a major growth engine to make India a USD 5 trillion economy by 2028.
- ✓ Over the past 6 years - **domestic passenger traffic has grown annually at 14.5%** and **international passenger traffic has grown at around 6.5%**.
- ✓ Domestic passenger traffic projected to rise to 16 crores in FY 23/24 and to 35 crores by 29/30.
- ✓ Fleet size, which rose from 400 to more than 700 in the last ten years, is set to move upwards of 2,000 by 2035.
- ✓ In 2023 alone, 1,622 commercial pilot licences were issued.
- ✓ **Number of airports has doubled from 74 in 2014 to 157 in 2024.**
- ✓ In 2020, the FDI policy for civil aviation was amended to allow **100% FDI in automatic route.**

NATIONAL FILM HERITAGE MISSION

Context: The Minister of State for Information & Broadcasting said in Lok Sabha that till date 1,469 titles have been digitized under the National Film Heritage Mission.

About National Film Heritage Mission:

- It was launched in 2015 by the **Ministry of Information and Broadcasting** for restoring and preserving the film heritage of India.
- Implementation Agency:** National Film Archive of India, Pune.

Objectives:

- Condition assessment of film reels to ascertain the remaining life of the film.
- 2K/4K picture and sound restoration of landmark films of India and recording of new picture and sound inter-negatives of each film.
- Digitization of films.
- Construction of archival and preservation facilities called **vaults**.
- Training and workshops for in-house capacity building.
- Web-based end-to-end IT solution

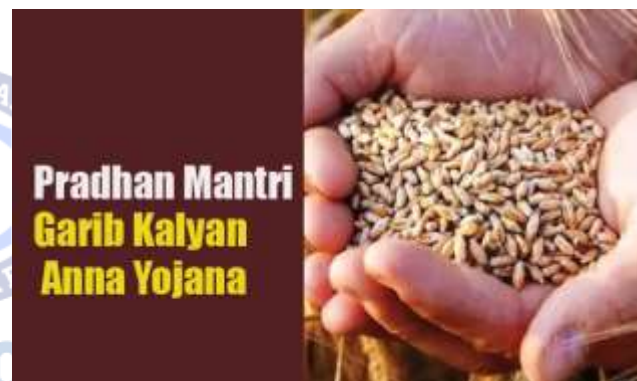
National Film Archive of India

- It was established in February 1964 as a media unit of the **Ministry of Information and Broadcasting**, Government of India.
- Its primary objective is to **acquire and preserve Indian cinematic heritage**.
- This includes preservation of film and non-film material, including but not limited to celluloid, stills, glass slides, posters, lobby cards, scripts, and song booklets.
- Beyond safeguarding celluloid history, the NFAI actively promotes Indian cinema.
- They organize screenings, film appreciation courses, and research programs, fostering a deeper understanding of Indian film culture.

- It is **headquartered in Pune** with regional centers in Bangalore, Kolkata, and Trivandrum.
- It has been a member of the **International Federation of Film Archives (FIAF)** since 1969.

PM GARIB KALYAN ANNA YOJANA (PMGKAY)

Context: The Supreme Court held that families of doctors and medical personnel who died while deputed on CoVID-19 duty are entitled to benefits under the PMGKAY.



About PM Garib Kalyan Anna Yojana (PMGKAY) Scheme:

- It was first introduced in 2020 during Covid-19 pandemic to provide **5kg free foodgrains to eligible ration card holders** under NFSA.
- Initially set to expire in Dec 2022, it was extended till Dec 2023 and now, it has been **extended till Dec 2028**.
- Since its inception, union govt has allocated **1,118 lakh metric tonnes of foodgrains** from its procurement pool at a cost of Rs 3.9 lakh crore.
- It provides free grains to about **81.35 crore people**. Each person covered under National Food Security Act, 2013 (NFSA) is given an extra 5 kg grains (wheat/rice) for free, in addition to

grains already provided via the Public Distribution System.

- Nodal Ministry: **Ministry of Finance.**
- **Beneficiaries are identified based on 2011 Census** (same as NFSA 2013).

Eligibility Criteria for PMGKAY:

- **Families belonging to Antyodaya Anna Yojana (AAY) and Priority Households (PHH)** category will be eligible for the scheme.
 - PHH is identified by States/UTs as per criteria evolved by them.
 - AAY families are identified by States/UTs as per criteria prescribed by Union Govt.
- Households headed by **widows, or terminally ill persons, or disabled persons, or persons aged 60 or more** with no assured means of subsistence or societal support.
- All **tribal households, landless agricultural labourers, marginal farmers, rural artisans and craftsmen, slum dwellers, informal daily wage labourers** in both rural and urban areas are also eligible.
- All citizens who belong to **Below Poverty Line families** are eligible.

Eligibility Criteria for NFSA:

- Coverage: **75% of rural population & upto 50% of urban population** for receiving subsidized foodgrains under Targeted PDS (TPDS). Overall, NFSA **covers 67% of total population.**
- PHHs and AAY will be covered under TPDS, according to guidelines by the State govt.
- Provisions are as follows:
 - **5 kg of foodgrains** per person per month at Rs. 3/2/1 per Kg for rice/wheat/coarse grains. **AAY household will continue to**

receive 35 kg of foodgrains per household per month.

- **Meal and maternity benefit** of not less than Rs. 6,000 to pregnant women and lactating mothers during pregnancy and six months after the child birth.
- **Meals for children upto 14 years** of age.
- **Food security allowance** in case of non-supply of grains.
- Setting up of **grievance redressal mechanisms** at the district and state level.



In January 2023, the PMGKAY was integrated with the NFSA 2013, resulting in the provision of all rations for AAY and PHH families at no cost.

NATIONAL TECHNICAL TEXTILES MISSION (NTTM)

Context: The Govt. is planning on extending the NTTM Scheme for two more years beyond its original deadline of March 2026.



Technical Textiles:

- They are **manufactured for their performance & functional properties** rather than aesthetic features.
- These products are broadly classified into **12 different categories** based on their usage in civil engineering, construction,

defence, healthcare and automobile among other industries.

- They can be used for various applications ranging from agriculture, roads, railway tracks, sportswear, health, bullet proof jackets, fireproof jackets, high altitude combat gear and space applications.
- **Examples:** Umbrella cloth, mosquito nets, cigarette filter nods, contact lenses, sanitary napkins, seat belts, helmets, tea bag filter papers etc.

About the NTTM:

- NTTM is an initiative of the **Ministry of Textiles** to promote the growth and development of the technical textiles sector in the country.
- **₹517 crore** has been allocated for the NTTM since its launch. So far, ₹393.39 crore has been used for research, innovation, market development, export promotion and skill development in technical textiles.
- A total of **168 research projects**, valued at around ₹509 crore, have been approved under NTTM.
- The Mission has **four components**:
 - **Research, Innovation and Development:** Research is conducted in Council of Scientific & Industrial Research (CSIR) labs, IITs, and other reputable institutions.
 - **Promotion and Market Development:** Focus on market growth, global collaborations, investment promotions, and 'Make in India' initiatives.
 - **Export Promotion:** An Export Promotion Council for Technical Textiles has been established to enhance coordination and promotional activities in this sector.

- **Education, Training, and Skilling:** Promotes higher-level technical education and skill development in all 12 segments of technical textiles.

Initiatives under NTTM:

- **Grant for Internship Support for Technical Textiles (GIST):** Bridges the gap between industry and academia.
- **Grant for Research & Entrepreneurship across Aspiring Innovators in Technical Textiles (GREAT) Scheme:** Funding to translate prototypes into products and technologies that have potential for commercialization.

SUJALAM BHARAT APP



- It is a key digital initiative designed to transform **rural drinking water governance**.
- It has been developed with the support of **Bhaskaracharya National Institute for Space Applications and Geo-informatics (BISAG-N)**

Features the App

- It enables advanced geo-referencing, monitoring and management of rural water supply infrastructure under Jal Jeevan Mission.

- It integrates critical data including water sources, asset inventories, scheme designs, operational records, water quality reports, supply metrics, and community feedback into a single platform.
- With the introduction of the Sujal Gaon ID, every habitation will have a clear digital profile showing:
 - Its source of drinking water (local or bulk supply)
 - The nature and condition of its infrastructure
 - Supply reliability
 - Water quality status
 - O&M arrangements
- It is integrated with PM Gati Shakti GIS which provides up-to-date geospatial mapping of rural water networks, supporting future planning, repair, and expansion with greater precision.
- **Significance:** It will ensure transparency in the performance of Gram Panchayats, Village Water and Sanitation Committees (VWSCs) and service providers, thereby promoting community participation and oversight.
- It was launched by the **Department of Animal Husbandry and Dairying**, Government of India for creating a digital database of livestock and related services across the country.
- **Aims:** To enhance livestock productivity and breed improvement, strengthen disease surveillance and control, enable traceability of livestock products and create a farmer-centric digital ecosystem for efficient service delivery.
- It has been implemented across all States in India.
- The digital backbone of the mission is the **'Bharat Pashudhan' platform**.
- Bharat Pashudhan' platform includes mobile and web-based applications used by field workers to record livestock-related activities.
- Each animal is assigned a unique 12-digit bar-coded ear tag, which serves as its digital identity.
- Using this system, field workers capture data on animal registration, artificial insemination and breeding, ownership changes, vaccinations, disease reporting, milk recording, ration balancing and e-prescriptions.

NATIONAL DIGITAL LIVESTOCK MISSION



Objectives

- Improving breeding outcomes suited to India's diverse agro-climatic conditions.
- Enabling real-time disease monitoring and control, and establishing a robust traceability mechanism for livestock products.
- The mission also focuses on empowering farmers by providing easy access to information on government schemes and livestock-related services.

BHARATNET PROJECT



- It is an **ambitious project of the Government of India aimed at providing broadband connectivity to all Gram Panchayats (GPs) in the country.**
- The project was approved in 2011.
- It is one of the **biggest rural telecom projects in the world.**
- The primary objective is to provide **unrestricted access to broadband connectivity to all the telecom service providers.**
- This enables access providers like mobile operators, Internet Service Providers (ISPs), Cable TV operators, and content providers to launch various services such as e-health, e-education, and e-governance in rural and remote India.
- The project initially aimed to connect approximately 2.5 lakh Gram Panchayats across the country.
- The project is being executed by a Special Purpose Vehicle (SPV), namely Bharat Broadband Network Limited (BBNL), which was incorporated in 2012 under Indian Companies Act 1956.
- In 2016, the Telecom Commission approved implementing the project in three phases.

Phase I:

- Focused on laying optical fibre cables to connect 1 lakh Gram Panchayats by utilising existing infrastructure.
- This phase was completed in December 2017.

Phase II (ongoing):

- Expanded coverage to an additional 1.5 lakh Gram Panchayats using optical fibre, radio, and satellite technologies.
- This phase incorporated collaborative efforts with state governments and private entities.

Phase III (ongoing):

- Aims at future-proofing the network by integrating 5G technologies, increasing bandwidth capacity, and ensuring robust last-mile connectivity.
- The Amended BharatNet Program (ABP) approved in August 2023 can be considered part of this evolution.

About A mended BharatNet Program (ABP)

- Approved in August 2023, the ABP is a design improvement aiming for
- Optical Fibre (OF) connectivity to 2.64 lakh GPs in ring topology (a network design where connected devices form a circular data channel)
- OF connectivity to the remaining non-GP villages on demand.
- It includes features like IP-MPLS (Internet Protocol Multi-Protocol Label Switching) network with routers at Blocks and GPs, operation and maintenance for 10 years, power backup, and Remote Fibre Monitoring System (RFMS).

NATIONAL GREEN HYDROGEN MISSION (NGHM)

Context: An article in today's edition of The Hindu analyses the potential of green hydrogen in helping India achieve its renewable energy targets.



About NGHM:

- It was launched in January 2023 by the **Ministry of New & Renewable Energy**. It commits an outlay of ₹ 19,744 crore from 2023 to 2030.
- Union govt. to set up manufacturing zones, connectivity to grid, and **free transmission for 25 years** if facility commissioned before Jun 2025.
- Producers allowed to set up **bunkers near ports** for storage for later export.
- Production target raised from 1 million metric tonnes (MMT) per year in 2021 to **5 MMT per year by 2030**. This target would create a **demand for 100-125 GW of renewable energy & 60-100 GW of electrolyzers**.
- Aims for an investment opportunity of ₹8 lakh crore, while **reducing annual emissions by 50 MMT**.

- Manufacturers allowed to **purchase renewable energy from power exchange or set it up themselves** or through any other developer.
- Facility for producers to **bank any surplus renewable energy generated** with discoms up to 30 days.
- Discoms procuring renewable energy to supply green hydrogen producers will do so at concessional rates. Such procurement by discoms will **count towards the state's Renewable Purchase Obligations (RPO)**.
- Aims for cumulative **reduction in fossil fuel imports by Rs 1 lakh crore**.

Sub Schemes:

- Strategic Interventions for Green Hydrogen Transition Programme (SIGHT):** It will fund the domestic manufacturing of electrolyzers and produce green hydrogen.
- Green Hydrogen Hubs:** States and regions capable of supporting large scale production and/or utilization of hydrogen will be identified and developed as Green Hydrogen Hubs.

About SIGHT Programme:

- It is an integral component of NGHM to foster domestic electrolyser manufacturing and production.
- An investment of Rs 17,490 crore was allocated to SIGHT **until 2029-30**.
- Dual Incentive Mechanisms:** SIGHT introduces two distinct financial incentive mechanisms:
 - Incentive for Electrolyser Manufacturing: To boost the production of essential electrolysis equipment.

- Incentive for Green Hydrogen Production: Encouraging the generation of clean and sustainable green hydrogen.
- Incentive programs will evolve in **response to market dynamics and technological advancements**, ensuring the Mission's adaptability.
- Solar Energy Corporation of India (SECI) is entrusted with executing the scheme, driving its effective implementation.

Current status of Hydrogen Production in India:

- India produces **6.5 MMT per annum** of hydrogen, predominantly for use in **oil refineries & fertilizer production**.
- Most of India's current hydrogen supply is **Grey Hydrogen**, which is produced using **natural gas**.
- Green Hydrogen production requires ample supply of renewable energy for the electrolysis process.



When electricity is passed through water, it splits it into oxygen and hydrogen via electrolysis. And if the electricity used for this comes from a renewable source, then the hydrogen thus produced is called green hydrogen.

PM SETU SCHEME



- **Pradhan Mantri Skilling and Employability Transformation through Upgraded ITIs (PM-SETU)** is a **Centrally Sponsored Scheme** launched to **strengthen India's vocational training ecosystem**.
- It aims to **modernize the ITI ecosystem** by upgrading 1000 government ITIs across India into modern, industry-aligned training institutions
- It is implemented as a hub-and-spoke model, with 200 hub ITIs linked to 800 spoke ITIs.
- Each hub will be equipped with advanced infrastructure, innovation and incubation centres, production units, training of trainer facilities, and placement services, while the spokes will extend access and outreach.
- **Nodal Ministry:** Ministry of Skill Development and Entrepreneurship.

Components of PM-SETU Scheme

- Introduce new, demand-driven courses and revamp existing ones in collaboration with industry;
- Set up Special Purpose Vehicles (SPVs) with credible Anchor Industry Partners to manage clusters and ensure outcome-based training;
- Create pathways for long-term diplomas, short-term courses, and executive programs;
- Strengthen 5 National Skill Training Institutes in – Bhubaneswar (Odisha), Chennai (Tamil Nadu), Hyderabad (Telangana), Kanpur (Uttar Pradesh), Ludhiana (Punjab), as Centres of Excellence with global partnerships.
- The initiative is backed by global co-financing from the **World Bank and Asian Development Bank**.

TSUNAMI READY RECOGNITION PROGRAMME



- It is an **international community-based recognition programme developed by Intergovernmental Oceanographic Commission (IOC) of UNESCO**.
- It aims to build resilient communities through awareness and preparedness strategies that will protect life, livelihoods and property from tsunamis in different regions.
- The main goal of the Programme is to **improve coastal community preparedness for tsunamis** and to minimize the loss of life, livelihoods and property.
- This is achieved through a **collaborative effort** to meet a standard level of tsunami preparedness through the fulfilment of a set of established indicators.
- It is a **voluntary, performance-based community recognition programme** rather than a regulatory and enforcement mechanism

Methodology used

- To get this recognition, communities must meet all 12 indicators, which cover Assessment, Preparedness, and Response, will be recognized as 'Tsunami Ready' by the UNESCO/IOC.
- Tsunami-ready village is certified to the ones that have high awareness about tsunami, hazard preparedness and mapping, public display of evacuation maps, 24-hour warning

systems, participation in mock drills among others.

- The recognition is **renewable every four years**.
- India is set to have over **100 tsunami-ready villages across** its coastline and island territories under the Tsunami Ready Recognition Programme, placing it **among the leading countries in the Indian Ocean region** in terms of community-based tsunami preparedness.
- In India, **The Ministry of Earth Sciences** has established a **National Tsunami Ready Board** to guide and oversee the programme's implementation.

SHIPBUILDING FINANCIAL ASSISTANCE SCHEME



- It is aimed at **strengthening India's domestic shipbuilding capacity** and improving global competitiveness.
- It will remain valid **until March 31, 2036**.
- **Nodal Ministry:** Ministry of Ports, Shipping & Waterways

Features of Shipbuilding Financial Assistance Scheme

- **Financial Assistance:** The government will provide financial assistance ranging from 15% to 25% per vessel, depending on the vessel category.

- **Graded Support:** The scheme introduces graded support for small normal, large normal and specialised vessels, with stage-wise disbursement linked to defined milestones and backed by security instruments.
- **Shipbreaking Credit Note:** Under this, ship owners scrapping vessels at Indian yards will receive a credit equivalent to 40% of the scrap value.
- It provides for the establishment of a National Shipbuilding Mission to ensure coordinated planning and execution of shipbuilding initiatives.

Features of Shipbuilding Development Scheme

- **Infrastructure Development:** It provides for the development of greenfield shipbuilding clusters, expansion and modernisation of existing brownfield shipyards.
- **India Ship Technology Centre:** It is to be established under the Indian Maritime University to support research, design, innovation and skills development.

Funding

- **Greenfield shipbuilding clusters will receive 100% capital support** for common maritime and internal infrastructure through a 50:50 Centre-State special purpose vehicle.
- **Brownfield expansion will be eligible for 25% capital assistance** for brownfield infrastructure such as dry docks, shiplifts etc.
- **Credit Risk Coverage:** The scheme also includes a Credit Risk Coverage Framework, offering government-backed insurance for pre-shipment, post-shipment and vendor-default risks

REVAMPED DISTRIBUTION SECTOR SCHEME



- It was launched by the Ministry of Power, Government of India, in July 2021, **aimed at transforming the electricity distribution sector.**
- It is a Reforms-based and Results-linked Scheme with an outlay of Rs.3,03,758 crore over a period of five years from FY 2021-22 to FY 2025-26.
- It seeks to **modernise India's power distribution sector** through smart metering, network strengthening, and financial reforms, with the goal of creating financially sustainable and operationally efficient DISCOMs.
- The scheme aims to reduce the Aggregate Technical and Commercial (AT&C) losses to pan-India levels of 12-15% and Gap between Average Cost of Supply (ACS) and Average Revenue Realised (ARR) to zero by 2024-25.
- **The Scheme has two major components:**
 - **Part A:** Financial support for Prepaid Smart Metering & System Metering and upgradation of the Distribution Infrastructure.
 - **Part B:** Training & Capacity Building and other Enabling & Supporting Activities.
- Financial assistance to DISCOMs is provided for upgradation of the Distribution Infrastructure and for Prepaid Smart

Consumer Metering & System Metering based on meeting pre-qualifying criteria and achieving basic minimum benchmark in reforms.

PM YUVA 3.0 SCHEME



- The Prime Minister's Scheme for Mentoring Young Authors (PM-YUVA 3.0) **aims to nurture young writers under 30 years of age, providing them with mentorship and exposure to hone their creative writing skills.**
- The scheme will help to develop a stream of writers who can write on various facets of India, encompassing the past, present, and future.
- PM-YUVA 3.0 intends to bring to the fore the perspectives of the young generation of writers on the **following themes**:
 - Contribution of Indian Diaspora in Nation Building;
 - Indian Knowledge System; and
 - Makers of Modern India (1950-2025).
- Besides, the scheme will also provide a window for the aspiring youth to articulate themselves and present a comprehensive outlook of the contribution of Indians across fields in ancient and present times.
- **The National Book Trust (NBT), India, under the Ministry of Education** as the Implementing Agency, will ensure phase-wise execution of the scheme under well-defined stages of mentorship.

Selection Process:

- The scheme invites applications from aspiring writers through **MyGov India's online portal.**
- A competitive process shortlists 50 young authors based on a well-defined evaluation criterion.
- The number of authors to be selected as per the theme:
- The NBT will constitute the selection committee.
- Applicants are required to submit a book proposal of 10,000 words, which is then reviewed by a panel.
- The shortlisted candidates undergo a multi-stage selection process before the final selection.
- Applicants who had qualified for the PM-YUVA Scheme 1.0 and PM-YUVA Scheme 2.0 are not eligible for the PM-YUVA 3.0 scheme.

Mentorship and Support:

- Selected authors **receive a mentorship program spanning six months.**
- The authors undergo workshops, interactions with mentors, and exposure to India's literary ecosystem.
- At the end of mentorship, a consolidated scholarship of ₹50,000 per month for a period of 6 months ($50,000 \times 6 = ₹3 \text{ Lakh}$) per author will be paid under the Mentorship Scheme.
- A book or a series of books written by the young authors will be published by NBT, India as the outcome of the mentorship programme.
- A royalty of 10% will be payable to the authors on successful publications of their books at the end of the Mentorship Program.
- The books thus published under the scheme may be translated into other Indian languages.
- Under the mentorship, a National Camp will be held for the PM-YUVA 3.0 Authors during the New Delhi World Book Fair 2026.

- Selected authors get the opportunity to present their work at literary festivals and international forums.

PASSENGER ASSISTANCE CONTROL ROOM



- that provide live visibility on grievance types, timelines, and stakeholder actions.
- The physical presence of airline representatives within the control room allows immediate coordination and on-the-spot resolution of issues.
- Grievances related to flight delays, cancellations, refunds, and baggage issues are prioritised and addressed in accordance with the provisions of the Passenger Charter.

SCHEME FOR PROMOTION OF INTERNATIONAL COOPERATION OF AYUSH



MINISTRY OF
AYUSH

- It was launched by the **Ministry of Civil Aviation, Government of India.**
- It is aimed at significantly **improving the promptness and effectiveness of addressing air traveller grievances.**
- The PACR functions as an integrated hub bringing together officials from the Ministry of Civil Aviation, Directorate General of Civil Aviation (DGCA), Airports Authority of India (AAI), airline operators, and other key stakeholders under one roof at Udaan Bhawan, in New Delhi.
- It operates 24×7, continuously monitoring aviation operations, attending to passenger calls, and coordinating real-time assistance and grievance resolution.
- The AirSewa system has also been fully integrated into the PACR, enabling seamless handling of passenger grievances received through it.
- An omni-channel technology backbone converts passenger inputs into actionable cases, supported by data-driven dashboards

- It is a **Central Sector Scheme.**
- It provides support to Indian Ayush drug Manufacturers/ Ayush Service providers to give boost to the export of Ayush products & services.
- Nodal Ministry: **Ministry of AYUSH**

Objectives

- To promote and strengthen awareness and interest about **AYUSH Systems of Medicine at international level**
- To facilitate International promotion, development and recognition of Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy
- To foster interaction of stakeholders and market development of AYUSH at international level

- To support international exchange of experts and information for promotion and propagation of AYUSH systems,
- To promote academics and research through establishment of AYUSH Academic Chairs in foreign countries.

Components of the Scheme

- International exchange of experts & officers,
- Incentive to drug manufacturers, entrepreneurs, AYUSH institutions, Hospitals etc. for international propagation of AYUSH by participating in international exhibitions, trade fairs, road shows etc.
- Support for international market development and AYUSH promotion-related activities,
- Establishment of AYUSH Information Cells and establishment and strengthening of Health Centre/ Institution in foreign countries.
- International Fellowship/ scholarship Programme for foreign nationals for undertaking AYUSH courses in premier institutions in India.

Terms in News

SUJALAM BHARAT SUMMIT 2025



- The **Ministry of Jal Shakti** hosted the Vision for Sujalam Bharat Summit 2025 in New Delhi, marking a major national effort to create a **unified and practical water security framework**.
- It was conceived in line with the PM's vision of organising Summits that **bring together Central and State officers** as well as junior cadres.
- It encompasses **6 thematic areas**:
 - **Rejuvenation of Rivers and Springs**: Wetland restoration, catchment protection, and community river stewardship.
 - **Greywater Management**: Circular water use, nature-based solutions, and septage treatment.
 - **Technology-driven Water Management**: AI-based monitoring, micro-irrigation, leak detection, and precision agriculture.
 - **Water Conservation**: Aquifer recharge, traditional water systems, and LiFE-aligned behavioural change.
 - **Sustainable Drinking Water Supply**: Climate-resilient systems, sustainability, and community-based operations.

- **Community Engagement**: Empowering local bodies and SHGs for long-term sustainability of water assets.

- The Ministry consolidated inputs into **five national priorities**: source sustainability, groundwater recharge, modern & nature-based solutions, stronger community institutions, and inter-departmental convergence.
- It adopts a **whole-of-government approach**, linking policymakers and implementers to turn strategy into effective action.

OPERATION SAGAR BANDHU



- India initiated Operation Sagar Bandhu to **deliver assistance to Sri Lanka** after **Cyclone Ditwah** triggered massive floods and landslides.
 - Cyclone Ditwah formed over the southwest Bay of Bengal. The name Ditwah was contributed by Yemen.
- The mission aligns with India's **Neighbourhood First policy** and **Vision MAHASAGAR**, reinforcing India's role as a reliable first responder in the Indian Ocean region.

- India has consistently acted as a first responder in the Indian Ocean region, especially for Sri Lanka, extending support during the **MV XPress Pearl ship-fire disaster** in 2021 and providing assistance during **Cyclone Roanu** (2016).
- India has positioned itself as a global first responder in Humanitarian Assistance and Disaster Relief (HADR) - through missions like **Operation Maitri** in Nepal, **Operation Samudra Maitri** in Indonesia, and **Operation Dost** in Türkiye and Syria.
- Its leadership in HADR is also reinforced via bilateral and regional HADR exercises such as **PANEX-21** with BIMSTEC nations and **Samanvay-22** with ASEAN countries.

GPS SPOOFING



- GPS spoofing (or GPS simulation), refers to the practice of **manipulating or tricking a GPS receiver by broadcasting false GPS signals**.
- It **misleads the GPS receiver into believing it is located somewhere it is not**, resulting in the device providing inaccurate location data.
- This form of cyberattack undermines the reliability of GPS data, which is vital for a variety of applications, from navigation to time synchronization and more.
- Typically, a GPS spoofer begins by acquiring a basic understanding of the victim's GPS setup, including the types of

signals it uses and how they are processed. With that information, the **attacker then sends counterfeit GPS signals that mimic the real ones**.

- These **fake signals are stronger, causing the receiver to recognize them as authentic** signals. As a result, the victim's GPS receiver ends up processing these counterfeit signals, leading to erroneous location information.

KHIAMNIUNGAN TRIBE



- PM Modi referred to the Khamniungan tribe in his 'Mann Ki Baat' address, bringing attention to their culture.
- They are **one of the major Naga tribes**, inhabiting eastern **Nagaland** and **north-western Myanmar**.
- Their reside in mountainous and riverine regions, up to the **Chindwin River in Myanmar**. They speak **Khamniungan**, a Sino-Tibetan language.
- Their primary livelihood is **jhum (shifting) cultivation**, growing rice, millet, and vegetables.
- They are known for traditional **cliff-honey harvesting practices** that have been passed down for generations
- The major festivals of the Khamniungan tribe are **Tsokum Sumai** and **Khaotzao Sey Hok-ah Sumai**.

- They traditionally follow animistic, nature-centric beliefs, honouring spirits of land, water, and ancestors.

GLP 1 DRUGS



- It is a naturally occurring gut hormone (incretin) released after food intake.
 - It is secreted from the small intestine and from the hindbrain after we eat a meal.
 - It travels to the pancreas, where it helps to regulate our blood sugar by increasing insulin and decreasing glucagon.
 - It works for just a few minutes, so after you eat a meal and GLP-1 is secreted naturally, it gives an immediate effect that lasts maybe 30 minutes.
 - GLP-1 also has beneficial effects in many organs, such as the kidney, liver, and cardiovascular system
- The Glucagon-like peptide-1 (GLP-1) or GLP-1 receptor agonists are synthetic drugs which are being used for the treatment of obesity in adults.
 - These drugs are mainly injectables, though oral versions are under development.
 - **Examples:** Two leading GLP-1 drugs are: Semaglutide and Tirzepatide (by Eli Lilly)
 - Both have been introduced in India and are transforming obesity and diabetes treatment

Working

- These drugs act by:
 - Increasing insulin secretion when glucose is high.
 - Inhibiting glucagon release, reducing liver glucose output.
 - Slowing gastric emptying, preventing sudden spikes in blood sugar.
 - Suppressing appetite, making the person feel full sooner.

About Glucagon-like peptide-1

- GLP-1 is both an incretin hormone and a neurotransmitter.

SANCHAR SAATHI



- It is a security and awareness platform developed by the **Department of Telecommunications (DoT)**.
- It is available both as an app and a web portal.
- **Purpose:** To help mobile users manage their digital identity, report suspicious activity, and safeguard their devices.
- The platform also provides educational material on telecom safety and cyber risks, making it a combined service-and-awareness system

Features

- **'Chakshu' Feature:** It lets users report suspicious calls, SMS, and WhatsApp

messages, such as fake KYC alerts, impersonation scams, or phishing links. It helps authorities spot fraud patterns.

- **Report Spam and Unwanted Commercial Calls:** Users can report spam calls and messages that break TRAI rules. Complaints made within seven days can lead to action against the sender.
- **Report Malicious Links and Apps:** Allows reporting of phishing links, unsafe APKs, and fraudulent websites.
- **Checking Mobile Connections Linked To Your Identity:** Shows how many mobile numbers are registered using your identity. Helps identify SIM cards taken without your knowledge.
- **Blocking Lost or Stolen Phones:** Allows users to block the IMEI of a lost or stolen device so it can't be used. Phones can be unblocked if recovered.
- **Verifying The Authenticity Of A Device:** Allows users to check if a phone is genuine by validating its IMEI. It is useful when buying second-hand phones.
- **Reporting International Calls That Appear As Indian Numbers:** Some scammers use illegal telecom setups to make international calls appear as regular +91 calls. Sanchar Saathi enables users to report such cases.
- **Finding Your Local Internet Service Provider:** The app also includes a feature that lets users check which wired internet service providers are available in their area by entering a PIN code, address, or provider name.
- **Verifying Trusted Contacts and Helpline Numbers:** Provides a directory to confirm genuine customer-care numbers, emails, and websites of banks and other major institutions.

Snooping Allegations

- Snooping involves **secretly prying into private affairs or data without consent**.
- This intrusive practice extends to mobile apps, which can be exploited as spyware to monitor locations, communications, and activities without the user's knowledge.
- It violate the **Fundamental Right** to Privacy guaranteed under the **Article 21**

NATIONAL CENTRE FOR POLAR AND OCEAN RESEARCH



- It was established as an autonomous Research and Development Institution on the 25th May 1998.
- It was formerly known as the National Centre for Antarctic and Ocean Research (NCAOR).
- It has been at the forefront of leading India's scientific expeditions and research programmes in the Polar regions and the Southern Ocean.
- **Nodal Ministry:** Ministry of Earth Sciences Government of India
- **Location:** Vasco da Gama, Goa.

Mandate and Functions

- It is designated as the nodal organization for the co-ordination and implementation of the Indian Antarctic Programme, and executing polar expeditions in the Antarctic, Arctic, Southern Ocean, and Himalayas.
- It also works on strategically vital projects like: **Mapping of Exclusive Economic Zone (EEZ), Continental shelf surveys, and the Deep Ocean Mission.**

- It has established and operationalised permanent Indian research stations — DakshinGangotri, Maitri, and Bharati in Antarctica, and Himadri in the Arctic, along with the Himalayan station Himansh.

EXERCISE EKUVERIN



- The 14th edition of the Joint Military Exercise, Ekuverin, between the Indian Army and the Maldives National Defence Force commenced in Thiruvananthapuram, Kerala.
- Ekuverin means friends in the Dhivehi language.
- Held alternately in India and the Maldives since 2009, it aligns with India's Neighbourhood First policy and strengthens regional partnerships.
- It aims to improve interoperability in Counter-Insurgency and Counter-Terrorism operations across jungle, semi-urban and coastal areas.

India-Maldives Defence Relations:

- Key bilateral exercises like "Ekuverin" and "Ekatha," along with trilateral exercises such as "Dosti" (including India, Sri Lanka, and the Maldives) are conducted to enhance operational synergy and interoperability.
- India is the Maldives' key defence partner and first responder in crises, as seen in Operation Cactus (1988).

- The Annual Defence Cooperation Dialogue (DCD), launched in 2016 at the Defence Secretary level, serves as the main platform for guiding India-Maldives defence cooperation.

DONKEY ROUTE



- Indian deportees from the US, arriving in Amritsar, recently shared their harrowing experiences using the "donkey route" for illegal immigration.
- The donkey route is the route taken by illegal migrants to stealthily cross many unknown countries with the help of agents and human traffickers before entering the country of their choice, like the US or the UK.
- Named after a Punjabi idiom referring to an arduous, unplanned journey, it involves crossing multiple international borders, often through treacherous terrain, under false promises of legal entry.
- Donkey routes typically involve illegal border crossings via indirect routes with multiple stops in different countries.
- For instance, individuals might obtain a tourist visa for the European Union's Schengen Area, allowing free movement across 26 countries, and then illegally enter the UK with the help of "consultants" or "agents."
- These agents often charge hefty fees for services ranging from fake documentation to smuggling via shipping containers.

EXERCISE HARIMAU SHAKTI

- It is a joint military exercise conducted between **India and Malaysia**.
- The Indian contingent is being represented mainly by troops from the DOGRA Regiment.
- The aim of the exercise is to jointly rehearse conduct of Sub Conventional Operations under Chapter VII of United Nations Mandate.
- Both sides will practice tactical actions such as cordon, search and destroy missions, heliborne operations, etc

Key Facts about Exercise Harimau Shakti – 2025

- In this exercise both sides will rehearse drills to secure helipads and undertake casualty evacuation during counter-terrorist operations.
- Both sides will exchange views and practices of joint drills on a wide spectrum of combat skills that will facilitate the participants to mutually learn from each other.
- Sharing of best practices will further enhance the level of defence cooperation between Indian Army and Royal Malaysian Army.
- **Significance:** The exercise will also foster strong bilateral relations between the two nations.

SCHEDULE M NORMS

- Schedule M prescribes **Good Manufacturing Practices (GMPs)** to ensure medicines are safe, effective, and of consistent quality.
- It is a key part of the **Drugs and Cosmetics Act, 1940** (and the 1945 Rules issued under the Act).
- It was **first established in 2001** and was recently revised in 2023–24.
- The revised Schedule M updates India GMP for pharmaceutical products and mandates stronger, system-based quality controls. Manufacturers must achieve full **compliance with these revisions by December 31, 2025**.
- It **applies to all pharmaceutical manufacturing units in India** for both domestic and export markets.

Key features of revised Schedule:

- Mandates **stronger quality systems**, including a risk management and quality review process.
- **Validation of equipment** so that manufacturing processes remain reliable and controlled.
- **Computerized storage systems** for all drug products to be set up by manufacturers to improve control, traceability, and record-keeping.

- Regulatory tools such as the **Online National Drugs Licensing System (ONDLS)** for licensing and **Corrective and Preventive Action (CAPA)** for continual improvement & penalties.
- It aligns India's Good Manufacturing Practices with international GMP guidelines, bringing them **closer to WHO guidelines**.

SWASTHYA PORTAL



- It is a one-stop solution presenting the **health and nutrition status of the tribal population** of India.
- It was developed under the central sector scheme "Tribal Research Information Education Communication and Events (TRI ECE)" of the **Ministry of Tribal Affairs**.
- The portal is hosted on the National Informatics Centre (NIC) Server and is maintained by the Centre of Excellence for Knowledge Management for Health and Nutrition, established by the Ministry of Tribal Affairs.
- It provides information and data as well as curates innovative practices, research briefs, case studies, and best practices collected from different parts of India to facilitate the exchange of evidence, expertise, and experiences.

- It has a **dashboard, knowledge repository, partner segment, Sickle Cell Diseases (SCD) support corner**.
- The dashboard presents data curated from multiple sources for the 177 identified high-priority tribal districts.
- Information available on Swasthya will provide insights to all stakeholders working with the tribal population of India in the areas of health and nutrition.

CHAMPIONS OF THE EARTH AWARD



- It was established in 2005 and awarded by the **United Nations Environment Programme (UNEP)**.
- It is the **UN's highest environmental honour**, recognises trailblazers at the forefront of efforts to protect people and the planet.
- Every year, UNEP honours individuals and organizations working on innovative and sustainable solutions to address **the triple planetary crisis** of climate change, nature and biodiversity loss, and pollution and waste.
- Champions of the Earth are celebrated in **4 categories**:
 - **Policy leadership**: Public sector officials leading global or national action for the environment. They shape dialogue, lead commitments and act for the good of the planet.
 - **Inspiration and action**: Leaders taking bold steps to inspire positive change to protect our world. They lead by example, challenge behavior and inspire millions.

- **Entrepreneurial vision:** Visionaries challenging the status quo to build a cleaner future. They build systems, create new technology and spearhead a groundbreaking vision.
- **Science and innovation:** Trailblazers pushing the boundaries of technology for profound environmental benefit.
- Recently, the Additional Chief Secretary of the Department of Environment, Climate Change and Forests of Tamil Nadu, Ms **Supriya Sahu**, has won the UN Environment Programme's 2025 Champions of the Earth Award.

PROJECT SUNCATCHER



- Project SunCatcher is **Google's initiative** to move AI computation from Earth into orbit using satellite-based compute clusters.
- It aims to address the rising **energy demands of AI systems by leveraging solar power in outer space.**
- Google will launch two prototype satellites in partnership with Planet Labs, an Earth imaging company, in early 2027. Google proposes **deploying satellites equipped with solar panels** to create distributed data centres in low-Earth orbit.
- It envisions **approx. 80 satellites** flying in a tight one-kilometer formation to maintain high-bandwidth communication links.

- Each satellite would carry solar arrays, computer hardware, and optical laser communication systems to form a cohesive network.
- **Communication between satellites would occur via lasers**, allowing data transfer rates of up to ten terabits per second per link.
- **Machine-learning-based control systems** will help in keeping satellite clusters stable despite gravitational and atmospheric disturbances.

NATIONAL HUB FOR QUANTUM COMMUNICATION



- The **Indian Institute of Technology, Madras (IITM)**, launched the **Samgnya Technologies Foundation**, which will serve as India's National Hub for Quantum Communication.
- The Foundation will lead India's efforts in quantum secure communication technologies and their deployment.
- Its key focus areas include:
 - Quantum Cryptography and Post-Quantum Security
 - Quantum Key Distribution (QKD) Networks
 - Quantum Memory & Repeaters
 - Satellite-based Quantum Communication
- It will foster **collaboration between academia, industry, and global partners**

to advance research and implementation in quantum communication.

- The Foundation aims to develop cutting-edge technologies and **products within five years**, positioning India as a leader in quantum secure communications.
- The focus will be on practical implementations, including pilot deployments of quantum communication technologies.

 Quantum communication involves encoding information in quantum states, typically of photons (light particles), and transmitting these states over a distance. It employs quantum mechanics for secure information transfer, using quantum phenomena like entanglement and superposition to detect eavesdropping and ensure data integrity potentially across long distances.

LEPTOSPIROSIS



- Leptospirosis is **caused by bacteria** of the genus *Leptospira*. These bacteria are **zoonotic**, meaning they are transmitted from animals to humans.
- These bacteria are found in the kidneys and genital tracts of certain animals - with **rodents, cattle, pigs, and dogs** being common reservoirs.
- **Rodents are particularly significant** as they can excrete the bacteria throughout their lifespan without showing symptoms themselves.
- It is transmitted via **direct contact with urine of infected animals** or via contact

with water, soil, or food contaminated with their urine.

- In rare cases, the disease **can be transmitted from human to human**.
- It presents with a wide range of symptoms, from mild flu-like illness to severe conditions like meningitis.
- It is **often underdiagnosed** due to its wide range of symptoms that mimic other diseases, and limited access to diagnostic tests.
- It is prevalent in **South and South-East Asia**, with India, Indonesia, Thailand, & Sri Lanka reporting most cases, especially during monsoon.
- **Dogs, pigs, and cattle can be vaccinated** with specific vaccines for it. **There is no human vaccine** for it – but it can be treated with antibiotics such as penicillin G, doxycycline, and ceftriaxone.

ONE NATION ONE PORT PROCESS



- Launched by the Ministry of Ports, Shipping, and Waterways in March 2025 to **standardize and streamline operations across all major ports**.
- It seeks to **eliminate inefficiencies, reduce documentation, and enhance trade competitiveness** – in order to make India a global maritime hub.

Key Features:

- **Standardized Port Operations:** Uniform documentation, customs, and clearance

processes across all ports to improve efficiency.

- **Reduced Documentation:** Container operation documents reduced by 33% (143 to 96); bulk cargo documents cut by 29% (150 to 106).
- **Sagar Ankalan Logistics Port Performance Index (LPPI):** Tracks port efficiency and competitiveness to align with global logistics standards.
- **MAITRI Digital Platform:** Integrates AI and Blockchain for automated trade approvals, supporting Virtual Trade Corridors (VTC) with UAE, BIMSTEC, and ASEAN.
- **Green and Smart Port Infrastructure:** Encourages low-carbon logistics, sustainable shipping, and modernized port facilities.
- **Maritime Development Fund & Shipbuilding Support:** Financial incentives for domestic shipyards.

Major ports are under the control of the Union Govt. and are governed by central laws such as the Major Port Authorities Act, 2021. Minor ports are under the jurisdiction of State Govts and are regulated by state laws. There are 14 major ports out of which 12 Major Ports are in Operation and 200 non-major ports (minor ports) in India.

ARTEMISININ



- Artemisinin and its derivatives are a group of drugs used in the **treatment of malaria** caused by the *Plasmodium falciparum* parasite.
- It was discovered in 1972 by Tu Youyou, who shared the **2015 Nobel Prize** in Physiology or Medicine for her discovery.
- **Artemisinin-based combination therapies (ACTs)** have become standard treatment worldwide for *P. falciparum* malaria as well as malaria due to other species of *Plasmodium*.
- Artemisinin can be extracted from the herb ***Artemisia annua* (sweet wormwood)**, which is used in traditional **Chinese medicine**. It can also be prepared by a semi-synthetic method from a precursor compound that can be produced using a **genetically engineered yeast**, which is much more efficient than extraction from the plant.
- Advantages of such treatments over other anti-parasitics include **faster parasite elimination** and broader efficacy across the parasite life-cycle; while disadvantages include their **low natural bioavailability and high cost**.
- Moreover, use of the drug by itself as a **monotherapy is discouraged by the**



WHO, as there have been signs that malarial **parasites are developing resistance** to the drug.

- Combination therapies of artemisinin alongside some other antimalarial drug, are the contemporary treatment regime for malaria.

MISSION MAUSAM



- It was launched by the **Ministry of Earth Sciences** in 2024.
- It is implemented by the India Meteorological Department (IMD), the National Centre for Medium-Range Weather Forecasting (NCMRWF), and the Indian Institute of Tropical Meteorology (IITM), Pune.
- It aims to **improve weather and climate services**, ensuring timely and precise observation, modelling, and forecasting information for multiple sectors, including agriculture, disaster management, and rural development.
- **Focus Areas:** It includes accuracy, modelling, radars, satellites, and accurate forecasts.
- **Components** of the Mission:
 - Deployment of next-generation radars and satellite systems with advanced sensors
 - Development of enhanced Earth system models
 - A GIS-based automated decision support system for real-time data sharing

Don't confuse Mission Mausam with Project Mausam. The latter is an initiative of the Ministry of Culture that seeks to study and revive India's ancient maritime links across the Indian Ocean by highlighting how monsoon (mausam) winds facilitated trade and cultural exchange in the past.

EXERCISE DESERT CYCLONE II



- Desert Cyclone II is the second edition of the **India-U.A.E. Joint Military Exercise**, following the inaugural edition held in 2024.
- The Indian contingent comprises 45 personnel, primarily drawn from a Mechanised Infantry Regiment battalion of the Indian Army.
- The A.E. Land Forces are represented by a contingent of similar strength from the 53 Mechanised Infantry Battalion.
- The core objective of the exercise is to enhance interoperability and strengthen defence cooperation between the Indian Army and the U.A.E. Land Forces.
- The exercise focuses on sub-conventional operations in urban environments under a United Nations mandate, preparing forces for peacekeeping, counter-terrorism, and stability operations.
- Joint training includes fighting in built-up areas, heliborne operations, and detailed joint mission planning.
- A key feature is the integration of Unmanned Aerial Systems (UAS) and counter-UAS

techniques for conducting urban military operations.

- The conduct of Desert Cyclone II reflects deepening military diplomacy, shared strategic interests, and growing operational synergy between India and the U.A.E.

About India-U.A.E. Defence Relations

- India and the U.A.E. established diplomatic relations in **1972**.
- The A.E. opened its Embassy in New Delhi in 1972, while India opened its Embassy in Abu Dhabi in 1973.
- The first-ever India-U.A.E. Joint Air Forces exercise was conducted in September 2008 at the **Al-Dhafra Air Base, Abu Dhabi**.
- India has been a regular participant in the biennial **International Defence Exhibition (IDEX) held in Abu Dhabi**.
- In 2025, Indian Navy ships INS Visakhapatnam and INS Trikand participated in the bilateral naval exercise “Zayed Talwar”, aimed at enhancing naval interoperability and synergy.

WHITE SPOT DISEASE



- It is a highly **contagious viral infection that affects crustaceans** such as prawns and crabs.
- It is caused by a virus called as **White Spot Syndrome Virus (WSSV)**. This is a double stranded DNA virus.

- All crustaceans, including prawns, lobsters and crabs from marine, brackish or freshwater environments, are considered susceptible to it.
- The affected animals exhibit **anorexia, lethargy, reddish discoloration and presence of circular white spots** on the shell and other exoskeletal parts.
- It can be **transmitted both horizontally as well as vertically**.
 - Vertical transmission: It occurs from infected brood stock to larvae post-birth.
 - Horizontal transmission: It is through biomagnification or through cannibalism of infected organisms.

ICG SHIP AMULYA



- It is a new-generation **Fast Patrol Vessel of the Indian Coast Guard**.
- The vessel will be based at Paradip, Odisha and will operate under the Coast Guard Region (North East).
- It is the third vessel in the **eight-ship Adanya-class series**, designed and built indigenously by Goa Shipyard Limited.
- Amulya has **>60% indigenous components**. The vessel incorporates a modern design focused on endurance, and rapid response.

- The ship can achieve a maximum speed of 27 knots and has an operational **endurance of 1,500 nautical miles**.
- It is equipped with indigenous, state-of-the-art weapons and systems. It is capable of surveillance, interdiction, search and rescue, anti-smuggling operations, and pollution response.
- Other ships in the **Adamya-class series**: Adamya, Akshar, Akshay, Achal, Atal, Ajit and Aparajit.

H5N1 BIRD FLU



- It originated from a **virus outbreak in China in 1996** and has since evolved into a highly transmissible strain.
- It quickly spread from Europe to Africa, Asia, North America, and South America, and recently, it reached Antarctica.
- H5N1 is a **subtype of the influenza A virus** that causes **severe respiratory disease in birds**, known as **avian influenza** or “**bird flu**”.
- The virus has **affected birds in over 80 countries**, resulting in mass culling of poultry and wild birds.
- In India, it was **first reported in 2006 in Maharashtra** and since then, it has frequently resurfaced.

SHOMPEN TRIBE



- They are one of the **most isolated tribes** on Earth.
- They are one of the **least studied Particularly Vulnerable Tribal Groups (PVTGs)** in India.
- They **reside in dense tropical rain forests of the Great Nicobar Island** of Andaman and Nicobar group of Islands. Around 95% of the island is covered in rainforest.
- The **Shompen habitat** is also an **important biological hotspot**, and there are two National Parks and one Biosphere Reserve, namely **Campbell Bay National Park, Galathea National Park, and Great Nicobar Biosphere Reserve**.
- **Population**: Though according to the **Census (2011)**, the **estimated population of Shompen is 229**, the exact population of Shompen is unknown till today.
- **Most of them** remain in the forest and **have little or no contact with outsiders**.
- They are **semi-nomadic hunter-gatherers** and their **main sources of livelihood** are **hunting, gathering, fishing**, and a little bit of **horticultural activities** in a rudimentary form.
- They **live in small groups**, whose territories are identified by the rivers that criss-cross the rainforest.

- Being nomadic, they typically **set up forest camps** where they **live for a few weeks or months, before moving to another site**.
- They collect a wide variety of forest plants, but their **staple food is the pandanus fruit**, which they call **larop**.
- Shompen **speak their own language**, which **has many dialects**. Members of one band do not understand the dialect of the other.
- They are of **short to medium stature**, have a round or **nearly broad head shape**, narrow nose, a **broad facial profile**, and **distinctly exhibit Mongoloid features** such as light brown to yellow brown skin and oblique eye features.
- Shompen **have nuclear families** comprising **husband, wife, and their unmarried children**.
 - A Shompen family is **controlled by the eldest male member**, who controls all activities of the women and kids.
 - **Monogamy is the general rule**, although polygamy is allowed too.

CHILLAI KALAN



- It is the 40-day period of the **harshest winter cold** in **Kashmir region**.
- Chillai Kalan is a Persian term which means "Major Cold".
- The Chillai Kalan (big cold) usually **begins on December 21 and will end on January 30**.

- During this time Kashmir Valley faces its harshest phase of the winter season, including widespread snowfall, sub-zero temperatures and intense cold waves.
- Chillai Kalan is followed by '**Chillai-Khurd (small cold)**' – a 20-day period of moderate winter from January 31 to February 19, and the 10-day '**Chillai-Bacha**' (baby cold), towards the fag end of the winter season from February 20 to March 2.
- **Cultural Significance:** According to Persian tradition, the night of **21 December** is celebrated as **Shab-e Yalda**–"Night of Birth", or **Shab-e Chelleh**. – "Night of Forty".

Impacts of Chillai Kalan:

- Traditionally, heavy snowfall during Chillai Kalan **replenishes water reservoirs in the higher reaches**, sustaining rivers, streams and lakes during the summer months.

NATIONAL MARITIME HERITAGE COMPLEX (NMHC)

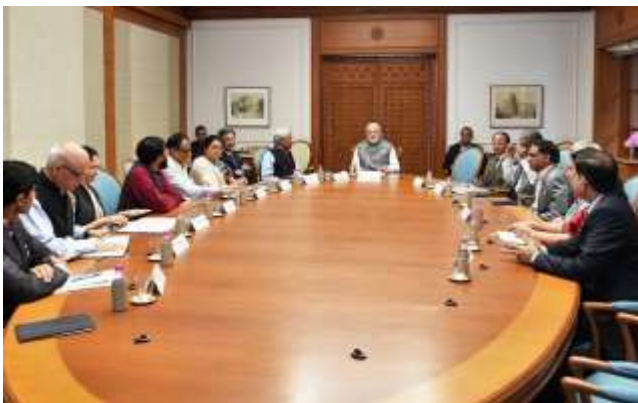


- India and the Netherlands have signed an MoU to cooperate on the development of the NMHC.
- The NMHC will be located at **Lothal, Gujarat**. The **Ministry of Ports, Shipping and Waterways** is spearheading this initiative.
- The NMHC aligns with the PM's vision of **showcasing India's 4,500-year-old maritime heritage**.
- The project is **expected to generate approx. 22,000 jobs**, comprising 15,000

direct and 7,000 indirect employment opportunities.

- The **Governing Council of the NMHC, which is chaired by the Minister of Ports, Shipping & Waterways**, will oversee the project's implementation, management, and operation.
- NMHC will benefit local communities, tourists, researchers, govt. bodies, educational institutions, cultural groups, conservation groups, and businesses.

PM'S SCIENCE, TECHNOLOGY & INNOVATION ADVISORY COUNCIL (PM-STIAC)



- The PM-STIAC is an overarching council that **aids the working of the Principal Scientific Advisor's (PSA) Office** and appraises the PSA in specific science & tech domains, help comprehend challenges, formulate interventions, develop a futuristic roadmap and **advise the Prime Minister accordingly**.
- It was **established in August 2018**.
- The PM-STIAC aims to facilitate, through its missions, the process of collaboration and focus needed to solve complex problems in a reasonable time-frame.
- The 9-member PM-STIAC is **headed by the PSA to the Union Govt.**
- **The office of the PSA was estd. by the Cabinet Secretariat in 1999.** The PSA's office aims to provide pragmatic and

objective advice to the PM and cabinet on matters related to science, tech, & innovation with a **focus on its application in critical infra, economic and social sectors** in partnership with Govt departments, institutions and industry.

- The **first PSA of India was Dr. APJ Abdul Kalam**.

VEER BAL DIWAS

- It is observed on **December 26** every year, starting in 2022.
- It is commemorated in remembrance of the **martyrdom of Guru Gobind Singh ji's (the tenth Sikh Guru) sons Sahibzada Zorawar Singh ji and Sahibzada Fateh Singh ji**.
- The objective is to honour the bravery of the two young heroes of the country.



Historical Context of Veer Bal Diwas

- Guru Gobind Singh, along with his family and disciples, were compelled to flee as the **Mughal Army** encircled the Anandpur fort.
- During the chaos, Guru Gobind Singh's youngest sons, Zorawar Singh and Fateh Singh, were captured by the Mughal forces.
- The two young boys **courageously refused to abandon their faith, and consequently they were bricked alive on December 26, 1704.**

About Guru Gobind Singh

- Guru Gobind Singh was the **10th Sikh** guru, following the demise of his father, Guru Tegh Bahadur, the ninth Sikh Guru.
- He is renowned for founding the principles of **Khalsa** or the Five 'K's i.e kesh (uncut hair), kanga (wooden comb), kara (iron or steel bracelet), kirpan (dagger) and kachera (short breeches).
- He **fought against the Mughals in the battle of Muktsar in 1705.**
- He declared **Guru Granth Sahib as Sikhism's holy scripture in 1708, before his death.**

RABIES



- Rabies is a **vaccine-preventable, zoonotic, viral disease.**
- It is caused by the Rabies virus (RABV) which affects the central nervous system.
- Rabies infects mammals, including dogs, cats, livestock and wildlife.
- It is **one of the neglected tropical diseases (NTD)** that predominantly affects already marginalized, poor, and vulnerable populations.
- Rabies spreads to people and animals via saliva, usually through bites, scratches, or direct contact with mucosa (e.g. eyes, mouth, or open wounds).
- Clinically, it has two forms, Furious characterized by hyperactivity and hallucinations. Paralytic rabies, characterized by paralysis and coma.

Symptoms of Rabies

- The **incubation period for rabies is typically 2–3 months** but may vary from one week to one year.
- Initial symptoms include generic signs like fever, pain, and unusual or unexplained tingling, pricking, or burning sensations at the wound site.
- As the virus moves to the central nervous system, progressive and fatal inflammation of the brain and spinal cord develops.
- Once the virus infects the central nervous system and clinical symptoms appear, rabies is fatal in 100% of cases.
- Vaccinating dogs, including puppies, is the most cost-effective strategy for preventing rabies in people because it stops the transmission at its source.

QUALITY COUNCIL OF INDIA (QCI)



QUALITY COUNCIL[®] OF INDIA
Creating an Ecosystem for Quality

- QCI announced a set of quality reforms aimed at strengthening India's quality ecosystem across healthcare, laboratories, MSMEs, and manufacturing sectors.
- QCI was established as a **national body for accreditation in 1996** to lead the nationwide quality movement.
- It is a Non-Profit Organization (NPO) registered under the **Societies Registration Act of 1860.**
- It is supported by the **Govt. of India and three industry associations** - ASSOCHAM, CII, and FICCI.
- **Ministry of Commerce is the nodal agency** for all matters related to QCI.
- The **Chairman of QCI is appointed by the Prime Minister** on the recommendations of the industry to the Government.

- The QCI provides a **framework for independent third-party assessment of products**. It promotes adoption of quality standards and plays a key role in propagation and adherence to quality standards across sectors.

PLASSER'S QUICK RELAYING SYSTEM



- It is a modern semi-mechanized system **automatic machine used for quick railway track replacement**.
- It aims to speed up track renewal while minimizing traffic disruption, enhancing safety, reliability, and maintenance efficiency

Features

- Plasser's Quick Relaying System consists of self-propelled cranes which move on an auxiliary track of 3400 mm gauge having the same centre line as that of track to be relayed.
- These portal cranes are capable of self-loading and unloading from BFRs (Bogie Flat Wagons).
- **High Lifting Capacity:** Newer models can lift up to 9 tonnes, handling 13m PRC sleeper panels.
- **Uses:** The system is widely used for new track construction as well as the modernisation of existing track infrastructure.
- **Benefits**

- **Renewal time:** It helps longer track lengths to be renewed within shorter traffic blocks
- **Cost-Effective:** It is cost effective, as it reduces manual labor and lifecycle maintenance costs.

INDUSTRIAL HEMP



- **Industrial hemp** (*Cannabis sativa* L.) is botanically related to **marijuana**, but with very **different properties**.
- While **marijuana** is rich with **tetrahydrocannabinol** (THC), the psychoactive component that makes pot a drug of choice by many, **hemp contains only the smallest traces of THC** (<0.3%),
- It is an **herbaceous, dioecious plant** belonging to the Cannabis genus within the Cannabaceae family.
- It is **high in fiber and low in active tetrahydrocannabinol** (THC).
- Recently, Himachal Pradesh Chief Minister has launched a policy push to **legalise and regulate the cultivation of industrial hemp**.

Applications of Industrial Hemp:

- It is a versatile crop that can be processed into different products with multiple uses.
- Its stalk can be used to produce **biofuel, auto parts, paper, upholstery, and fiber for cloth and other textile items**.

- Its stem can also be processed into **building materials, industrial products and different kinds of papers.**
- Its seeds can be used to produce **feed or food or the sources of oil** that can be converted into a **lotion or cosmetic products.**

GLOBAL INDICES FOR REFORMS AND GROWTH (GIRG) FRAMEWORK



- GIRG is an initiative by India **to track and improve its standing on 26 selected global indices** through inter-ministerial coordination.
- Its aim is to find gaps in these indices and address them through reforms that support India's growth and global standing.
- Under GIRG, 26 indices are shared among 17 nodal ministries, and each ministry must show improvement on its assigned indices. **GIRG links 26 indices published by 16 international agencies with nodal ministries** that must review them and act on the findings.
- The **Development Monitoring and Evaluation Office (DMEO) of NITI Aayog** serves as the knowledge partner and central coordinator for the framework.
- Indices under GIRG cover four broad themes: Economy, Development, Governance, & Industry.