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POLITY

Indian Navy – Narcotics Control Bureau Anti Narcotics Operations at Sea

About Narcotics Control Bureau (NCB):

- The NCB was **created in March 1986** in terms of Section 4(3) of the **Narcotic Drugs and Psychotropic Substances Act, 1985**, which envisages a Central Authority for the purpose of effectively preventing and combating abuse of narcotic drugs and psychotropic substances and their illicit trade.
- The NCB works to **identify, investigate, and prosecute drug trade offenders** and implement **preventive measures to reduce** the demand and **supply of drugs**.
- The Bureau, subject to the supervision and control of the Central Government, is to exercise the powers and functions of the Central Government in taking measures with respect to:
 - **Co-ordination of actions by various offices, State Governments** and other authorities under the N.D.P.S. Act, Customs Act, Drugs and Cosmetics Act, and any other law for the time being in force in connection with the enforcement provisions of the NDPS Act, 1985.
 - **Implementation of the obligation** in respect of counter measures against illicit traffic under the various international conventions and protocols.
 - **Assistance to concerned authorities in foreign countries** and concerned international organisations to facilitate coordination and universal action for prevention and suppression of illicit traffic in these drugs and substances.
 - **Coordination of actions taken** by the other concerned Ministries, Departments and Organizations in respect of matters relating to drug abuse.
- **Other Functions:**

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- It is the **apex coordinating agency**. It also functions as an **enforcement agency** through its zones and sub-zones.
- The zones and sub-zones collect and analyse data related to seizures of narcotic drugs and psychotropic substance, study trends, modus operandi, collect and disseminate intelligence, and **work in close cooperation with the Customs, State Police** and other law enforcement agencies.
- In addition to its enforcement activities, the NCB also works to improve **awareness, educate the public** on the dangers of drugs and drug abuse, and provide support to those affected by the illegal drug trade.
- NCB is responsible for **maintaining and updating the National Data Bank** on Narcotic Drugs and Psychotropic Substances, and related matters.
- NCB maintains and **updates the National Register** of Treatment Providers and Narcotic Drug Dependents.
- NCB **provides expert advice to the Central Government** on narcotics, psychotropic substances, and related matters.
- The NCB **directly reports to the Ministry of Home Affairs (MHA)**.

22nd Foundation Day of Bureau of Energy Efficiency Celebrated; Union Power and New & Renewable Energy Minister commends BEE for its innovative and world-leading programmes

About Bureau of Energy Efficiency:

- It was established in 2002 under the provisions of the **Energy Conservation Act, 2001**.
- **Objective:** The primary objective of BEE is to **reduce energy intensity** in the Indian economy.
- **Function and Duties**
 - It **co-ordinates with designated consumers**, designated agencies and other organizations; recognizes, identifies and utilizes the existing resources and

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infrastructure, in performing the functions assigned to it under the Energy Conservation Act.

- **Regulatory functions**
 - Develop **minimum energy performance standards** for **equipment** and appliances under Standards and Labelling
 - Develop minimum energy performance standards for **Commercial Buildings**
 - Develop Energy Consumption **Norms for Designated Consumers**
- **Nodal Ministry:** Ministry of Power
- **State Energy Efficiency Index 2023**
- It is the fifth edition of The State Energy Efficiency Index (SEEI), initiated by Bureau of Energy Efficiency (BEE), in association with **Alliance for an Energy Efficient Economy**.
- It is to **evaluate the annual progress of energy efficiency implementation** in the states.
- It assesses the performance of 36 states and UTs using 65 **qualitative, quantitative, and outcome-based indicators** measures distributed across **seven demand sectors**: buildings, industry, municipal services, transport, agriculture, electricity distribution companies (DISCOMs), and cross-sector initiatives.
- In SEEI 2023, the states and UTs are categorized as **'Front runner'** (>=60), **'Achiever'** (50-59.75), **'Contender'** (30-49.75), and **'Aspirant'** (<30) based on their total scores.
- Furthermore, to enable peer-to-peer comparison of performance, all the states and UTs are classified into four groups based on their **total final energy consumption** (TFEC): Group 1 (>15 million tonnes of oil equivalent (MTOE)), Group 2 (5-15 MTOE), Group 3 (1-5 MTOE), and Group 4 (<1 MTOE).
- The top-performing states in each group are **Karnataka** (Group 1), **Andhra Pradesh** (Group 2), **Assam** (Group 3), and **Chandigarh** (Group 4).

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Order 6 Rule 17 CPC | Amendment of Plaintiff Shouldn't Be Allowed If It Alters Nature Of Suit: Supreme Court

About Plaintiff:

- A plaintiff is a **legal document** that **contains the claims made by the plaintiff** when they bring a case to a civil court. (A **plaintiff is a person who brings a civil action in a court** of law).
- It serves as the **initial step in starting a lawsuit**.
- In fact, in the very plaintiff, the **contents of the civil suit are laid out**.
- Through such a plaintiff, the **grievances** of the plaintiff **are spelled out**, as well as the **possible causes of action** that can arise out of the suit.
- A plaintiff which is presented to a civil court of appropriate jurisdiction **contains everything, including facts to relief that the plaintiff expects to obtain**.
- **Order VII** of the Code of Civil Procedure (**CPC**) **particularly deals with a plaintiff**.
- A few of the essentials of a plaintiff implicit in itself are **those only material facts**, and **not all facts or the law** as such is to be stated, the **facts should be concise and precise**, and **no evidence should be mentioned**.
- **Particulars of a Plaintiff (Rules 1 to 8 of Order VII of the CPC):**
 - The **name of the civil or commercial court** where the lawsuit will be filed.
 - **Information about the plaintiff**, including their name, address, and description.
 - **Details about the defendant**, including their name, residence and description.
 - If the plaintiff has **any health issues or disabilities**, these should be mentioned.
 - The **facts that give rise to the cause of action** and where this cause of action occurred.

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- Facts that help determine the court's jurisdiction.
- Information about the **relief or remedy the plaintiff is seeking** from the court.
- **If the plaintiff wants to set off a portion of their claim, the amount allowed** should be stated.
- The **value of the subject matter** of the suit, not just for jurisdiction but also for court fees.
- **Verification by the plaintiff under oath.**

New PRP Act 2023 comes into effect, registration of periodicals goes online

About Press and Registration of Periodicals Act (PRP Act), 2023:

- It has **replaced the** colonial era **Press and Registration of Books Act** dating back to 1867.
- The **office of Press Registrar General of India** – PRGI (erstwhile Registrar of Newspapers for India – RNI) **shall be carrying out the purposes of the new Act.**
- It provides for an **online system for** facilitating **the registration of newspapers and other periodicals** in the country.
- The new system **replaces the existing manual, cumbersome processes** involving multiple steps and approvals at various stages, which were causing unnecessary hardships to the publishers.
- The **Ministry of Information and Broadcasting launched the Press Sewa Portal** (pressewa.prgi.gov.in), the online portal of the Press Registrar General, **for receiving various applications** as mandated by the new Act.
- **All applications**, including the intimation by the printer of a periodical, application for registration of a facsimile edition of a foreign periodical, the application by a publisher for obtaining a certificate of registration of a periodical, application for revision of certificate of registration, application for transfer of ownership of

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periodicals, furnishing annual statement by the publisher of a periodical, and procedure for desk audit for verification of circulation of a periodical **will be online through the Press Sewa Portal.**

- Accordingly, **publishers intending to bring out periodicals need to register their titles** before publishing them.
- Notably, the PRP **Act exempts books and journals from the purview of registration** necessitated by the old PRB Act, **focusing solely on periodicals**, which are defined as publications, including newspapers, published and printed at regular intervals containing public news or commentary, but **excluding scientific, technical, and academic books or journals.**

Home Minister Amit Shah launches National Urban Co-operative Finance and Development Corporation Limited in New Delhi

About National Urban Co-operative Finance and Development Corporation:

- It is the **umbrella organisation** for the **Urban Cooperative Banks.**
- **Aim:** It aims to ensure **specialized functions and services to cooperative banks**, facilitate communication between banks and regulators and address challenges faced by Urban Cooperative Banks.
- Also to **modernize and strengthen the Urban Cooperative Banking Sector**, which will benefit both the banks and their customers.
- It has received a **Certificate of Registration** from the **Reserve Bank of India** to operate as a Non-Banking Finance Company
- It will also operate as a **Self-Regulatory Organisation** for the sector.
- **Key facts about Urban Cooperative Banks (UCBs)**
- UCBs are registered as cooperative societies under the provisions of either the **State Cooperative Societies Act** of the State concerned or the **Multi State Cooperative Societies Act, 2002.**

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- They are regulated and supervised by the **Registrar of Cooperative Societies (RCS)** of State concerned or by the **Central Registrar of Cooperative Societies (CRCS)**, as the case may be.
- They primarily operate in urban and semi-urban regions of India.
- **Functions:**
 - These entities cater to banking requirements of small businesses, individuals, and communities.
 - Services include deposit accounts, loans, remittances, and other financial products and services.
- At present, there are over 1,500 scheduled and non-scheduled Urban Cooperative Banks in India.

NCPCR seeks action against an app for distributing obscene content

About National Commission for Protection of Child Rights:

- It has been constituted by the Government of India, under the **Commission for Protection of Child Rights (CPCR) Act, 2005**.
- **Mandate:** The Commission is mandated under section 13 of the CPCR Act, 2005 "to ensure that all Laws, Policies, Programmes, and Administrative Mechanisms are in consonance with the Child Rights perspective as enshrined in the Constitution of India and the UN Convention on the Rights of the Child."
- It is also mandated to monitor the proper and effective implementation of **Protection of Children from Sexual Offences (POCSO) Act, 2012; Juvenile Justice (Care and Protection of Children) Act, 2015** and **Right to Free and Compulsory Education (RTE) Act, 2009**.
- **Composition**

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- **A chairperson** who, is a person of eminence and has done outstanding work for promoting the welfare of children
- **Six members**, out of which at least **two are woman**, from the following fields, is appointed by the Central Government from amongst person of eminence, ability, integrity, standing and experience in Education, Child health, care, welfare or child development; Juvenile justice or care of neglected or marginalized children or children with disabilities, Elimination of child labour or children in distress, Child psychology or sociology; and Laws relating to children.
- These members are appointed by the Central Government for a term of 3 years.
- **Nodal Ministry:** It works under the Ministry of Women and Child Development.

Supreme Court's ban on Patanjali ads | Explained

About Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954:

- It is a legislative framework to **control the advertisement of drugs and prohibit** claims of magical qualities in remedies.
- It encompasses various forms of **advertisements, including written, oral, and visual mediums.**
- Under the Act, **the term “drug”** refers to medicines intended for human or animal use, substances for diagnosis or treatment of diseases, and articles affecting the body's functions.

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- Other than articles meant for consumption, the definition for “**magic remedy**” under this Act also extends to **talismans, mantras, and charms** that allegedly possess miraculous powers for healing or influencing bodily functions.
- It prohibits advertisements that give **false impressions**, make **false claims**, or are otherwise misleading.
- The term “**advertisement,**” under the Act, extends to all notices, labels, wrappers, and oral announcements.
- **Who comes under the Magic Remedies Act?**
 - The Act applies to all **individuals and entities** involved in the publication of advertisements, **including manufacturers, distributors, and advertisers.**
 - If a company violates the act, individuals in charge of its business operations may also be deemed guilty unless they can prove lack of knowledge or demonstrate due diligence in preventing the offense.
 - Directors, managers, or officers of the company may also be held liable if they consented to or neglected the offense.
- **Punishment**
 - Violating the Act can result in **imprisonment, fines, or both.**
 - If this is the first conviction for the violator, they may face up to six months in prison, fines or both.
 - For subsequent conviction, imprisonment may extend to one year, fine, or both.
 - The Act does not include any limits for the fines that may be imposed on individuals or organisations.

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DoT has launched Digital Intelligence Platform (DIP) for Coordination Among the Stakeholders to Curb Misuse of Telecom Resources in Cyber-crime and Financial Fraud

About Digital Intelligence Platform:

- It is developed by the **Department of Telecommunications**.
- It is a secure and integrated platform for real time intelligence sharing, information exchange and coordination among the stakeholders, Telecom Service Providers (TSPs), law enforcement agencies (LEAs), banks and financial institutions (FIs), social media platforms, identity document issuing authorities etc.
- The portal also contains information regarding the **cases detected as misuse of telecom resources**.
- The shared information could be useful to the stakeholders in their respective domains.
- It also **works as backend repository** for the citizen-initiated requests on the Sanchar Saathi portal for action by the stakeholders.
- The DIP is accessible to the stakeholders over secure connectivity and the relevant information is shared based on their respective roles. The said **platform is not accessible to citizens**.
- **What is Chakshu?**
- It is the latest addition to the citizen centric facilities already available **on the Sanchar Saathi portal of DoT**.

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- It facilitates citizens to **report suspected fraud communication** received over call, SMS or WhatsApp with the intention of defrauding like KYC expiry or update of bank account/payment wallet/SIM/gas connection/electricity connection, sextortion, impersonation as government official/relative for sending money, disconnection of all mobile numbers by Department of Telecommunications etc.
- In case, a citizen is already a victim of cyber-crime or financial fraud, it is advised to report at cyber-crime helpline number 1930 or website <https://www.cybercrime.gov.in> of Government of India.

Minister of Communications, Railways, and Electronics & Information Technology to launch NITI Aayog's 'NITI For States' Platform

About NITI For States Platform:

- It is a **cross-sectoral knowledge platform** designed to become a **Digital Public Infrastructure** (DPI) for Policy and Good Governance.
- The **significant features** of the platform include
 - A **multi-sectoral live repository** of Best Practices, Policy documents, datasets, data profiles and NITI publications.
 - The **knowledge products** on the platform span 10 sectors including Agriculture, Education, Energy, Health, Livelihoods and Skilling, Manufacturing, MSME, Tourism, Urban, Water resources & WASH across two cross-cutting themes - Gender and Climate Change.
 - The platform is an intuitive and user-friendly interface that allows users to easily navigate; and it is **accessible through** multiple devices **including mobile phones**.

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- This platform will facilitate **the digital transformation** of governance by equipping government officials with robust, contextually relevant, and actionable knowledge and insights, thereby enhancing the quality of their decision-making.
- It will also support cutting-edge level functionaries like district collectors and block-level functionaries by giving them **access to innovative best practices** across various States and UTs.
- **What is Viksit Bharat Strategy Room?**
- It is an interactive space where users will be able to **visualise data**, trends, best practices and policies in an immersive manner allowing them to make a holistic assessment of any problem statement.
- It also allows user to interact through voice-enabled AI and connect to multiple stakeholders through video conferencing.
- It is designed to be a **plug-and-play model** to enable replication by states, districts and blocks.
- Various government organizations have collaborated in this initiative by NITI Aayog.
 - It includes **iGOT Karmayogi** bringing online training modules called **“SAMARTH”** which can be accessed by the platform.
 - NITI Aayog’s **National Data and Analytics Platform (NDAP)** has been integrated to give access to government data sets;
 - **National E-Governance Division (NeGD)** has extended support to **develop the first-of-its-kind Viksit Bharat Strategy Room** while multi-lingual support has been provided by the Bhashini.
 - PM Gatishakti BISAG-N team, with the support of DPIIT, has also been integrated providing for the geospatial tool for Area Based Planning.

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Conviction can be solely based on dying declaration if it inspires confidence: Supreme Court

About Dying Declaration:

- A Dying Declaration is a **statement made by a person who is dead**. It is dealt with under clause (1) of Section 32 of the **Indian Evidence Act 1872**.
- Generally, it relates to the cause of death of the declarant. It is **admissible as evidence in all proceedings**, civil or criminal.
- The reason behind this can be followed by the **Latin maxim 'Nemo Mariturus Presumuntur Mentri'** which means that "Man Will Not Meet His Maker with Lying on His Mouth.
- **Format:**
 - There is **no specific format** required for a dying declaration. It can be **given orally, in writing, through gestures** or signs, by a thumb impression, or even in the form of a question and answer.
 - However, the statement must clearly and assertively convey the person's intention. Ideally, a written declaration should be **recorded using the exact words stated by the person** making the statement.
 - **In cases where a magistrate records** the dying declaration, it is usually done in a question-and-answer format. This allows the magistrate to gather maximum relevant information accurately.
- **Who can record a Dying Declaration?**
 - The best form of declaration of dying would be the **one recorded by the Magistrate**.

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- However, according to the Supreme Court's guidelines, **anyone can record the dying statement.**
- A dying statement can also be recorded by public servants or by a doctor as well, where the victim is hospitalized.
- **Evidentiary Value:**
 - A dying declaration carries significant weight in legal proceedings and **can serve as the sole basis for a conviction** without the need for additional corroborating evidence.
 - However, the court must ensure that the statement of the deceased **was not influenced, coached,** or a result of imagination.
 - It must also **ascertain that the deceased was of sound mind** and had a clear opportunity to observe and identify the assailants.
- If the person making the dying statement is likely to live, his statement is inadmissible as a dying statement.

Centre can't insist on withdrawal of suit by Kerala as it has right to move top court under Article 131: Supreme Court

About Article 131 of the Constitution of India:

- According to Article 131, the **SC has exclusive and original jurisdiction** over legal issues originating **between States or between States and the Union.**
 - Original jurisdiction is the power of the court to hear and determine a dispute in the first instance.
- The **bare reading of Article 131** states that - Original jurisdiction of the SC:

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- Subject to the provisions of this Constitution, the SC shall, to the exclusion of any other court, have original jurisdiction in any dispute:
 - **between the Government of India and one or more States;** or
 - between the Government of India and any State or States on one side and one or more other States on the other; or
 - **between two or more States,** if and in so far as the dispute involves any question (whether of law or fact) on which the existence or extent of a legal right depends.
- The nature of Article 131 **is subject to provisions of the Constitution** and is limited to disputes involving legal rights, as mentioned in the Article itself.
 - Thus, **disputes of political nature are not covered** under this, **unless legal rights are at stake.**
- The SC held that the meaning of the **word 'State' under Article 131 does not include** any **private citizen, company, or a government department,** even if it had filed a complaint along with any State Governments.
- **Restrictions:**
 - The original jurisdiction of the SC **does not extend to disputes arising out of** any **treaty, agreement, covenant, engagement,** sanad, or any other similar instrument which came into being before the commencement of the Constitution.
 - The **parliament may exclude the jurisdiction** of the SC in disputes relating to the use, distribution, or control of the water of any inter-state river;
 - **Suits brought by private individuals** against the Government of India.

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Section 94 Juvenile Justice Act | Ossification Test Has Been Kept At The Last Rung To Determine Age: Supreme Court

About Ossification Test:

- **Ossification** is the **process of bone formation** that occurs in humans from infancy until the end of adolescence. During this time, various bones in the body undergo calcification or hardening, as minerals such as calcium and phosphorus are deposited in the bone matrix.
- **As a person ages, the rate of bone formation slows down**, and eventually, the bones become more brittle and prone to fracture.
- Due to the **predictable nature** of this process, scientists have been able to develop methods for estimating a person's age based on the degree of bone ossification in specific bones.
- One such method is the **ossification test**, also known as the **epiphyseal fusion test**.
 - This test **involves examining x-rays of certain bones** in the body, specifically the clavicle, sternum, and pelvis, **to determine the degree of ossification**.
 - Based on the degree of ossification, the professional **can estimate the person's age within a certain range**.
- **Drawbacks:**
 - It only provides an individual's **'estimated' age rather than their actual age**.
 - Even when testing several joints, the test allows a buffer of at least six months on either side. It occasionally displays a four-year fluctuation.
 - Additionally, **factors such as disease, injury, and malnutrition can all affect** the degree of bone ossification, making it more difficult to accurately estimate a person's age.

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Cooperating with probe does not mean accused has to make self-incriminating statements: Supreme Court

What is Self-Incrimination?

- A **declaration or an act** that occurs **during an investigation where a person or witness incriminates themselves** either explicitly or implicitly is known as self-incrimination.
- In simpler words, it is the **act of implicating or exposing one's own self to criminal prosecution.**
- **Right against Self-Incrimination in India:**
- The **Indian Constitution provides immunity** to an accused against self-incrimination under **Article 20(3): 'No person accused of an offence shall be compelled to be a witness against himself'.**
- It is based on the **legal maxim "nemo tenetur prodre accusare seipsum"**, which means **"No man is obliged to be a witness against himself."**
- **Features of Article 20(3):**
 - A **person accused** of any offence would be **presumed to be innocent unless proven guilty.**
 - The **burden of proving** the accused guilty **lies with the prosecution.**
 - The accused is not required to make any statement against his own will.
- The **Supreme Court (SC)** widened the scope of this immunity by **interpreting the word 'witness'** to **include oral as well as documentary evidence** so that no person can be compelled to be a witness to support a prosecution against himself.
- This prohibition **cannot be applied in cases** where an **object or document is searched or seized from the possession of the accused.**
- For the same reason, the clause **does not bar the medical examination** of the accused **or the obtaining of a thumb impression or specimen signature** from him.
- This immunity is available **only in criminal proceedings.**

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- The SC has made it clear that **in order to claim this immunity** from being compelled to make a self-incriminating statement, it is **necessary that a formal accusation must have been made** against the person **at the time of interrogation**.
 - He **cannot claim immunity at some general inquiry or investigation** on the ground that his statement may, at some later stage, lead to an accusation.
- The compulsory administration of the **narco-analysis technique** amounts to 'testimonial compulsion' and thereby **triggers the protection of Article 20(3) of the Constitution**.

"No freebies, cash": Centre rolls out pharma marketing code to curb unethical practices

About UCPMP 2024:

- It has been implemented **to control unethical practices** in the pharma industry.
- The updated guidelines include **drug endorsement**, promotion, **ethical conduct for medical representatives**, and maintaining relationships with healthcare professionals.
- **Important Provisions:**
 - It **prohibits pharma companies from offering gifts** and travel facilities to healthcare professionals or their family members.
 - The UCPMP mandates that medical representatives must not employ any inducement or subterfuge to gain an interview, and they must not pay, under any guise, for access to a healthcare professional.
 - It also **holds companies responsible** for the actions of the medical representatives.
 - It also **bans the supply of free samples to those who are not qualified** to prescribe such a product.

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- **Each pharma company also needs to maintain details** such as product name, doctor name, the number of samples given, date of supply of free samples to healthcare practitioners, etc., and the monetary value **of samples so distributed should not exceed two percent of the company's domestic sales per year.**
- All **pharmaceutical associations must constitute an Ethics Committee for Pharmaceutical Marketing Practices (ECPMP)**, set up a **dedicated UCPMP portal** on their website, and take further necessary steps towards the implementation of this Code.
- It also **lists in detail how the drug should be promoted**, both in texts and in the audio-visual market.
- The **information about drugs must be balanced, up-to-date, and verifiable**, and must not mislead either directly or by implication.
- The pharma companies **should not make claims and comparisons of their drug's usefulness**, and the **word "safe" must not be used without qualification.**
- The **word "new" must not be used to describe any drug** which has been generally available or any therapeutic intervention which has **been generally promoted in India for more than a year.**
- The **responsibility for adherence** to the code **rests with the Chief Executive Officer of pharmaceutical companies.**
- It also **detailed the penalties for violating the code** and how complaints will be handled.
- **Any violations** of the code will be **addressed by the ECPMP**, ensuring accountability and oversight.

Union Home Minister of Home Affairs virtually launches unique Digital Criminal Case Management System (CCMS) Platform of National Investigation Agency (NIA)

About Criminal Case Management System:

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- It has been developed by **designed by the National Investigation Agency (NIA)**. It will enable the NIA personnel to better coordinate in terrorism and organized crime cases, thereby improving justice delivery.
- It is a user-friendly and easy-to-deploy, customizable, browser-based software to help the State Police forces in their investigations and prosecution.
- It would not only bring standardisation into investigations but also enable easy and streamlined compilation of terror-related data across the country.
- **What is Sankalan app?**
- It has been designed **for navigating through new criminal laws** as a bridge between old and new criminal laws. This app will work as a comprehensive guide for all stakeholders.
- It will work in offline mode as well and its availability has been ensured in far-flung areas so that all stakeholders can have access to desired information around the clock.

Workers Employed To Perform Perennial/Permanent Nature Of Work Can't Be Treated As Contractual Workers: Supreme Court Allows Regularisation

What is Contract Labour?

- A workman is deemed to be employed as contract labour when he is hired in connection with the **work of an establishment by or through a contractor**. They are indirect employees.
- Contract labour differs from direct labour in terms of the employment relationship with the establishment and method of wage payment. **Contract labour**, by and large, is **not borne on pay roll nor is paid directly**.
- The contract workers are hired, **supervised and remunerated by the contractor**, who in turn, is remunerated by the establishment hiring the services of the contractor.

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- **A contractor** is a person who **takes over the responsibility to produce a given result for the establishment**, other than a supply of goods or services of manufacture to such establishment, through contract labour or the person who provides contract labour for any work of the establishment and includes a sub-contractor.
- **About Contract Labour (Regulation and Abolition) Act, 1970:**
- This act has been enacted **to regulate the employment of contract labour** in certain establishments, and to provide for its abolition in certain circumstances, and for matters connected therewith.
- It aims to **prevent the exploitation of contract labour** and also introduce better conditions of work. It extends to the **whole of India**.
- **Applicability:**
 - To **any establishment** in which **twenty or more workmen are employed** on any day of the of the accounting year **as contract labour**.
 - **To any contractor who employs** or who employs **twenty or more workers** on any day of the accounting year.
 - Also, it **does not apply** to the establishments **if any work is performed in the intermittent nature**.
 - It **does not apply** to establishments situated in the **special economic zone (SEZ)**.
- **Salient Features of the Act:**
 - **Every establishment** which proposes **to employ contract workers** for its work is **required to obtain a certificate of registration** from the appropriate Government.
 - **Every contractor** who has employed twenty or more workers on any day of the month **has to obtain a license** for engaging contract labour working for any establishment.
 - The granted licence will be **valid for the specified period** and may be **renewed from time to time**.

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- **Payment of Wages:**
 - It is the **responsibility of the contractor to pay** the **required wages** to each worker employed under contract labour before the expiry of the stipulated period.
 - **If the contractor fails** to make the payment within the stipulated period, then the **principal employer shall be liable to make the payment of wages** in full or the unpaid balance due.
 - The **wages are to be fixed by the Commissioner of Labour.**
- For contravention of the provisions of the Act or any rules made thereunder, the punishment is imprisonment for a maximum term upto 3 months and a fine upto a maximum of Rs.1000/-.
- The Act **provides for the constitution of Central and State Advisory Boards** to advise the concerned governments on matters arising out of the administration of the Act.
- The **Central or State government** after consultation with the appropriate advisory boards **may prohibit the employment of contract labour in any process, operation or other work** in any establishment.

What's Model Code of Conduct? How it came into being and what's allowed and what's not

About Model Code of Conduct:

- It traces its origins back to the assembly elections in Kerala in 1960.
- It serves as a set of **conventions unanimously** agreed upon by all stakeholders involved in the electoral process.
- Its primary objective is **to ensure that campaigns, polling** and counting proceed in an orderly, **transparent and peaceful manner.**

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- Additionally, it serves as a mechanism to curb any misuse of state machinery and financial resources by the ruling party.
- It does **not possess any statutory backing** but has been upheld by the Supreme Court on multiple occasions.
- **What Activities Are Prohibited After Implementation of MCC?**
- Ministers and other authorities are **barred from announcing any financial grants** or making commitments once the elections are announced, as per the guidelines of the election panel.
- Once the dates for the Lok Sabha elections are announced, Ministers and other authorities are also restricted from laying foundation stones or initiating projects or schemes of any kind, except civil servants. No project or scheme that may sway voters in favor of the ruling party can be announced after the enforcement of the Model Code of Conduct.
- Additionally, ministers are **prohibited from using official machinery** for campaign purposes. Official visits must not be combined with any electioneering activities after the enforcement of the Model Code of Conduct.
- Furthermore, the use of official machinery or personnel for electioneering purposes is strictly forbidden. Ministers and other authorities are **not allowed to sanction grants or payments from discretionary funds** once the elections are announced.
- Government accommodations should not serve as campaign offices or be used for holding public meetings for election propaganda by any party, as prohibited by the poll body.
- The Election Commission of India (ECI) **prohibits the issuance of advertisements** at the cost of the public exchequer in newspapers and other media during the election period.

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- The misuse of official mass media for partisan coverage of political news and publicity regarding achievements to favor the ruling party should be strictly avoided, as noted in the MCC guidelines.

MHA ranks among 10 top ministries in grievance redressal assessment index

About Grievance Redressal Assessment Index:

- It was conceptualised and designed by the **Department of Administrative Reforms and Public Grievances** (DARPG), Government of India.
- **Objective:** To present an organisation-wise comparative picture and provide valuable insights about strengths and areas of improvement regarding the grievance redressal mechanism.
- It is based on a comprehensive index in the dimensions of Efficiency, Feedback, Domain and Organisational Commitment. It uses data from the **Centralised Public Grievance Redressal and Management System** (CPGRAMS).
- **Key facts about CPGRAMS**
- It is an **online platform available** to the citizens 24x7 to lodge their grievances to the public authorities on any subject related to service delivery. It is a **single portal connected** to all the Ministries/Departments of Government of India and States.
- The status of the grievance filed in CPGRAMS can **be tracked with the unique registration ID** provided at the time of registration of the complainant.
- It also provides an appeal facility to the citizens if they are not satisfied with the resolution by the Grievance Officer.

No Anticipatory Bail To Accused Against Whom Non-Bailable Warrant & Proclamation Under Section 82 CrPC Are Pending: Supreme Court

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About Section 82 of Cr.P.C:

- It provides for the **issuing of a proclamation** in a case where the court has reason to believe that the **person has concealed himself or has absconded** in order to evade the execution of warrants issued against him.
- The court may form its opinion **suo motu** from the material on a record **or on the presentation of evidence** by the prosecution.
- Through a written proclamation, the **court orders** the **accused to appear at a specific place**, and a specific time should be given; it should not be less than 30 days from the date of publishing of the proclamation.
- The provisions under this section are not for punishing the accused but have the **sole purpose of compelling him to appear before the court**. Therefore, a proclamation **cannot be issued without first issuing a warrant**.
- The issuing of the **proclamation cannot be done in an arbitrary manner**, but there should be reasons recorded by the court to substantiate the order of the proclamation.
- Subsection (2) of Section 82 deals with the procedure through which a proclamation is issued. The provision provides that the **proclamation shall be published as follows:**
 - It is **read in some conspicuous place in the town or village where the accused person ordinarily resides**.
 - It is **affixed at some conspicuous part of the house** where such a **person ordinarily resides**. It can also be fixed in some conspicuous part of town or village.
 - The proclamation can also be **circulated through a daily newspaper circulated in the place** where the person ordinarily resides.
- **Proclaimed Offender:**
 - A person who is **accused of serious offences** under the Indian Penal Code (IPC), 1860, if he fails to appear as per the requirements of the proclamation,

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the court can declare him a proclaimed offender after inquiring into the matter.

- **A police officer can arrest** a person who has been declared a **proclaimed offender without any warrant. Even a private person can arrest** a proclaimed offender and present him to the nearest police station.
- The title of proclaimed offender **ceases to exist as soon as the person is arrested** or otherwise becomes capable of being presented before the court.
- A **proclaimed offender shall be liable for a term of imprisonment** that may extend to seven years and shall also be liable to a fine in tandem with such a punishment.
- **Difference between Proclaimed Offender and Proclamation:**
- A **proclamation is a notice to the accused**, who is believed by the court to have absconded or concealed himself to evade execution of warrants, whereas, **proclaimed offender is a title** that is conferred upon a person against whom a proclamation has been published and also who have committed a serious offence.
- The title of a **proclaimed offender is declared after an inquiry is conducted** by the court, in which the court has to confirm that such a person has been intentionally in hiding to evade the execution of warrants.
- The title of proclaimed offender **opens up the person to penal liabilities and** also to **other disqualifications.**

Supreme Court grants interim bail to Muslim poet accused of insulting Hindu Gods

About Interim Bail:

- It is a **temporary form of bail** granted during the pendency of an application for anticipatory or regular bail. It provides a brief respite for the accused, **temporarily releasing them from custody.**

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- It is **conditional** and **can be extended** based on the circumstances. If the interim bail expires and the accused fails to meet the requirements for its continuation or pay the necessary amount, their right to freedom is revoked, and **they may be retaken into custody**.
 - It **serves as an interim measure** until a final decision is made on the bail application, preventing unnecessary detention of the accused during this period.
- In the case of **Sukhwant Singh & Ors v. State of Punjab**, the Supreme Court held that the interim bail is a measure especially to safeguard the reputation of an accused. Also, the court has the inherent power to grant bail to a person whose bail application is still pending for disposal.
 - If the accused's request for anticipatory bail or interim bail is denied by the court, the police may detain him without a warrant.
- The ability of the **High Court and Sessions Court** to grant anticipatory bail is **covered under Section 438 of the CrPC. As per S.438 CrPC**, the **court has to consider** the following in order to decide whether to reject the anticipatory bail application or to give an interim relief order:
 - The **nature and gravity of the accusation**
 - The **background and criminal history of the accused**, which include previous imprisonment due to any cognizable offence.
 - **Probability of the accused escaping** from justice
 - If there is a possibility that the intention behind the allegations made against the accused is to injure and degrade the accused through his arrest.

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Why Delhi's Dolma Aunty Momos challenged the use of her trade mark, what the law says

About 'Passing off' under Trademark Rules:

- Passing off action basically refers to the **unauthorised use of goods, services**, and the goodwill attached to another person's business, which would amount to misrepresentation. The notion of Passing off in the **Indian Trademarks Act, 1999**, seeks to **safeguard the goodwill associated with unregistered trademarks**.
- **When the trademark has been registered** by the owner and infringement happens, then it **becomes a suit for infringement**, but if the trademark has not been registered by the owner and infringement happens, then it becomes a case of **passing off**.
- Passing off is a common law tort which occurs when a person sells his products as the goods of another, wherein the trademark owner can take legal action to remedy this violation.
- While passing off is **not defined under the Indian Trademarks Act 1999, Section 27** recognizes the common law rights of a Trademark owner wherein the **owner can initiate legal proceedings against any person for passing off goods or services** as the goods of another person or as services provided by another person.
- Passing off **occurs when there is illegal use of a trademark** or trade name in such a way that the **public is misled** into believing that the products or services supplied by one party are genuinely those of another.
 - This misrepresentation **can harm the goodwill** and reputation **of the legitimate owner of the trademark**.
- **Establishing passing off can be difficult** since claimants must **demonstrate the possibility of public misunderstanding** about the origin of the products or services.

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- Passing off encompasses a larger variety of commercial operations, including trade, business, and non-business initiatives, in addition to commodities and services

Express View on Eu's AI law: Strive for an intelligent balance

About European Union's Artificial Intelligence Act:

- It is the **world's first comprehensive Artificial Intelligence law**. It lays down rules and guidelines for specific risks associated with the use of AI in areas like biometric authentication, facial recognition, high-risk domains such as healthcare, and deep fakes.
- Taking a **horizontal, risk-based approach** that will apply across sectors of AI development, the EU AI Act classifies the technology into **four categories: Prohibited, high-risk, limited-risk, and minimal-risk**.
 - **Systems that violate or threaten human rights** through, for example, social scoring—creating “risk” profiles of people based on “desirable” or “undesirable” behaviour — or mass surveillance **are banned outright**.
 - **High-risk systems**, which **have a significant impact on people's lives and rights**, such as those used for biometric identification or in education, health, and law enforcement, will have to meet strict requirements, including human oversight and security and conformity assessment, before they can be put on the market.
 - **Systems involving user interaction, like chatbots** and image-generation programmes, are **classified as limited-risk** and are required to inform users that they are interacting with AI and allow them to opt out.
 - The **most widely used systems, which pose no or negligible risk**, such as spam filters and smart appliances, are **categorised as minimal-risk**. They will be exempt from regulation, but will need to comply with existing laws.

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- The law will **apply to any companies doing business in the European Union**, and allows for penalties of up to 7% of global turnover or €35 million, whichever is higher, for those that don't keep their use of AI under control.
- The act also **enshrines the right of consumers to make complaints** about the inappropriate use of AI by businesses and to receive meaningful explanations for decisions taken by an AI that affect their rights.

FSSAI sets up lab network to test food for pathogens

About Food Safety and Standards Authority of India (FSSAI):

- It is an autonomous body established under the **Ministry of Health and Family Welfare**, Government of India. It has been established under **the Food Safety and Standards Act, 2006**, which is a consolidating statute related to food safety and regulation in India.
- **Mission: Set globally benchmarked standards for food**, encourage and ensure that food businesses adhere to these standards, **adopt good manufacturing and hygiene practices**, and ultimately enable citizens to access safe and right food.
- **Functions:**
 - It is responsible for protecting and promoting public health through the **regulation and supervision of food safety**.
 - It **lays down standards and guidelines** in relation to articles of food and provides for licensing, registration, and accreditation for food business operators.
 - **Anyone selling or importing food** in India **needs a food license issued by FSSAI**.
 - Its officers **carry out food import controls** and ensure that the contain no harmful ingredients. It is also responsible for the **accreditation of food testing laboratories** throughout India.

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- The FSSAI is **responsible for the Food Certification in India**. It is mandated to specify systems for enforcing its standards, for accreditation of certification systems, and for certification of food safety management systems for food businesses.

IT Ministry notifies contentious fact check unit to dispute government misinformation

About PIB's Fact Check Unit:

- It was established in November 2019. It was started with an **objective of acting as a deterrent to creators** and disseminators of **fake news and misinformation**.
- It also provides people with an easy avenue to report suspicious and questionable information pertaining to the Government of India.
- It is mandated to counter misinformation on Government policies, initiatives and schemes either **suo motu or under a reference via complaints**.
- The FCU will actively monitors, detects and counters disinformation campaigns, ensuring that false information about the Government is promptly exposed and corrected.
- **Organisation:**
 - It is headed by a **senior DG/ADG level officer** of the Indian Information Service (IIS). The day-to-day operations of the Unit are handled by IIS officers at various levels.
 - The Unit reports to the Principal Director General, PIB who functions as the Principal Spokesperson of the Government of India.
- **Fact-Check Mechanism:**

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Users send requests over **WhatsApp, email or a web portal**. Each such request received is considered as a 'Query'. Queries are segregated by the Unit based on their relevance to matters pertaining to Government of India.

Only queries pertaining to Government of India are considered and taken up as Actionable Queries, while others are deemed not relevant for action.

"No S.153A IPC Offence Without Presence Of Two Or More Communities": Supreme Court Quashes Case Against Journalist

About Section 153A of the IPC:

- Section 153A of the IPC attempts to punish those who engage in promoting any kind of **enmity among different groups on the basis of religion, caste, race, place of birth or residence or even language**.
- The provision puts a liability on those who:
 - **Spread enmity** in the **form of words** (spoken or written), **visual representations, and signs** with the intention of causing disharmony, hatred, or disturbance among people belonging to different groups, religions, castes, or communities.
 - Spread disharmony and **disturb the public tranquility** of the people belonging to different racial and religious groups.
 - **Aid in the organising of certain movements**, drills that encourage as well as train the participants of such movements to use criminal force and violence upon people belonging to other racial and religious groups and communities.
- **Offence on moral turpitude** is also covered in this section.
- The offence is a **cognizable offence** and the punishment for the same may extend to three years, or with fine, or with both. Further, the offence under Section 153A

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is **non-bailable** in nature, wherein the accused is tried by the magistrate of the first class.

- However, the **punishment of the offence committed in a place of worship** is enhanced up to **five years and a fine**.

What is the district election management plan?

About District election management plan:

- It is a comprehensive document that uses statistics and analysis to ensure the smooth conduct of elections.
- When is the DEMP prepared?
- As per the Election Commission of India, the DEMP is to be prepared at least six months before the tentative poll day.
- Executing the DEMP requires a collaborative effort involving election officials, administrative authorities, law enforcement agencies etc.
- Elements of DEMP
- The plan starts with a district profile that serves as the foundation of the electoral strategy. It includes a political map outlining constituencies, key demographic and infrastructure statistics, a brief on the district's administrative setup and socio-economic features.
- The plan encompasses detailed strategies for improving the availability and accessibility of polling stations, ensuring that all stations have essential facilities like ramps, electricity, lighting, drinking water, toilets and internet connectivity.
- Special attention is given to voters with disabilities (PwD) and senior citizens through help desks, 24/7 control rooms, home voting options and advanced postal ballot voting for essential service personnel.

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- Another critical component of the DEMP is the Systematic Voters' Education and Electoral Participation (SVEEP) plan, which focuses on increasing electoral participation.
- It outlines a comprehensive strategy for the planning, training, welfare and deployment of election personnel.
- It also includes training district-level teams to enforce the Model Code of Conduct (MCC) and providing a training program for all election personnel to ensure they have the necessary skills and knowledge.

Karnataka Approaches Supreme Court Over Funds For Drought Management

About National Disaster Response Fund (NDRF):

- It is a fund managed by the Central Government to meet the expenses for emergency response, relief, and rehabilitation due to any threatening disaster situation or disaster.
- It is constituted to supplement the funds of the State Disaster Response Funds (SDRF) in case of a disaster of severe nature, provided adequate funds are not available in SDRF.
- It is placed in the "Public Account" of the GOI under "reserve funds not bearing interest". Since it is placed in the public accounts, the government does not require parliamentary approval to take money out of this fund.
- Eligibility:
- NDRF guidelines state that natural calamities of cyclones, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst, pest attack and cold wave and frost considered to be of severe nature by the Government of India (GoI) and requiring expenditures by a state government in excess of the balances available in its own SDRF will qualify for immediate relief assistance from NDRF.

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- The NDRF also covers man-made disasters such as terrorist attacks, chemical or biological disasters, or nuclear disasters as notified by the Central Government.
- For availing the NDRF funds, States are required to submit a memorandum indicating the sector-wise damage and need for funds. The Centre, on its part, assesses the damage and grants the additional funds to states.
- The financial assistance from NDRF is for providing immediate relief and is not compensation for loss/damage to properties /crops. In other words, the NDRF amount can be spent only towards meeting the expenses for emergency response, relief and rehabilitation.
- The NDRF is not used for disaster preparedness, restoration, reconstruction and mitigation. These activities are funded by other schemes such as the National Disaster Mitigation Fund (NDMF), the National Cyclone Risk Mitigation Project (NCRMP), National Flood Management Programme (NFMP), etc.
- Sources of Financing NDRF:
- It is financed through the levy of a cess on certain items, chargeable to excise and customs duty, and approved annually through the Finance Bill.
- The requirement for funds beyond what is available under the NDRF is met through general budgetary resources.
- The National Executive Committee (NEC) of the National Disaster Management Authority takes decisions on the expenses from NDRF.

The NDRF accounts are audited by the Comptroller and Auditor General (CAG) every year.

Apple, Google, Meta targeted in EU's first Digital Markets Act probes

About Digital Markets Act (DMA):

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- It is the EU's law to make the markets in the digital sector fairer and more contestable. It aims to create a safer internet, empower citizens, enhance consumer protections and foster higher-quality digital services.
- In order to do so, the DMA establishes a set of clearly defined objective criteria to identify “gatekeepers”.
- Gatekeepers are large digital platforms providing so-called core platform services, such as online search engines, app stores, and messenger services.
- Gatekeepers will have to comply with the do's (i.e., obligations) and don'ts (i.e., prohibitions) listed in the DMA.
- The DMA is one of the first regulatory tools to comprehensively regulate the gatekeeper power of the largest digital companies.
- Key Measures:
- Tighter restrictions on how digital gatekeepers can use people's data—users must give their explicit consent for their activities to be tracked for advertising purposes.
- Messaging services and social media platforms teaming up and sharing users. This could mean, for example, Meta-owned WhatsApp users being able to send messages directly to a completely different messaging service, such as Telegram.
- Presenting users with the option to uninstall preloaded applications on devices.
- Gatekeepers are banned from ranking their own products or services higher than others in online searches.
- The DMA complements, but does not change EU competition rules, which continue to apply fully.

How smart is the Centre's smart meter plan and why Kerala's move to opt out underscores some of the scheme's inadequacies

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- A smart meter is used for recording the consumption of electricity, but it also measures voltage levels.
- While traditional meters measure the power consumption of a home or business, smart meters live up to their name and transmit the same information every 15 minutes or hourly to utility providers.
- Since they are connected to the internet, smart meters can communicate information to the consumer about usage and also to the utility provider for monitoring purposes and accurate billing.

About Smart Meter National Programme (SMNP):

- It is an initiative by the government of India to promote the use of smart meters across the country.
- The aim of the SMNP is to improve the billing and collection efficiencies of distribution companies (DISCOMs) operating in the country. It aims to replace 25 crore conventional meters with smart meters in India.
- The scheme is being implemented by Energy Efficiency Services Limited (EESL).
- EESL is a joint venture of four National Public Sector Enterprises: NTPC Limited, PFC, REC, and POWERGRID, and was set up under the Ministry of Power.
- This roll-out is under the Build-Own-Operate-Transfer (BOOT) model, wherein EESL will undertake all the capital and operational expenditure with zero upfront investment from states and utilities.
- EESL recovers the cost of these meters through the monetization of energy savings, resulting from enhanced billing accuracy, avoided meter reading costs and other efficiencies.
- The smart meters are installed as per guidelines issued by the Central Electricity Authority (CEA).
- Benefits associated with smart meters:

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- For consumers, smart meters can help save on electricity bills by allowing them to track their consumption and make decisions accordingly.
- For utilities, smart meters can improve operational efficiency and help in managing power demand.
- Smart meters are connected through a web-based monitoring system, which will help reduce commercial losses of utilities, enhance revenues, and serve as an important tool in power sector reforms.

Pre-trial injunction against news publication may have severe ramifications for freedom of speech: SC

About Ex-parte Injunction:

- It is a **court order** that is **issued without hearing from the other party** involved in the case. It is also known as a temporary restraining order.
- This type of injunction is only **granted in emergency situations** where there is a risk of irreparable harm if immediate action is not taken.
- **What is an Injunction?**
- In India, an injunction is a legal remedy available to parties who wish **to prevent the other party from carrying out a certain action** or behavior.
- Injunctions can be granted in a variety of situations, such as in cases of **intellectual property infringement, breach of contract, or defamation**.
- An injunction is a powerful legal tool that acts as a court order **requiring a party to do or cease doing specific actions**. It plays a crucial role in many legal battles, serving as a preventive measure to stop legal wrongs or as a remedy to enforce rights.
- Injunctions are a **discretionary remedy** and the **court will consider various factors before deciding** whether to grant an injunction.
- **Types of Injunctions in India:**

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- **Temporary Injunctions:** They are granted to preserve the status quo until a final decision can be reached. These are usually granted at the start of a case and can last for the duration of the legal proceedings.
- **Permanent Injunctions:** They are granted after the court has made a final determination in the case. They prohibit the defendant from continuing a particular action or behaviour.

Mandatory Injunctions: They require the defendant to carry out a particular action. They are often granted in cases of breach of contract, where the plaintiff requires the defendant to fulfil their contractual obligations.

Prohibitory Injunctions: They prohibit the defendant from carrying out a particular action or behaviour. They are often granted in cases of intellectual property infringement or defamation.

In India, the law regarding injunction is provided **under the Specific Relief Act, 1963 and the Code of Civil Procedure, 1908.**

What happens if the party violates the injunction? If a party violates the injunction, they may be held in contempt of court and could face penalties such as fines or imprisonment.

Centre To Consider Revoking AFSPA, Pull Back Troops From J&K: Amit Shah

About Armed Forces (Special Powers) Act (AFSPA):

- It is a law enacted by the Parliament in 1958 which **gives the armed forces special powers** and immunity to maintain public order in “disturbed areas”.
- **When is it applied?** It can be applied only after an area has been declared “disturbed” under section 2 of the Act.
- **What is a Disturbed area?** An area can be considered to be disturbed due to differences or disputes among different religious, racial, language or regional groups or castes or communities.
- **Who declares an area as disturbed?**

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- The **Central Government** or the **Governor** of the State or administrator of the Union Territory, can declare the whole or part of the State or Union Territory as a disturbed area.
- It can be invoked in places where “the use of armed forces in aid of the civil power is necessary”.
- **The ‘special powers’ of armed forces** under AFSPA are:
- They have the authority to **prohibit a gathering of five or more** persons in an area, can use force or even open fire after giving due warning if they feel a person is in contravention of the law.
- If reasonable suspicion exists, the army can also **arrest a person without a warrant**, enter or search a premises without a warrant, and ban the possession of firearms.
- Any person arrested or taken into custody may be handed over to the officer in charge of the nearest police station along with a report detailing the circumstances that led to the arrest.
- These **armed forces are immune from prosecution** unless the Union Government provides sanction to the prosecuting agencies.
- **Where is AFSPA in force now?** Apart from **Nagaland**, the AFSPA is currently in force in **Jammu and Kashmir, Assam, and Manipur** except Imphal, and **Arunachal Pradesh**.

PMLA Can't Applied Using S.120B IPC If Criminal Conspiracy Wasn't Related To Scheduled Offence: Supreme Court Rejects ED's Review Petition

About Section 120B of the IPC:

- **Section 120A** of the IPC defines the offence of criminal conspiracy. **Section 120B** of the IPC, on the other hand, defines the punishment for criminal conspiracy.
- **Criminal Conspiracy** under IPC is an agreement between two or more persons to commit an illegal act or to commit a lawful act by illegal means. In other words, it is

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a criminal offence where two or more individuals agree to plan and execute a criminal act.

- **Section 120A of the IPC states:** “When two or more persons agree to do or cause to be done, an illegal act or an act which is not illegal by illegal means, such an agreement is designated a criminal conspiracy”.
- For a conspiracy to be established, there **must be an agreement** between the conspirators, a common intention to commit an illegal act, and an overt act in furtherance of that intention.
- The **agreement does not have to be in writing or expressed verbally**; it can be inferred from the conduct of the parties.
- **The Doctrine of Agency in a Criminal Conspiracy:**
- It is said that a **criminal conspiracy is a partnership** in crime because every member involved is a joint and mutual agent to each other for the common purpose, i.e., execution of the conspired crime.
- By this doctrine of agency, the law contemplates that the **act of one** of the members in the conspiracy is deemed as the act by each of them, due to all members being **equally liable**.
- **Punishment for Criminal Conspiracy:**
- Under the purview of IPC 120B, conspiracy is divided into two categories **depending on the nature, gravity** and punishment for the said offences. Also, whether the case is bailable or not, depends on the above-mentioned circumstances.
- In the first part, it states that if **the conspiracy is to commit an offence of serious nature**, an offence which is punishable with death imprisonment, imprisonment for life, or with rigorous imprisonment for at least a term of 2 years or more, or if there is no punishment mentioned in the code for the offence committed, such person shall be treated in the same manner as of the offence committed and abetted by him.
- Whereas, in the other part of Section 120B, **conspiracy other than** the offence committed under the first part, conspiracy to commit an illegal act is covered. In this

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kind of case, the section provides a uniform punishment, which means imprisonment of either description for a term which may extend up to six months, a fine, or both.

Cognizance Of Offence Under Drugs & Cosmetics Act 1940 Can't Be Taken Based On Police Officer's Complaint: Supreme Court

About Drugs and Cosmetics Act, 1940:

- It **regulates the import, manufacture and sale** or distribution of drugs and cosmetics through licences and permits.
- Its main objective is to ensure that the drugs and cosmetics marketed in India are reliable, efficient and in compliance with national standards.
- The associated **Drugs and Cosmetics Rules, 1945**, which were formulated in association with the 1940 Act, provide provisions for **classifying medications into schedules** and instructions for the storage, sale, presentation, and prescription of each schedule.
- **What is a drug?**
- A drug includes **medicines or medical devices** for external or internal use for human beings or animals, and all substances intended to be used for or in the diagnosis, treatment, mitigation, or prevention of any disease or disorder in human beings or animals.
- Drugs are extracts of certain plants, animal parts, herbs, or minerals. A drug is any **chemical substance** (natural or man-made) that alters biological structure or functioning when absorbed.

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- **What is a cosmetic?** The term cosmetic refers to **any substance or product** used to rub, pour, sprinkle or spray on, or introduce into, or otherwise apply to, the body or any part of any object for cleansing, beautifying, or improving the appearance.
- **Objectives:**
- It **oversees medication imports** into India, ensuring that no substandard or counterfeit drugs enter the country.
- It **prohibits the production of inferior** or counterfeit pharmaceuticals in the country.
- It requires **only qualified** and competent **personnel to sell and distribute** medicines, as well as the manufacture, sale, and distribution of Ayurvedic, Siddha, Unani, and Homeopathic drugs.
- The provisions of the Act control the import, manufacture, sale, and distribution of cosmetics.
- To have **drug inspectors visit** licensed premises regularly. **Monitoring** pharmaceutical and cosmetic standards by collecting samples and analyzing them in accredited laboratories.
- Creating distinctive regulations to **control the manufacture, standardization**, and storage of biological and special products, as well as prescribing how different types of drugs and cosmetics should be labeled and packed.
- To **form a Drugs Technical Advisory Board (DTAB)** and **Drugs Consultative Committees (DCC)** for allopathic and allied drugs, as well as cosmetics.
- **Salient Features:**
- The **maximum penalty** is life imprisonment and a fine of Rs. 10 lakhs or three times the confiscated goods' value, whichever is greater.
- **Other gazette officers**, in addition to officers from the Drug Controller's Office, **are authorised to initiate prosecution** under the Act; some of the offences are cognizable and non-bailable;
- **Specialised courts** for the trial of offences covered by the Act;

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- Provision for the aggregation of minor offences.

Why Supreme Court allowed Bloomberg's article against ZEE to remain online

About SLAPP Suits:

- The term 'SLAPP', stands for **Strategic Lawsuit Against Public Participation**. The concept of a SLAPP lawsuit evolved in the US, where it was observed that certain lawsuits were filed targeting individual or group litigants who voiced their concern over important or considerable social issues in the public arena.
- The **subject matter** of the suit **would target an act of public participation**, such as engaging in an issue of societal or political significance, **in the form of journalism, advocacy, whistleblowing**, peaceful protests or boycotts, activism, or simply speaking out against abuse of power.
- As such, **winning the lawsuit is not the focus**. The plaintiff's goal is typically accomplished if the defendant succumbs to fear, intimidation, mounting legal costs or simple exhaustion and abandons the criticism.
- The **remedies sought are** usually **substantial amounts of damages** and generally aggressive or disproportionate to the subject matter of the dispute.
- SLAPP suits are **routinely filed for libel, slander, defamation, abuse of process**, malicious prosecution, conspiracy, invasion of privacy, and tortious interference with contract or business relationships.
- The most common SLAPP suits have often involved a powerful corporation suing local citizens for speaking against their company.

**Money laundering cases: Courts can order release of accused under police custody:
HC**

What is Money Laundering?

- PMLA defines money laundering as an **act of directly or indirectly attempting** to indulge or knowingly assisting or knowingly being a party or actually involved in concealing, possessing, acquiring, using, projecting as untainted property, or claiming as untainted property, in any manner whatsoever, the proceeds of crime.
- It is defined as the **process through which an illegal fund**, such as black money, is obtained from illegal activities and disguised as legal money, eventually portrayed as white money.
- **About Prevention of Money Laundering Act (PMLA), 2002:**
- It is an act to **prevent money laundering** and to provide for the **confiscation of property** derived from or involved in money laundering.
- The Act was formulated for the **following objectives:**
 - Prevent money-laundering.
 - Combat/**prevent the channelising of money into illegal activities** and economic crimes.
 - Provide for the **confiscation of property** derived from, or involved/used in, money laundering.
 - **Penalise the offenders** of money laundering offences.
 - **Appointing an adjudicating authority** and **appellate tribunal** for taking charge of money laundering matters.
 - Provide for matters connected and incidental to the acts of money laundering.
- The **Enforcement Directorate (ED)** in the Department of Revenue, Ministry of Finance, is responsible for investigating the offences of money laundering under the PMLA.

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- **Financial Intelligence Unit–India** (FIU-IND), under the Department of Revenue, is the central national agency responsible for receiving, processing, analyzing and disseminating information relating to suspect financial transactions.
- The scheduled offences are **separately investigated by the agencies** mentioned under respective acts, for example, the local police, CBI, customs departments, SEBI or any other investigative agency, as the case may be.
- **Actions that can be initiated** against the person involved in money laundering:
 - **Seizure/freezing of property and records** and attachment of property obtained with the proceeds of crime.
 - Any person who commits the offence of money laundering shall be **punishable with** rigorous **imprisonment** for a minimum term of three years, and this may extend up to seven years and **fine** (without any limit).
- The PMLA and rules notified thereunder impose **obligations on banking companies, financial institutions**, and intermediaries and persons carrying on a designated business or profession, to verify identity of clients, maintain records and furnish information to FIU-IND.

ECI's C-Vigil app a big hit with voters: over 79,000 violations reported so far through the complaints app since announcement of General Elections; 99 % cases disposed off

About C-Vigil app:

- It is a mobile application developed by the **Election Commission of India** (ECI) to enable citizens to **report violations** of the **Model Code of Conduct** (MCC) during elections.
- **Features of the app:**
- It is user-friendly and easy to operate application, which connects vigilant citizens with the **District Control Room, Returning Officer and Flying Squads Teams.**

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- By using this app, the citizens can immediately report on incidents of political misconduct within minutes and without having to rush to the office of the returning officer.
- As soon as the complaint is sent on the cVigil app, the complainant will **receive a unique ID** through which the person will be able to track the complaint on their mobile.
- Users capture audios, photos or videos in real-time, and a “100-minute” countdown for time-bound response to complaints is ensured.
- The app automatically enables a **geo-tagging feature** as soon as the user switches on their camera in the cVIGIL to report a violation. This means that flying squads could know the precise location of a reported violation and the image captured by citizens could be used as evidence in the court of law.
- It uses **GPS to track the location** of the violation. It allows users to capture **the live incidents only**. It has a feature to report the case of MCC violation **anonymously**.

DoT asks telcos to suspend USSD-based call forwarding, switch to alternate mode from Apr 15

Why in news?

- The DoT said that it has come to its notice that USSD based call forwarding facility, most commonly known *401# services for unconditional call forwarding services, is being misused for some unwarranted activities.
- **About Unstructured Supplementary Service Data (USSD):**
- It is a **communications protocol** used in **Global System for Mobile Communications** (GSM) networks for sending short text messages.
- It is an instant messaging service and messages are **not stored on the operator** side or on the **subscriber's device**.

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- **USSD format:** It generally exist as one of two types, depending on their origin:
 - **A USSD Pull** is an outgoing request from the user in the form of an MMI command.
 - **A USSD Push** is a message from the operator that is displayed on the user's screen.
 - The user can send the operator a request in the form of a USSD command. Commands consist of **the * and # characters** and numeric codes.
 - The chain begins with * or # (which can occur more than once, separating commands from subcommands) and usually ends with #.
 - The maximum length of a USSD message **is 182 characters**, but in practice even the longest requests rarely exceed 20.
- It is used to display balance deduction in mobile phones where a message pops-up on the device screen after a call or outgoing SMS. It is also used for checking IMEI numbers of mobiles.

Many countries yet to fully implement steps to prevent misuse of virtual assets, says FATF

About Financial Action Task Force (FATF):

- It is an **inter-governmental** policy-making and standard-setting body dedicated to combating **money laundering** and **terrorist financing**.
- **Objective:** To establish international standards and to develop and promote policies, both at national and international levels, to combat money laundering and the financing of terrorism.
- **Origin:**

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- It was established in **1989 during the G7 Summit** in Paris to develop policies against money laundering.
- In 2001, its mandate was expanded to include terrorism financing.
- **Headquarters: Paris, France.**
- Its members include **39 countries**, including the **United States, India, China**, Saudi Arabia, Britain, Germany, France and the EU as such.
- India became a member of FATF in 2010.
- **What are FATF "grey list" and "blacklist"?** FATF has 2 types of lists:
- **Black List:** Countries known as **Non-Cooperative Countries or Territories (NCCTs)** are put on the blacklist. These countries support terror funding and money laundering activities. The FATF revises the blacklist regularly, adding or deleting entries.
- **Grey List:** Countries that are **considered a safe haven for supporting terror funding** and money laundering are put on the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.
- Three countries **North Korea, Iran and Myanmar** are currently **in FATF's blacklist**.
- **Consequences of being on the FATF blacklist:**
- **No financial aid** is given to them by the International Monetary Fund (**IMF**), the World Bank, the Asian Development Bank (**ADB**) and the European Union (**EU**).
- They also face a number of international **economic and financial restrictions** and **sanctions**.

CPCB report to NGT shows 80 pc environmental funds remain unutilised

About Central Pollution Control Board (CPCB):

- It is a statutory organisation constituted in September 1974 under the **Water (Prevention and Control of Pollution) Act, 1974**.
- Further, CPCB was entrusted with the **powers** and functions **under the Air (Prevention and Control of Pollution) Act, 1981**.

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- It **provides technical services** to the Ministry of Environment, Forests and Climate Change (MOEFCC) of the provisions of the Environment (Protection) Act, 1986 and advises the Central Government on any matter concerning the prevention and control of water and air pollution and the improvement of the quality of air.
- **Principal Functions of the CPCB:**
 - to **promote the cleanliness of streams and wells** in different areas of the States by prevention, control, and abatement of water pollution
 - to **improve the quality of air** and to prevent, control or abate air pollution in the country.
- **Standardization activity of CPCB:**
 - CPCB **lays down standards for streams or wells** in consultation with the State Governments, and also lays down **standards for the quality of air**.
 - CPCB also **prepares manuals, codes**, and guidelines relating to the treatment and disposal of sewage and trade effluents, as well as for stack gas cleaning devices, stacks, and ducts.
 - In general, the **following nine categories of standards** are **developed by CPCB:**
 - **National ambient air quality**
 - Water Quality Criteria from different sources
 - Standards for Emission or Discharge of Environmental Pollutants from various Industries (Issued under Environment Protection Rules, 1986)
 - Standards for Treatment and Disposal of Bio-Medical waste by Incineration
 - Guidelines for the disposal of Common Hazardous Wastes by Incineration
 - **Emission norms for vehicles**

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- Auto fuel quality
 - **Emission standard, Noise limits for Diesel Engines**
 - Emission & Noise Limit of LPG & CNG Generator Sets
- Apart from the above, under the Comprehensive Industry Document Series (COINDS), CPCB also formulates the Minimal National Standards (MINAS) specific for various categories of industries with regards to their effluent discharge (water pollutants), emissions (air pollutants), noise levels and solid waste. These standards are required to be adopted by State Governments as minimal standards.

DEFENCE AND SPACE

DRDO completes flight tests of Very Short-Range Air Defence System

About Very Short-Range Air Defence System (VSHORADS):

- VSHORADS is a fourth-generation **Man Portable Air Defence System** (MANPAD) specially designed to counter low-altitude aerial threats over short distances.
- These are short-range, lightweight, and portable surface-to-air missiles that can be fired by individuals or small groups.
- It has been designed and **developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad**, in collaboration with other DRDO laboratories and Indian industry partners.
- **Features:**
 - It is designed to provide **short-range air defence capabilities** to protect ground forces and critical assets from aerial threats, including helicopters and low-flying aircraft.
 - It has a **range of up to 6-km.**

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- The missile incorporates many novel technologies, including a Dual-band IIR Seeker, a miniaturised Reaction Control System, and integrated avionics.
- It is propelled by a **dual-thrust solid motor**.
- The missile and its launcher were designed by the DRDO to be **portable**, which enables their quick deployment over difficult terrain.

INDIA - MALAYSIA BILATERAL MARITIME EXERCISE SAMUDRA LAKSAMANA

About Exercise Samudra Laksamana:

- It is a **joint naval exercise** between the Indian Navy and **Royal Malaysian Navy**.
- It is the **3rd edition** of this exercise.
- **Indian Naval Ship Kiltan** and Royal Malaysian Ship KD Lekir are participating in this exercise which has **harbour professional interactions** followed by the **operational phase at sea**.
- At harbour, crew of both ships will have various professional interactions, Subject Matter Expert Exchange on topics of mutual interest, sports fixtures, and other interactions.
- These interactions are aimed to enhance knowledge base, share best practices and further cooperation on maritime aspects. The exercise aims to strengthen bonds and enhance interoperability between the Indian and Royal Malaysian Navy.
- **Key points about INS Kiltan**
- It is an **indigenously-built anti-submarine** warfare stealth corvette
- This is the third of the four Kamorta-class corvettes being built under Project 28.
- The ship derives its name from one of the islands in Aminidivi group of the strategically located Lakshadweep and Minicoy group of islands.
- It is designed by the Indian Navy's in-house organisation Directorate of Naval Design and built by Garden Reach Shipbuilders & Engineers (GRSE) in Kolkata.

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INDIAN NAVY TO ENHANCE ITS OPERATIONAL CAPABILITY WITH THE COMMISSIONING OF INS JATAYU AT MINICOY ISLAND (LAKSHADWEEP)

About INS Jatayu:

- It is the **second Naval base** in Lakshadweep after INS Dweeprakshak in Kavaratti.
- With the commissioning of INS Jatayu, the Indian Navy will strengthen its foothold in the Lakshadweep islands and along with **extending operational surveillance**, reach and sustenance.
- It will usher in a new era of capacity building and comprehensive development of the island territories.
- The event marks an important milestone in the Navy's resolve to incrementally augment security infrastructure at the strategically important Lakshadweep Islands.
- **Key facts about Minicoy Island**
- It is the **southernmost island of Lakshadweep** which straddles the vital Sea Lines of Communications (SLOCs).
- **Naval Detachment Minicoy** was set up in the early 1980s under the operational command of Naval Officer-in-Charge (Lakshadweep).
- **Significance of the Naval Detachment:**
 - Basing of an independent Naval unit with requisite infrastructure and resources will enhance the overall operational capability of the Indian Navy in the islands.
 - The base will enhance the operational reach and facilitate the Indian Navy's operational effort towards **Anti-Piracy and Anti-Narcotics Operations** in the Western Arabian Sea. It will also augment the Indian Navy's capability as the first responder in the region and augment connectivity with the mainland.

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James Webb telescope spots trouble in Orion Nebula: Stellar winds are eroding planet-forming material around a young star

About Protoplanetary Disk:

- A protoplanetary disk is a disk of gas (99% by mass) and dust (1%), **orbiting a newly formed star**, from which **planets may eventually form** or be in the process of forming.
- Disks are common **by-products of star formation**, and range in different mass and size.
- **How are they formed?**
 - **Stars form from cold interstellar molecular clouds.** A molecular cloud is an interstellar cloud of gas and dust in which molecules can form, the most common of which is hydrogen (H₂).
 - **As they collapse** into protostars under the force of gravity, the **remaining matter forms a spinning disk.**
 - Eventually, the star stops accreting matter, **leaving the disk in orbit** around it.
 - The leftover gas and dust inside that protoplanetary disk **become the ingredients for planet formation.**
 - Organic molecules present in the original molecular cloud become part of the protoplanetary disk and the planets that form from it.
- The chemical composition of the protoplanetary disk determines the composition of the eventual planets that form from it.
- Protoplanetary disks typically disperse after 2–3 million years through the coalescence of their matter into planets and photoevaporation by the stellar radiation.

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Day after Putin's nuke war warning, Russia tests nuclear ballistic Yars missile

About Yars Missile:

- The Yars (also known as **RS-24 or SS-29**) is a **Russian-made intercontinental ballistic missile** (ICBM) with **multiple independently targetable warheads**, each capable of targeting different objectives.
- **Features:**
 - It is a **three-stage, solid propellant**, MIRV-capable (Multiple Independently Targetable Reentry Vehicles) **ICBM**.
 - The Yars is a modified version of the Topol-M missile system.
 - The missile can be **launched from a silo or mobile launcher**.
 - It has a **range of 10,500 km**.
 - The missile can be armed with up to 10 MIRVs, each containing a **thermonuclear warhead** weighing 300 kilotons.
 - It has the **capability to manoeuvre during flight** and deploy both active and passive decoys.
- **What is an intercontinental ballistic missile (ICBM)?**
- An ICBM is a **guided missile** that is **designed to deliver nuclear warheads**, although it could also deliver other payloads.
- According to the Federation of American Scientists, ICBMs have a **minimum range of 5,500 kilometres** (3,400 miles), with maximum ranges varying from 7,000 to 16,000 kilometres.
- ICBMs are much faster and have a greater range than other types of ballistic missiles.
- **Agni-V is an Indian ICBM** with a range of over 5,000 km.

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What is grey zone warfare, mentioned by India's Chief of Defence Staff recently?

About Grey Zone Warfare:

- Grey zone warfare generally means a **middle, unclear space** that exists **between direct conflict and peace** in international relations.
- It can be broadly defined as the exploitation of operational space between peace and war **to change the status quo through** the use of **coercive actions** which remain below a threshold that, in most cases, would prompt a conventional military response.
- Activities characterised as grey zone warfare methods **range from the use of proxies** for kinetic action or change of territorial status quo through **coercion to non-kinetic subversive actions such as cyberattacks, economic coercion, disinformation campaign, election meddling**, and more recently, weaponisation of migrants.
- **There are typical aspects** that tend to be present in most grey zone warfare activities.
 - The first is that grey zone **elements remain below the threshold** that would justify a military response, **often through the use of non-military tools**.
 - The second common characteristic of grey zone activities is that **they unfold gradually over time** rather than involving bold, all-encompassing actions to achieve objectives in one step.
 - The third characteristic, which applies to some but not all the activities in this sphere, is a **lack of attributability**. Most grey zone campaigns involve actions, whereby the aggressor **aims for plausible deniability of its action**.
 - In cases where grey zone actions are open and attributable, they are justified using extensive legal and political arguments. In addition, aggressors also recruit other countries to their point of view.
 - Grey zone campaigns **target specific vulnerabilities in the targeted countries**.

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Raksha Mantri Shri Rajnath Singh to inaugurate DefConnect 2024 to encourage indigenous defence innovation

About Innovations for Defence Excellence-Defence Innovation Organisation:

- It is the flagship scheme of the **Ministry of Defence**, Govt of India launched in 2018.
- **Objective:** The objective of the scheme is to cultivate an innovation ecosystem in the Defence and Aerospace sector by collaborating with startups, innovators, MSMEs, incubators, and academia.
- **Funding:** It will be funded and managed by a **'Defence Innovation Organization (DIO)'** which has been formed as a 'not for profit' company as per the Companies Act 2013 for this purpose, by the two founder memberse. Defence Public Sector Undertakings (DPSUs) - HAL & BEL.
- It functions as the executive arm of DIO, carrying out all the required activities while DIO will provide high level policy guidance to iDEX.
- It offers **grants and support for R&D** with significant potential for future adoption in Indian defence and aerospace.

DefConnect 2024: Raksha Mantri launches ADITI scheme to promote innovations in critical & strategic defence technologies

About ADITI Scheme:

- **Acing Development of Innovative Technologies with iDEX (ADITI)** is a scheme to promote innovations in critical and **strategic defence technologies**.
- **Aim:** It aims to develop about **30 deep-tech critical and strategic technologies** in the proposed timeframe.

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- **Eligibility:** Under this scheme **start-ups are eligible** to receive **grant-in-aid of up to Rs 25 crore** for their research, development and innovation endeavours in defence technology.
- **Time period:** This scheme worth **Rs 750 crore** for the period **2023-24 to 2025-26**.
- It falls under the iDEX (Innovations for Defence Excellence) framework of Department of Defence Production, **Ministry of Defence**.
- It also envisages to create a **'Technology Watch Tool'** to bridge the gap between the expectations and requirements of the modern Armed Forces and the capabilities of the defence innovation ecosystem.
- In the first edition of ADITI, **17 challenges** – Indian Army (3), Indian Navy (5), Indian Air Force (5) and Defence Space Agency (4) - have been launched.
- To motivate young innovators, iDEX was expanded to iDEX Prime, with the assistance increasing from Rs 1.5 crore to Rs 10 crore.

India finally entering stage II of its nuclear programme

About Prototype Fast Breeder Reactor:

- It is a machine that produces more **nuclear fuel than it consumes**.
- **Fuel:** The Fast Breeder Reactor (FBR) will initially use the **Uranium-Plutonium Mixed Oxide (MOX)** fuel.
- The **Uranium-238** “blanket” surrounding the fuel core will undergo nuclear transmutation to produce more fuel, thus earning the name ‘Breeder’.
- The use of **Thorium-232**, which in itself is not a fissile material, as a blanket is also envisaged in this stage.
- By transmutation, Thorium will create fissile **Uranium-233** which will be used as fuel in the third stage.
- **Coolant:** It uses **liquid sodium**, a highly reactive substance, as coolant in two circuits. Coolant in the first circuit enters the reactor and leaves with (heat) energy

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and radioactivity. Via heat-exchangers, it transfers only the heat to the coolant in a secondary circuit. The latter transfers the heat to generators to produce electricity.

- It has been fully **designed and constructed indigenously by Bhartiya Nabhikiya Vidyut Nigam Ltd (BHAVINI)**.
- In terms of safety, the PFBR is an advanced third generation reactor with inherent passive safety features ensuring a prompt and safe shut down of the plant in the event of an emergency.
- **Significance:**
 - Since it uses the spent fuel from the first stage, FBR also offers great advantage in terms of significant reduction in nuclear waste generated, thereby avoiding the need for large geological disposal facilities.
 - Once commissioned, India will only be the second country after Russia to have commercial operating Fast Breeder Reactor.
 - FBR is thus a stepping stone for the third stage of the program paving the way for the eventual full utilization of India's abundant thorium reserves.

Defence Minister Rajnath Singh to Inaugurate Key Infrastructure at Naval Base Karwar for Project Seabird Expansion

About Project Seabird:

- The **largest naval infrastructure project** for India, it involves creation of a naval base at Karwar, Karnataka, on the **west coast of India**.
- **History:**

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- In the **post-Indo-Pak War** of 1971 scenario, **India learned that** the Indian Navy **needs an additional naval base** since Mumbai Harbour faced congestion, which led to security issues for its Western Fleet.
- It was **initially sanctioned in 1985**, and the foundation stone was laid on October 24, 1986, by Rajiv Gandhi.
- This is a massive project with the **first sealift facility in the country** and a **transfer system for docking and undocking ships** and submarines.
- Its **first phase**, which included the construction of a deep-sea harbour, breakwaters dredging, a township, a naval hospital, a dockyard uplift centre and a ship lift, was commissioned in 2005.
- The development of **phase 2** of INS Kadamba **commenced in 2011**.
 - This phase is further divided into 2A and 2B. It was planned to expand the facilities **to dock additional warships** and a **new Naval Air Station**, among other projects.
- Once completed, it will be the **largest naval base in the Eastern Hemisphere**. It will be able to **accommodate around 32 warships, 23 submarines** and hangers for several aircraft.

US Coast Guard ship Bertholf arrives in Port Blair ahead of joint exercise

About Sea Defenders-2024:

- It is a **joint exercise** between the **Indian Coast Guard and the United States Coast Guard**.
- **Location: Off the coast of Port Blair**, Andaman and Nicobar Islands.
- The **two-day exercise** will **focus on maritime piracy and asymmetric threats**, including simulated drone attacks on commercial merchant traffic, joint maritime

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search and rescue operations, major firefighting, marine pollution response, and counter-drug interdiction exercises.

- The event will also **witness a simulated medical evacuation** to enhance readiness in emergency situations.
- **Key Facts about Indian Coast Guard (ICG):**
- It is an **armed force** that **protects India's maritime interests** and enforces maritime law, with jurisdiction over the territorial waters of India, including its contiguous zone and exclusive economic zone.
- The ICG, **working in coordination with other Union agencies**, institutions and authorities, safeguards the maritime interests and security of India, **assists vessels and fisherman in distress** and **protects the maritime environment**.
- **History:** It was **formally established** in 1978 **by the Coast Guard Act, 1978**, as an independent Armed force of India.
- **Parent ministry:** It operates under the **Ministry of Defence**.
- **Administration:** The organization is **headed by the Director General Indian Coast Guard (DGICG)**.
- **HQ:** New Delhi.

The strategic importance of the Sela Tunnel in Arunachal Pradesh

About Sela Tunnel:

- It is the **longest bi-lane road tunnel in the world**, at an altitude above 13,000 feet. It is located in the **West Kameng district of Arunachal Pradesh**.
- It will connect Tezpur, in Assam, with Tawang, in Arunachal Pradesh. It is **built by the Border Roads Organisation (BRO)** under **Project Vartak**, and the tunnel's construction commenced on April 1, 2019.
- **Need:**

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- Located near the Sela Pass, this **all-weather tunnel was needed because the Balipara-Charidwar-Tawang Road remains closed for a long time** every year, courtesy of snowfall and landslides caused by heavy rainfall.
- The tunnel is significant as it will **provide all-weather connectivity to Tawang**, bordering China. It will cut down the travel time between Tezpur and Tawang by over an hour.
- It will also provide for faster deployment of weapons, soldiers, and equipment to forward areas near the **Line of Actual Control (LAC)**.
- **Key Facts about Sela Pass:**
- It is a high-altitude mountain pass located in the **Tawang district of Arunachal Pradesh**.
- **Elevation:** 4,170 meters above sea level.
- **Open throughout the year**, Sela Pass is **managed by the BRO**.

FIRST TRAINING SQUADRON PARTICIPATES IN CUTLASS EXPRESS 24

About Exercise Cutlass Express:

- It is an exercise conducted in **East African coastal regions and the West Indian Ocean** to counter malign influence, aggression and activity along overlapping command seams and maritime regions.
- It is a premier **multinational maritime exercise** sponsored by U.S. Africa Command (AFRICOM) and led by U.S. Naval Forces Europe-Africa/U.S. Sixth Fleet.
- It brings together maritime forces from East Africa, West Indian Ocean nations, Europe, North America and several international organizations to enhance maritime law enforcement capacity, promote national and regional security and increase interoperability among participating nations.
- Training was conducted on theoretical and practical aspects of **Maritime Interdiction Operations, Visit Board Search and Seizure procedures** and Diving

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operations. During the sea phase, the ship's VBSS team boarded Seychelles Coast Guard (SCG) ship LE Vigilant and demonstrated procedures of boarding operations.

- As part of Cutlass Express 2024, the Indian Navy actively engaged with participants from **16 friendly foreign countries**. The **Indian Navy** has been participating in the **exercise since 2019**.

PM Modi witnesses "Bharat Shakti" tri-service exercise in Rajasthan

About Exercise "Bharat Shakti":

- It is an **integrated tri-service** exercise conducted at **Pokhran, Rajasthan**, showcasing the prowess of indigenously manufactured defence equipment across the three services.
- The exercise involves showcasing the **calibrated tactical employment of niche technology** in a tri-services environment against perceived threats.
- The exercise displays an array of **indigenous weapon systems and platforms**, premised on the nation's **Aatmanirbharata initiative**.
- It will also **simulate realistic, synergised, multi-domain operations** displaying the integrated operational capabilities of the Indian armed forces to counter threats across land, air, sea, cyber, and space domains.
- It **features indigenous weapon systems: T-90 (IM) Tanks, Dhanush and Sarang Gun Systems, Akash Weapons Systems**, Logistics Drones, Robotic Mules.
- The Indian Navy displays **Naval Anti-Ship Missiles**, Autonomous Cargo Carrying Aerial Vehicles, and Expendable Aerial Targets.
- The Indian Air Force showcases indigenous aircraft: **Light Combat Aircraft Tejas**, Light Utility Helicopters, and **Advanced Light Helicopters**.

Giant volcano discovered on Mars is promising location to hunt for life

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About Noctis Volcano:

- It is a **newly-discovered volcano** located just **south of Mars' equator**, in Eastern Noctis Labyrinthus, west of Valles Marineris, the planet's vast canyon system.
- The volcano **sits on the eastern edge of** a broad regional **topographic rise called Tharsis**, home to three other well-known giant volcanoes: Ascraeus Mons, Pavonis Mons, and Arsia Mons.
- The **central summit area** is marked by **several elevated mesas forming an arc**, reaching a regional high and sloping downhill away from the summit area.
- The **caldera remnant**—the remains of a collapsed volcanic crater once host to a lava lake—can be seen near the centre of the structure.
- **Lava flows, pyroclastic deposits** (made of volcanic particulate materials such as ash, cinders, pumice and tephra), and **hydrated mineral deposits occur** in several areas **within the structure's perimeter**.
- It was **active for a very long time** on the Red Planet, and in its southeastern part lies a thin, recent volcanic deposit beneath which glacier ice is likely still present.

Pakistan urges India to comply with stipulated timeline of flight testing of ballistic missiles

About Agreement on Pre-notification of the 'Flight Testing of Ballistic Missiles':

- It was signed between **India and Pakistan** on October 3, **2005**. According to the pact, both countries are supposed to send each other an **'advance notification'** of the flight test that they intend to undertake of any land or sea- launched, surface-to-surface ballistic missiles.

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- The notification should be "**no less than three days in advance of the commencement of a five-day launch window** within which it intends to undertake flight tests of any land or sea-launched, surface-to-surface ballistic missile".
- Each country also has to **ensure that the test launch sites don't fall within 40 km** and the impact area isn't within 75 km of the International Boundary or the Line of Control along the side of the country undertaking the test.
- Each party shall also further **ensure that the planned trajectory** of the ballistic missile being flight tested **shall not cross the International Boundary or the Line of Control** between India and Pakistan, and further, it shall maintain a horizontal distance of at least 40 km from the International Boundary and the Line of Control.
- The parties shall **treat the bilateral pre-Notification** exchanged under this agreement **as confidential**, unless otherwise agreed upon. The notification **shall be conveyed through the respective Foreign Offices and the High Commissions**, as per the format annexed to the agreement.
- The agreement states that pre-notification **applies only to tests conducted with surface-to-surface ballistic missiles** launched from land or sea. The agreement **does not apply to cruise missiles**. It also **does not apply to surface-to-air missiles**.
- A **party may withdraw** from this agreement by giving six months written notice to the other, indicating its intention to abrogate the agreement.

INDIAN ARMY CONTINGENT DEPARTS FOR SEYCHELLES FOR JOINT MILITARY EXERCISE "EXERCISE LAMITIYE – 2024"

About Exercise LAMITIYE:

- It is a joint military exercise between the **Indian Army and Seychelles Defence Forces** (SDF). 'LAMITIYE' meaning 'Friendship' in the Creole language **is a biennial training event** and has been conducted in Seychelles since 2001.

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- 45 personnel each from the GORKHA RIFLES of the Indian Army and Seychelles Defence Forces (SDF) will participate in the 2024 exercise.
- The Exercise will enhance cooperation and interoperability between both the sides during Peace Keeping Operations. The exercise will also build and promote bilateral military relations in addition to exchanging skills, experiences and good practices between both armies
- Both sides will jointly train, plan and execute a series of well-developed tactical drills for neutralization of likely threats that may be encountered in Semi-Urban environment, while exploiting and showcasing new-generation equipment and technology.

North Korea fires ballistic missiles as Blinken visits Seoul

About Ballistic Missiles:

- A ballistic missile is a **rocket-propelled, self-guided** strategic-weapons system that follows a ballistic trajectory to deliver a payload from its launch site to a predetermined target.
- They are **powered initially by a rocket** or series of rockets in stages, but then follow an unpowered trajectory that arches upwards before descending to reach its intended target.
- They can **carry conventional** high explosives **as well as chemical, biological, or nuclear munitions**. They can be **launched from aircraft, ships and submarines**, in addition to land-based silos and mobile platforms.
- There are **four general classifications** of ballistic missiles:
 - **Short-range: less than 1,000 kilometers** (approximately 620 miles), also known as “tactical” ballistic missiles.

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- **Medium-range: between 1,000 and 3,000 kilometers** also known as “theater” ballistic missiles.
- **Intermediate-range: between 3,000 and 5,500 kilometers**
- **Long-range: more than 5,500 kilometers**, also known as intercontinental or strategic ballistic missiles.

EX TIGER TRIUMPH – 24

About Exercise Tiger Triumph:

- It is a **bilateral tri-Service Humanitarian Assistance and Disaster Relief (HADR)** Exercise between **India and the US**.
- It is aimed at developing interoperability for conducting HADR operations and refine Standard Operating Procedures (SOPs) to enable rapid and smooth coordination between forces of both countries.
- On completion of the **Harbour Phase**, the ships, with the troops embarked, would sail for the **Sea Phase** and undertake Maritime, Amphibious and HADR operations in accordance with injected situations.
- Indian Navy Ships with integral helicopters and landing crafts embarked, Indian Navy aircraft, Indian Army personnel and vehicles and Indian Air Force aircraft and helicopters along with the Rapid Action Medical Team (RAMT) would be participating in the exercise.

INDIA - MOZAMBIQUE - TANZANIA TRILATERAL EXERCISE IMT TRILAT- 2024

About IMT Trilateral Exercise:

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- It is a **joint maritime exercise** scheduled from 21-29 Mar 24. As part of the harbour phase scheduled from 21-24 Mar 24, Naval ships Tir and Sujata will engage with the respective Navies at the **ports of Zanzibar** (Tanzania) and **Maputo (Mozambique)**.
 - This phase would begin with a Planning Conference followed by conduct of **joint harbour training activities** like Damage Control, Fire Fighting, Visit Board Search and Seizure procedures, Medical Lectures, Casualty Evacuation and Diving operations.
- The sea phase of the exercise is covering practical aspects of countering asymmetric threats, Visit Board Search and Seizure procedures, boat handling, manoeuvres and firing exercise. A joint EEZ surveillance is also planned during the sea phase.
- The exercise will conclude with a joint debrief scheduled at **Nacala (Mozambique)**.

Russia's Nuclear Weapons Are Now in Belarus

About Tactical Nuclear Weapons:

- **Nuclear weapons**, just like other weapons, can be categorised into **two types: strategic and tactical**.
- **Strategic Nuclear Weapons:** They refer to nuclear weapons that have **bigger objectives**, such as **destroying cities or larger targets**, with larger war-waging objectives in mind.
- **Tactical Nuclear Weapons (TNWs):**
 - They are nuclear weapons **used for specific tactical gains on the battlefield**.
 - They are intended to **devastate enemy targets in a specific area without causing widespread destruction and radioactive fallout**.
 - These warheads can be **delivered via a variety of missiles**, torpedoes, and gravity bombs from naval, air, or ground forces.

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- The **explosive yield** of tactical nuclear weapons can **range from under one kiloton to about 100 kilotons**, whereas strategic nuclear weapons can have a yield of up to one thousand kilotons.
- **Delivery systems** for tactical nuclear weapons also tend to **have shorter ranges, typically under 310 miles (500 kilometres)**, compared with strategic nuclear weapons, which are typically designed to cross continents.
- They are the **least-regulated category of nuclear weapons** covered in arms control agreements.
- **Countries possessing TNWs:**
 - **Nine countries** have tactical nuclear weapons, according to the Federation of American Scientists.
 - They are **Russia, the United States, China, France, the United Kingdom, Pakistan, India, Israel and North Korea.**
 - **Russia** has a stockpile of an **estimated 2,000** tactical nuclear missiles.
 - The **U.S. has an estimated 200** tactical nuclear bombs, half of which are at bases in Europe.

Four new DAQ white dwarfs discovered

About White Dwarf:

- A white dwarf is the **stellar core left behind after a dying star** has exhausted its nuclear fuel and expelled its outer layers to form a planetary nebula. It is what stars like the Sun become after they have exhausted their nuclear fuel.
- White dwarfs **no longer support nuclear fusion** reactions that generate energy, but they are **still extremely hot.**
- A typical white dwarf is **half as massive as the Sun**, yet only **slightly bigger than Earth.**

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- This makes white dwarfs **one of the densest collections of matter**, surpassed only by neutron stars.
- A newly born white dwarf **consists of helium, carbon and oxygen nuclei**, swimming in a sea of highly energetic electrons.
- Unlike most other stars that are supported against their own gravitation by normal gas pressure, white dwarf stars are **supported by the degeneracy pressure of the electron gas in their interior**.
 - Degeneracy pressure is the increased resistance exerted by electrons composing the gas, **as a result of stellar contraction**.
- Unless it is accreting matter from a nearby star, the white dwarf **cools down over the next billion years or so**.
 - It is predicted that they would **ultimately form 'black dwarfs'**, although the Universe is likely not old enough for any black dwarfs to exist yet.
- The **luminosity of white dwarfs** can therefore be **used by astronomers to measure** how long-ago **star formation** began in a particular region.
- Many nearby, young white dwarfs have been detected as **sources of soft or lower-energy, X-rays**. By providing **important 'fossil' records of the stars** that they formed from, white dwarfs are an important cosmological tool.
- **In 2006, Hubble** was the **first telescope to directly observe white dwarfs** in globular star clusters, which astronomers reported as the dimmest stars ever seen in a globular star cluster.

BRO connects 298-km long Nimmu-Padam-Darcha road to Ladakh region

About Border Roads Organisation:

- It is a **road construction executive force** in India that provides support to Indian Armed Forces. It was formed in 1960 to secure India's borders and **develop infrastructure** in remote areas of the **north and north-east states of the country**.

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- In order to ensure coordination and expeditious execution of projects, the Government of India set up the **Border Roads Development Board (BRDB)** with the Prime Minister as Chairman of the Board and Defence Minister as Deputy Chairman.
- It develops and maintains road networks in India's border areas and friendly neighboring countries. This includes infrastructure **operations in 19 States and three Union Territories** (including Andaman and Nicobar Islands) and **neighboring countries** such as Afghanistan, Bhutan, Myanmar, Tajikistan and Sri Lanka.
- Officers and personnel from the General Reserve Engineer Force (GREF) form the parent cadre of the BRO. It is also staffed by Officers and Troops drawn from the Indian Army's Corps of Engineers on extra regimental employment (on deputation). It is also included in the Order of Battle of the Armed Forces, ensuring their support at any time.
- **Motto of the organization:** Shramena Sarvam Sadhyam (everything is achievable through hardwork)

Skyroot successfully test fires Stage-2 of Vikram 1 space launch vehicle

About Kalam-250:

- It is a **stage-2 of Vikram-1** space launch vehicle. It is a high-strength carbon **composite rocket motor**, which uses solid fuel and a high-performance **Ethylene-Propylene-Diene terpolymers (EPDM)** thermal protection system (TPS).
- The stage includes a carbon ablative flex nozzle along with high-precision electro-mechanical actuators for thrust vector control of the vehicle, aiding in achieving the desired trajectory.
- The second stage of Vikram-1 will play a crucial role in the ascent of the launch vehicle, propelling it from the atmosphere to the deep vacuum of outer space.

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- **Key facts about the Vikram-1 Rocket:**
- It is **named after** the father of India's space programme, **Vikram Sarabhai** and is a multi-stage launch vehicle with a capacity to place around 300 kg of payloads **in low-earth orbit**.
- It has been built by Hyderabad-based **Skyroot Aerospace**. It is an all-carbon-fibre-bodied rocket that can place multiple satellites into orbit.
- Being a solid-fuel rocket and using relatively simpler technologies would mean that launching this vehicle would require minimal infrastructure and that the rocket could be assembled and launched within 24 hours from any site.

BrahMos Analog, Russia's P-800 Onyx Supersonic Cruise Missile To Get Deadlier With New Target Seeker

About Onyx Missile:

- The **P-800 Onyx**, a **supersonic medium**-range cruise missile, is designed to combat surface ship groups, as well as to destroy ground targets in conditions of strong fire and electronic countermeasures.
- **Features:**
 - Also known as **Russian Brahmos**, it can reach **speeds of over 3,000 km/h**, making it extremely **difficult to intercept**.
 - Additionally, the missile operates at an altitude of 10-15 meters above land or water, further enhancing its **stealth capabilities**.
 - The missile has a **range of up to 300 kilometers** in its default trajectory and a range of 120 km in a low-altitude trajectory.

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- It can be launched from surface ships, submarines and land-based equipment. It is a **self-guided munition**, designed with the "shoot and forget" principle in mind.
- Unlike some other missiles that rely on extensive target data, the Onyx missile **requires minimal information about its target** to strike it successfully.

INTERNATIONAL RELATIONS

India hits out at Pakistan for raking up Kashmir issue at UNHRC

About United Nations Human Rights Council:

- It is an intergovernmental body within the United Nations whose mission is to **promote and protect human rights around the world.**
- It was created by the General Assembly on 15 March 2006 by replacing the Commission on Human Rights.
- It has **47 members** elected for staggered three-year terms on a regional group basis.
- **Tenure of the council:** The members of the Council serve for a **period of three years** and are not eligible for immediate re-election after serving two consecutive terms.
- The members are elected by the majority of members of the General Assembly of the United Nations through direct and secret ballot.
- The General Assembly takes into account the **candidate States' contribution to the promotion and protection of human rights**, as well as their voluntary pledges and commitments in this regard.
- The Council's Membership is based on **equitable geographical distribution.**

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- **Function:**
 - It investigates allegations of breaches of human rights in UN member states, and addresses important thematic human rights issues such as freedom of association and assembly, freedom of expression, freedom of belief and religion, women's rights, LGBTI rights, and the rights of racial and ethnic minorities.

UN chief appeals for greater support for small islands fighting climate change

About Small Island Developing States (SIDS):

- SIDS are a distinct group of **39 States** and **18 Associate Members of United Nations regional commissions** that **face unique social, economic and environmental vulnerabilities**.
- The three **geographical regions** in which **SIDS are located are: the Caribbean, the Pacific, and the Atlantic, Indian Ocean and South China Sea (AIS)**.
- SIDS were **recognized as a special case** both for their environment and development **at the 1992 United Nations Conference on Environment and Development** held in Rio de Janeiro, Brazil.
- They are **highly vulnerable developing countries** as they suffer from low economic diversification, often characterised by high dependence on tourism and remittances, volatility due to fluctuations in private income flows and the prices of raw materials, and debt stress situations.
- For SIDS, **the Exclusive Economic Zone (EEZ)**—the ocean under their control—is, on average, **28 times the country's land mass**.
 - Thus, for many SIDS, the **majority of the natural resources** they have access to **come from the ocean**.
- **UN Programmes of Action in Support of SIDS:**

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- **Barbados Programme of Action:** In 1994, the Barbados Programme of Action (BPoA) prescribed specific actions that would enable SIDS to achieve sustainable development. The Conference also adopted the Barbados Declaration, a statement of political will underpinning the commitments contained in the BPoA.
- **Mauritius Strategy:** In 2005, the Mauritius Strategy for further implementation of the BPoA was adopted to address remaining gaps in implementation.
- **SAMOA Pathway (2014):** The SAMOA Pathway recognizes the adverse impacts of climate change and sea-level rise on SIDS' efforts to achieve economic development, food security, disaster risk reduction, and ocean management, among other challenges.

With China out, Indian firm to build Sri Lanka power project

About Nainativu Island:

- It is **located in the Palk Strait**, the stretch of sea that separates Sri Lanka from southern India.
- It's close to the famous **island of Delft** (also known as Neduntheevu).
- This tiny island is fairly close to the northern Sri Lankan city of Jaffna.
- It is an important pilgrimage place for both **Hindus and Buddhists**.
- **Historical significance:** Historians note the island is mentioned in the ancient **Tamil Sangam literature** where it was mentioned as **Manipallavam**
- **Nagapooshani Amman Kovil**, a historic Hindu temple dedicated to the principal goddess of Tamil Hindus, Amman is located in this Island.
- She is identified with the famous Tamil deity Meenakshi from Madurai from mainland India.

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- The Mahavamsa, which is literally the "Great Chronicle", was composed by the Monk Mahanama in the 6th century A.D.
- According to the chronicle, the Buddha came to this Island, literally meaning "Serpent Island", on his second visit to Sri Lanka, five years after attaining enlightenment.

Several OPEC+ nations extend oil cuts to boost prices

About OPEC+:

- It is a **group of oil-exporting countries** which meets regularly to decide how much crude oil to sell on the world market.
- **Origin:** These nations came to an accord towards the end of 2016 “to institutionalize a framework for cooperation between **OPEC and non-OPEC** producing countries on a regular and sustainable basis.”
- These nations aim to work together on adjusting crude oil production **to bring stability to the oil market.**
- OPEC+ controls about **40% of global oil supplies** and more than **80% of proven oil reserves.**
- At the core of this group are the members of OPEC (the Organization of the Oil Exporting Countries), which are mainly Middle Eastern and African countries.
- **Members:** It comprises OPEC countries plus Azerbaijan, Bahrain, Brunei, Kazakhstan, Russia, Mexico, Malaysia, South Sudan, Sudan, and Oman.
- **What is the Organization of the Petroleum Exporting Countries (OPEC)?**
- It is a permanent intergovernmental **organization of oil-exporting countries.**
- **Mission:**
 - To coordinate and **unify the petroleum policies** of its member countries.
 - Ensure the **stabilization of oil prices** in the international oil markets

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- **Formation:** It was founded in Baghdad, Iraq, with the signing of an agreement in September 1960 by five countries, namely the Islamic Republic of **Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.**
- Currently, it **has 12 members**, including Algeria, Congo, Equatorial Guinea, Gabon, Libya, Nigeria, and the United Arab Emirates.
- **Headquarters: Vienna, Austria.**

After Philippines, China ‘Schemes’ To Encroach Vietnam’s Territory In Gulf Of Tonkin, Redraw New Baseline

About Gulf of Tonkin:

- It is a **crescent-shaped, shallow, semi-enclosed water body** situated in the **South China Sea’s** northwestern portion.
- **Borders:** The gulf is bordered by the **northern coastline of Vietnam** in the west and northwest; by **China’s Guangxi Zhuang Autonomous Region** in the north; and by the **Leizhou Peninsula and Hainan Island** in the east.
- It is referred to as “Beibu Gulf” in Chinese and “Bac Bo Gulf” in Vietnamese.
- Many rivers empty into the Gulf of Tonkin, with the **Red River (Yuan River** in Chinese) **supplying the major riverine discharge** along with some smaller rivers.
- It is **connected with the South China Sea via** the gulf’s mouth in the south and the **Hainan Strait (Qiongzhou Strait) in the northeast.**
- **Major Ports: In Northern Vietnam**, the gulf’s main ports include **Haiphong and Ben Thuy**, whereas, **in China, its major port is Beihai (Pakhoi).**
- The Gulf of Tonkin is best known for the infamous **“Gulf of Tonkin Incident”**.
 - It was a complex naval event in the Gulf of Tonkin, off the coast of Vietnam, that occurred from August 2 to August 4, 1964, during the Vietnam War.

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- The report of North Vietnamese torpedo boats firing on two U.S. destroyers in 1964 resulted in the U.S. Congress adopting the Gulf of Tonkin Resolution to support increased U.S. troop involvement in the Vietnam War.

Second Thomas Shoal | A symbol of defiance

About Second Thomas Shoal:

- It is a **submerged reef** located in the **Spratly Islands in South China Sea**. It is low-tide elevation located within the exclusive economic zone of the Philippines.
- The Philippines first took possession of the Second Thomas Shoal in the late 1990s, setting an outpost on the drowned **BRP Sierra Madre**. It continues to maintain its presence there and the ship serves as a military outpost, manned by a small contingent of troops.
- **What is the issue?**
 - The Second Thomas Shoal lies about 108 nautical miles (200 km) from the **Philippine island of Palawan**.
 - **China claims sovereignty** over most of the South China Sea, **including the Second Thomas Shoal**, based on the historical and controversial Nine-dash line. China's claims cut into the EEZs of Vietnam, the Philippines, Malaysia, Brunei and Indonesia.
 - In 2013, the Philippines had filed a case against China with the Permanent Court of Arbitration in The Hague, challenging the legality of China's claims and activities in the South China Sea, including the Second Thomas Shoal. The court ruled in favour of the Philippines in 2016, but China rejected the judgment.

Iran, Russia and China show off their ships in a joint naval drill in the Gulf of Oman

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About Gulf of Oman:

- The Gulf of Oman, also **known as the Gulf of Makran**, is the western extension of the Arabian Sea and lies in the Middle East.
- It forms the only entrance to the Persian Gulf from the Indian Ocean.
 - The Gulf **connects the Arabian Sea with the Strait of Hormuz**, which then empties into the Persian Gulf.
- **Bordering Countries:** It is bordered by **Pakistan** and **Iran** in the north; by the **United Arab Emirates (UAE)** in the west and by **Oman** in the south. **Muscat**, the **capital of Oman**, is located **on the coast of the gulf**.
- It is **at its widest point between Cape al-Hadd in Oman and the Gwadar Bay** on the Iran-Pakistan border. The gulf is relatively shallow because of its origin as a fissure in the mountain spine now divided between Iran and Oman.
- Some of the significant islands that are located in the Gulf of Oman include **Sheytan Island, Al Fahal Island, Dimaniy at Islands**, and the **Sawadi Islands**.
- The major international shipping ports that are situated in the Gulf of Oman include **Port Sultan Qaboos Muttrah in Muscat**, Oman; **Chabahar Port in Iran**; the **Port of Fujairah** and Khor Fakkan Container Terminal **in the UAE**.
- Roughly **one-third of the world's oil** is exported via the Strait of Hormuz and the Gulf of Oman.

What is the Darien Gap? And why are more migrants risking this Latin American route to get to the US?

About Darien Gap:

- It is a stretch of densely forested jungle across **northern Colombia and southern Panama**. Roughly 60 miles (97 kilometres) across, the terrain is muddy, wet and unstable.

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- It has become a major route for **global human migration**. It is the geographic region of the easternmost **Isthmus of Panama** that extends into northwestern Colombia, around the Gulf of Urabá (a section of the Gulf of Darién).
- It forms the physiographic link between **Central and South America**. A hot, humid area typified by tropical rainforests, mangrove swamps, and low mountain ranges with cloud forest vegetation, Darién has always been sparsely populated.
- **Key facts about Isthmus of Panama**
- It links **Central and South America**. It borders Costa Rica to the west, Colombia to the southeast, the Caribbean Sea to the north, and the Pacific Ocean to the south.
- This strategic position allows it to be a natural conduit for international maritime trade, especially through the well-known Panama Canal.

Union Minister Shri Piyush Goyal joins Indo-Pacific Economic Framework for Prosperity (IPEF) Virtual Ministerial Meeting

About Indo-Pacific Economic Framework for Prosperity:

- It is a **regional arrangement** to build cooperation and economic integration in the **Indo-Pacific region**. It was launched in May 2022.
- It is intended to advance resilience, sustainability, inclusiveness, economic growth, fairness and competitiveness for member economies.
- It will seek to complement and build on existing regional architecture and support the global rules-based trading system.
- **Member countries:** It has **14 regional partners** – Australia, Brunei, Fiji, India, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand, the United States and Vietnam.

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- The economic framework broadly **rests on four pillars:** Trade, Supply chain resilience, Clean Energy, Decarbonization, and Infrastructure Taxes and anti-corruption measures
- The IPEF is **not a Free Trade Agreement** (FTA), but it allows members to negotiate the parts they want to.
- **India and IPEF:**
 - India has been actively participating in the IPEF, but not in all pillars.
 - India has decided to opt out of the trade pillar of the IPEF as most issues promoted by the IPEF do not align with India's trade policies.

This new trade route could revolutionize Russia-India trade and strategic partnership

About Eastern Maritime Corridor (EMC):

- It is a **proposed sea route between** the Indian port of **Chennai** and the Russian port of **Vladivostok**.
- Once complete, it will take 24 days, down from presently over 40 days, to transport goods from India to Far East Russia.
- The **EMC will cover** a distance of about **5,600 nautical miles**, which is significantly **shorter than the current route via the Suez Canal**.
- For India, it will provide a shorter and more efficient route to access the markets of the Far East, such as China and Japan.
- **Key Facts About Vladivostok:**
 - It is a major **city in Russia**, located in the Far East of the country.
 - It is located on the Golden Horn Bay, north of North Korea, and a short distance from Russia's border with China.

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- It is the **largest port on Russia's Pacific coast**, and home to the Pacific Fleet of the Russian Navy.
- It is the **eastern railhead of the legendary Trans-Siberian Railway**, which connects the Far East of Russia to the capital Moscow, and further west to the countries of Europe.

China Adds Persian Gulf Oil Bookings as Red Sea Crisis Persists

About Persian Gulf:

- It is part of the **Indian Ocean**. It is an **extension of the Gulf of Oman** and **connects to the Indian Ocean via the Strait of Hormuz** in the east.
- It is also referred to as the **Arabian Gulf or Gulf of Iran**. It **lies between the Arabian Peninsula and Iran** to the southwest and northeast, respectively.
- It is bounded by several countries, including **Iran** to the north, **Qatar, Saudi Arabia**, and the **United Arab Emirates** on the peninsula, and **Bahrain, Iraq and Kuwait** in the northwest.
- Its western end is marked by the major river delta of the Shatt al-Arab, which carries the waters of the **Euphrates and Tigris rivers**. It has a coastline length of about 5,117 km, with **Iran having the longest coastline** (1,536 km).
- **Islands:**
 - There are **several islands** in the Persian Gulf, **including Bahrain**.
 - **Qeshm Island is the largest island** in the Persian Gulf.

US returns 22 artifacts taken after Battle of Okinawa to Japan, here's how they were discovered

About Battle of Okinawa:

- The battle of Okinawa (April 1–June 21, 1945) was the **last major battle of World War II**. It was fought **between U.S. and Japanese** forces at Okinawa.

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- Okinawa is the **largest of the Ryukyus Islands** and lies 350 miles from mainland Japan. The Americans wanted control of Okinawa because it had four airfields and **could support tactical and strategic air operations**.
- Code named **Operation Iceberg, the invasion** of Okinawa and other islands in the Ryukyus **began on April 1, 1945**. The immense size of the invasion forces made it the largest amphibious assault in the Pacific War. The **United States secured Okinawa on June 22, 1945**.
- The enormous casualties and the brutal fighting that occurred on Okinawa forced military planners to reconsider the invasion of Japan. It directly influenced the American decision to use atomic bombs on Hiroshima and Nagasaki.

ISA Council opens the first part of its 29th session

About International Seabed Authority (ISA):

- It is an autonomous international organization established in 1994 to **regulate mining and related activities in the international seabed** beyond national jurisdiction, an area that includes most of the world's oceans.
- The ISA came into existence upon the entry into force of the 1982 **United Nations Convention on the Law of the Sea (UNCLOS)**, which codified international law regarding territorial waters, sea lanes, and ocean resources.
- It **organizes and controls all mineral-resources-related activities in the Area** (the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction) **for the benefit of humankind** as a whole.
- **Headquarters:** Kingston, Jamaica
- **Members:** As of May 2023, ISA has 169 Members, including 168 Member States and the European Union.
- **Functions:**

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- The ISA is responsible for **granting licenses and regulating activities** related to the exploration and exploitation of mineral resources in the international seabed.
- It ensures that these activities are carried out in a manner that **protects the marine environment** and promotes the equitable and efficient utilization of resources.
- **Structure:**
 - The supreme authority of the ISA is the assembly, in which all ISA members are represented.
 - The assembly **sets general policies, establishes budgets**, and elects a 36-member council, which serves as the ISA's executive authority.
 - The council approves contracts with private corporations and government entities for exploration and mining in specified areas of the international seabed.
 - The council **oversees implementation of the seabed provisions of the UNCLOS** and establishes provisional rules and procedures (subject to approval by the assembly) by which the **ISA exercises its regulatory authority**.
 - The secretary-general of the ISA is nominated by the council and is elected by the assembly to a four-year term.
- **Key facts about the United Nations Convention on the Law of the Sea (UNCLOS):**
- UNCLOS, also called the Law of the Sea Convention or the Law of the Sea Treaty, is an international agreement that **establishes a legal framework for all marine and maritime activities**.

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- It lays down a comprehensive **regime of law and order in the world's oceans and seas**, establishing rules governing all uses of the oceans and their resources.
- It became effective on 16th November 1982. It **covers a wide range of issues, including:**
 - The **definition of maritime zones**, such as the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf.
 - The **rights and responsibilities of coastal states** and flag states.
 - The **conservation and management** of marine resources.
 - The **protection of the marine environment**.
 - The peaceful **settlement of disputes**.

4th Shanghai Cooperation Organisation Startup Forum organized in New Delhi

About Shanghai Cooperation Organisation Startup Forum:

- It is a platform for the stakeholders from the **startup ecosystems from all SCO Member States** to interact and collaborate.
- It aims to create **multilateral cooperation and engagement** for startups among the SCO Member States. It will empower the local startup ecosystems in the Member States.
- The following are the objectives of the engagement:
 - **Sharing of best practices** to promote entrepreneurship and innovation to build knowledge-exchange systems.
 - **Bringing Corporates and Investors** across to work closely with startups and provide local entrepreneurs with much-needed support and market access.
 - **Increasing scaling opportunities** for startups by providing solutions in the field of social innovation and provide the Governments with a plethora of innovative solutions

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- **Facilitating cross-border incubation** and acceleration programs that will enable the startups to explore international markets and get focused mentorship.
- India will host the second meeting of the Special Working Group for Startups and Innovation (SWG) in November 2024 and SCO Startup Forum 5.0 in January 2025.
- Previously, Startup India had organized various initiatives for SCO Member states including:
 - **SCO Startup Forum 1.0:** The SCO Startup Forum **in 2020** laid the foundation for multilateral cooperation and engagement for startups among the SCO Member States.
 - **SCO Startup Forum 2.0:** The two-day Forum was held virtually in 2021. **SCO Startup Hub**, a single point of contact for the SCO startup ecosystem, was **launched in this forum**.
 - **SCO Startup Forum 3.0:** DPIIT organised the first ever physical SCO Startup Forum in 2023 for the SCO Member States.
 - **1st Meeting of the SWG:** The first Meeting of the SCO Special Working Group on Startups and Innovation (SWG), permanently chaired by India, was organised on the theme 'Growing from Roots' in 2023.

International Telecommunication Union elects India as co-chair of its Digital Innovation Board

About International Telecommunication Union:

- It is the **United Nations specialized agency** for information and communication technologies. It was established in 1865 as **International Telegraph Union**.
- In 1947 the ITU became a specialized agency of the United Nations. It is an intergovernmental organization that **coordinates between**

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governments and private sector bodies with respect to global telecommunication and information communication technology (ICT) services.

- **Member countries:** It has a membership of **193 countries** and more than 1000 companies, universities and international and regional organizations.
- **Functions:**
 - allocate global radio spectrum and satellite orbits;
 - coordination and setting of technical standards related to telecommunication/ICT;
 - work to improve access to ICTs in underserved communities worldwide;
- **India and ITU:** India has been an active member of the ITU since 1869 and has been a regular member of the ITU Council since 1952.
- **Headquarters:** Geneva, Switzerland.
- **What is Digital Innovation Board?**
- It was formed under the aegis of **Innovation and Entrepreneurship Alliance** for Digital Development. It comprises of Ministers and Vice Ministers of Telecom/ICT of **23 Member Countries of ITU** spanning Asia, Europe, Africa, North and South America.
- ITU has started Innovation and Entrepreneurship Alliance for Digital Development to respond to significant unmet needs of ITU Membership in the area of innovation, as articulated in the Kigali Action Plan adopted at the World Telecommunication Development Conference 2022.
- The Alliance **has three main vehicles:** - Digital Transformation Lab, Network of Acceleration Centres and Digital Innovation Board
- The Alliance establishes the Digital Innovation Board to **provide strategic guidance**, expertise and advocacy regarding its mission of building critical local enablers and

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fostering innovation and entrepreneurship in digital development, to create a more inclusive and equitable digital future for all.

EAM Jaishankar visits Indian Coast Guard ship Samudra Paheredar in Philippines

About ICGS Samudra Paheredar:

- It is a specialised **Pollution Control Vessel (PCV)** of the Indian Coast Guard. It is the **second PCV of India**(the first being ICGS Samudra Prahari).
- It was indigenously **built by ABG Shipyard, Surat**. It is stationed on the East Coast of India in Vishakhapatnam, Andhra Pradesh.
- **Features:**
 - The ship is propelled by twin diesel engines, producing power that is further enhanced by twin shaft generators for a maximum speed of 21 knots.
 - At economical speed, the ship has an **endurance of 6,500 nautical miles** and can **stay at sea for 20 days**.
 - The ship's **primary role is pollution response** at sea and is equipped with the most advanced and sophisticated pollution response and control equipment for mitigating oil spills, which includes containment equipment like hi-sprint booms and river booms, recovery devices like skimmers and side sweeping arms. The ship is **capable of unhindered oil-recovery operations**.
 - The special features include an integrated platform management system, a power management system and a high-powered external firefighting system.
 - It is **capable of operating one** twin-engine **ALH/ Chetak helicopter**.

WHO launches 'CoViNet' — a global laboratory to monitor emerging coronaviruses

About CoViNet:

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- It is a **network of global laboratories** with expertise in human, animal and environmental coronavirus surveillance. It will identify and **monitor potentially novel coronaviruses** that could emerge shortly.
- The network will now have animal health and environmental surveillance and timely risk assessment to feed WHO policies and protective measures.
- In low- and middle-income countries, CoViNet will support the building of more laboratories to monitor MERS-CoV and novel coronaviruses of public health importance.
- Data generated through CoViNet's efforts will guide the work of WHO's Technical Advisory Groups on Viral Evolution (TAG-VE) and Vaccine Composition (TAG-CO-VAC).
- It currently comprises 36 laboratories from 21 countries in all six WHO regions. **Three Indian laboratories** namely; the Council of Scientific and Industrial Research-National Environmental Engineering Research Institute, the Indian Council of Medical Research-National Institute of Virology in Pune, and the Translational Health Science and Technology Institute are part of this network.
- **Key facts about World Health Organisation (WHO):**
- It was **established in 1948**, is a **specialized agency** of the **United Nations** that connects nations, partners and people to promote health.
- The **governance structure** of the WHO is designed to support the implementation of its mandate and the achievement of its objectives. It includes:
 - **Membership:** It currently has 194 member states.
 - **World Health Assembly (WHA):** The highest decision-making body of WHO and comprises representatives from all member States.
 - **Secretariat:** Responsible for carrying out the policies and programs approved by the WHA.

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- **Director-General:** Director-General heads the WHA and is supported by a senior management team.
- **Regional Offices:** WHO also has six regional offices: Africa, the Americas, Southeast Asia, Europe, Eastern Mediterranean and Western Pacific.

Why are Rohingya refugees risking their lives at sea?

About United Nations High Commissioner for Refugees:

- It **protects refugees worldwide** and facilitates their return home or resettlement. **Headquarters:** Geneva, Switzerland
- It was established by the General Assembly of the United Nations in 1950 in the **aftermath of the Second World War** to help the millions of people who had lost their homes.
- It is a global organization dedicated to saving lives, protecting rights and building a better future for people forced to flee their homes because of conflict and persecution.
- It was **awarded Nobel Peace Prizes** in 1954 and 1981. It started Nansen Refugee Award in 1954 for recognition of outstanding service to the cause of refugees, displaced or stateless people.
- **Who are the Rohingya refugees?**
- The Rohingya are a **Muslim minority ethnic group** with their roots in the Arakan kingdom in **Myanmar**.
- According to the Council on Foreign Relations notes that Rohang derives from the word 'Arakan' in the Rohingya dialect and ga or gya means from.
- They are culturally and religiously distinct from the majority Buddhist population in Myanmar and **speak a Bengali dialect** which is different from the common Burmese

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language. Myanmar has refused to recognise them as an ethnic group, denying them citizenship since 1982.

- According to **Myanmar's 1982 citizenship law**, members of the Rohingya community, along with other ethnic minorities, can only attain citizenship if they prove their ancestors **resided in Myanmar before 1823**.
 - Otherwise, even if one of their parents is a Myanmar citizen, they are deemed to be “resident foreigners” or “associate citizens.”

UN: India launches new database to promote accountability for crime against peacekeepers

About 'Group of Friends' to Promote Accountability for Crimes Against Peacekeepers:

- It will seek to facilitate the promotion of **accountability for all acts of violence against United Nations (UN) peacekeepers** and seek facilitation of capacity building and technical assistance to the host state authorities. It was launched in 2022.
- It comprises of **40 member states**. India, Bangladesh, Egypt, France, Morocco and Nepal are co-chairs.
- It will actively engage and **share information** with the UN Secretary-General and **assist the member states hosting** or those who have hosted peacekeeping operations, **in bringing to justice the perpetrators** of such acts; serve as an informal platform at the UN to exchange information, **share best practices and mobilize resources** directed at facilitating accountability for crimes committed against peacekeepers; and monitor progress on bringing accountability for crimes against peacekeepers.
- It will **convene two meetings** of its members **per year**, organise and host one event per year involving Permanent Missions and other stakeholders, to take the plan forward, thereby ensuring greater safety and security for peacekeepers.

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- Group of Friends **represents the "political will" of member states**, particularly of the troop and police contributing countries, to champion the implementation of the provisions of U.N. Security Council resolution 2589, which was adopted in August 2021 under India's Presidency of the Council.
 - **Resolution 2589** had called upon member states, hosting or having hosted UN peacekeeping operations, to take all appropriate measures to bring to justice perpetrators of the killing of and all acts of violence against UN personnel, including, but not limited to, their detention and abduction.
- **India and UN Peacekeeping:**
- India is the **largest cumulative contributor** of peacekeepers to the UN, having deployed more than 2,60,000 peacekeepers over the last seven decades.
- India has lost 177 of its peacekeepers in the line of duty, the largest by far from any troop-contributing country.
- With more than 6000 peacekeepers deployed in nine out of twelve peacekeeping missions, India is a strong proponent of accountability for crimes against peacekeepers.

ECONOMICS

66th meeting of Network Planning Group under PM GatiShakti evaluates five infrastructure projects

About Network Planning Group:

- It is an **Integrated Multimodal Network Planning Group (NPG)** with heads of Network Planning Division of all **connectivity infrastructure Ministries & Departments**.
- It is responsible for **unified planning and integration** of the proposals and assist the Empowered Group of Secretaries (EGoS) in respect of its mandate.

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- It facilitates regular interactions between the stakeholders.
- It will **guide all the Departments/ Ministries** responsible for **creation of economic zones** and connectivity infrastructure during the planning phase itself.
- The parameters/prescribed norms of the overall National Master Plan will be the overarching objective of the NPG for examining and **sanctioning future projects** thus leading to minimising of disruptions and strive for the creation of an ideal & efficient operating system for all infrastructure projects in the country.
- Its role is to ensure:
 - integration of networks;
 - enhance optimization through modification/expansion/new network creation;
 - avoid duplication of works for holistic development of any region;
 - reduction logistics costs through micro-plan detailing.
- **What is PM GatiShakti?**
- It is an approach for growth **accelerating trustworthy infrastructure** through synchronized, holistic, integrated and comprehensive planning based on knowledge, technology and innovation.
- PM GatiShakti National Master Plan provides comprehensive database of the ongoing & future projects of various Ministries i.e. Infrastructure Ministries & Ministries and States involved in **development of Economic Zones**, integrated with 200+ GIS layers thereby facilitating planning, designing and execution of the infrastructure projects with a common vision.

India's forex reserves up by \$2.98 billion to \$619.1 billion as of Feb 23

About Foreign Exchange Reserve:

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- Foreign Exchange Reserves (also called Forex Reserves) are **reserve assets held by a central bank in foreign currencies.**
- Foreign assets comprise assets that are **not denominated in the domestic currency** of the country.
- These may **include foreign currencies, bonds, treasury bills,** and other government securities.
- Reserves are **denominated and expressed in the US dollar,** which is the international numeraire for the purpose.
- **RBI is the custodian** of the foreign exchange reserves in India.
- India's foreign exchange reserves comprise of;
 - **Foreign currency assets (FCAs):** These are maintained in currencies like the US dollar, euro, pound sterling, Australian dollar, and Japanese yen.
 - **Gold**
 - **SDR (Special Drawing Rights):** This is the reserve currency with the IMF.
 - **RTP (Reserve Tranche Position):** This is the reserve capital with the IMF.
- The **biggest contributor to India's** Forex reserves **is foreign currency assets,** followed by gold.
- **Purpose:**
 - They are used to **back liabilities on their own issued currency, support the exchange rate,** and **set monetary policy.**
 - To **ensure that RBI has backup funds** if their national currency rapidly devalues or becomes altogether insolvent.

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- **If the value of the Rupee decreases** due to an increase in the demand for the foreign currency, then **RBI sells the dollar in the Indian money market** so that depreciation of the Indian currency can be checked.
- A country with a good stock of forex has a **good image at the international level** because the trading countries can be sure about their payments.
- A good forex reserve **helps in attracting foreign trade** and earns a good reputation with trading partners.

NEFT sees highest-ever daily transactions at 4.10 crore

About National Electronic Fund Transfer (NEFT):

- NEFT is a **nation-wide electronic centralised payment system** owned and operated by the Reserve Bank of India (RBI).
- It enables **transferring funds from the account** maintained with any bank to any other bank branch, provided the transaction is attempted between the banks that participate in the NEFT payment system.
- **Organisations, companies and individuals can use** it to transfer funds from one bank account to another.
- As per Reserve Bank of India (RBI) guidelines, the payments made via NEFT are **processed and settled in half-hourly batches**.
- **Minimum Transfer Value: Rs. 1**
- **Maximum transfer value: No limit**
- NEFT offers the **following advantages for funds transfer or receipt:**
 - **Round-the-clock availability** on all days of the year.

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- **Near-real-time funds transfer** to the beneficiary account and settlement in a secure manner.
- **Pan-India coverage** through large network of branches of all types of banks.
- The **beneficiary need not visit a bank branch** for depositing the paper instruments. Remitter can initiate the remittances from his / her home / place of work using internet banking, if his / her bank offers such a service.
- **Penal interest provision for delay** in credit or return of transactions.
- **No levy of charges by RBI from banks.**
- **No charges to savings bank account customers** for online NEFT transactions.
- The **transaction charges** have been capped by the RBI.
- NEFT system can be used for the **payment of credit card dues** to the card issuing banks, **payment of loan EMIs**, inward foreign exchange remittances, etc.

Cabinet approves Uttar Poorva Transformative Industrialization Scheme, 2024

About Uttar Poorva Transformative Industrialization Scheme (UNNATI):

- It is aimed at **developing industries** and **generating employment** in the **North East Region**, seeks to create productive economic activity in manufacturing and services.
- Its main objective is to generate gainful employment, leading to the **overall socio-economic development** of the region.
- **Expenditure involved:**
 - This will be a **Central Sector Scheme**.

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- It is proposed to be divided into two parts. **Part, A** caters to the incentives to the eligible units (Rs. 9737 crores), and **Part B**, is for **implementation and institutional** arrangements for the scheme. (Rs. 300 Crore).
- **Salient features of the scheme**
 - **Scheme period:** The scheme will be effective from the date of Notification and up to 31.03.2034 along with 8 years of committed liabilities.
 - **Commencement of Production or operation:** All eligible Industrial Units to commence their production or **operation within 4 years** from the grant of registration.
 - **Districts are categorized in two zones:** Zone A (Industrially Advanced Districts) & Zone B (Industrially Backward Districts)
 - **Earmarking of funds:**60% of the outlay of Part A has been earmarked to 8 NE states and 40% on First-In-First-Out (FIFO) basis.
 - All new Industrial units and Expanding units would be eligible for the respective incentives.
- Implementation of the scheme will be overseen by the **Department for Promotion of Industry and Internal Trade** (DPIIT), Ministry of Commerce and Industry.
- Committees at the national and state levels, including the Steering Committee and State Level Committee, will monitor implementation, ensure transparency, and recommend registration and incentives claims.

‘Sahakar Se Samridhi’: Ministry of Cooperation to Launch National Cooperative Database

About National Cooperative Database (NCD):

- It is an initiative of the **Ministry of Cooperation** which had recognized the imperative need for a robust database to capture vital **information about India's vast cooperative sector**.

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- NCD has been **developed in collaboration with State Governments, National Federations** and stakeholders, and aims to foster a cooperative-centric economic model.
- It is a **web-based digital dashboard** wherein data of cooperative societies, including National/State Federations have been captured.
- The data of cooperative societies has been **entered and validated by States/ UTs nodal officials** at RCS/ DRCS offices, and the data of federations has been provided by various national/state federations.
- The **information collected** from cooperative societies are on various parameters, such as their registered name, date, location, number of members, sectoral information, area of operation, economic activities, financial statements, status of audit etc.
- NCD serves as a crucial tool for **efficient communication between the Central Ministry, States/UTs, and Cooperative Societies**, benefiting all stakeholders in the cooperative sector.
- NCD offers a myriad of **benefits, including:**
 - **Single-point access**
 - comprehensive and **updated data**
 - user-friendly interface
 - vertical and horizontal linkages
 - **query-based reports** and graphs
 - **Management Information System (MIS)** reports
 - **data analytics**
 - **Geographical Mapping.**

PM to participate in Sashakt Nari - Viksit Bharat programme

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About Self Help Group – Bank Linkage Programme:

- It was **launched by NABARD in 1992** which has blossomed into the world's largest microfinance project. It has evolved as a cost-effective mechanism for **providing financial services** to the unreached and underserved poor households.
- The **components of Self Help Group** (SHG) Bank linkage (BL) are as follows:
 - Training and sensitization of Bank Branch Managers
 - Training and positioning of Bank Sakhis at Rural Bank Branches
 - Initiate Community Based Repayment Mechanism (CBRM) at Rural Bank Branches
 - Credit Linkage of SHGs
- **What are Self-Help Groups?**
- These are small, **informal and voluntary associations of individuals**, usually from similar socio-economic backgrounds, who come together to address common social and economic needs.
- SHGs are primarily focused **on empowering their members**, particularly women, through mutual support, collective decision-making, and skill development.
- The SHGs which follow **'Panchsutras'** viz. conduct of regular group meetings, regular savings within the group, internal lending based on the demand of members, timely repayment of loan and maintenance of proper books of accounts are considered to be of good quality and over years have proved themselves to be good customers of Banks.

Core inflation to stay around 3% till Q1 FY25: Economists

About Core Inflation:

- It is the **change in the costs of goods and services excluding** the price variations in **seasonal elements**, such as those **related to food and energy**.

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- Food and energy prices are exempt from this calculation **because their prices can be too volatile** or fluctuate wildly. Core inflation **represents the long-term trend in the price level**.
- **Why is it important?**
 - It is used to **determine the impact of rising prices** on consumer income.
 - To deal with such situations, many central banks use measures of core inflation that are designed **to filter transitory price movements**.
 - **If the increase in the price** index is **due to temporary shocks** that could soon reverse themselves, it may not require any monetary policy action.
 - On the other hand, **prices of other commodities do not fluctuate as regularly** as those of food and fuel: as such, an increase in their prices could be taken relatively to be much more of a permanent nature.
 - It follows logically for Central Banks to target only core inflation, as it **reflects the demand-side pressure** in the economy.
 - Core inflation, by eliminating the volatile components from the headline **helps in identifying the underlying trend in headline inflation** and is believed to predict future inflation better.
 - **Whenever core inflation rises, Central Banks increase their key policy rates** to suck excess liquidity from the market, and vice versa. It is, therefore, a preferred tool for framing long-term policy.
- **What is Headline Inflation?**
- Headline inflation is the **total inflation in an economy**.
- It is the raw inflation figure **reported through the Consumer Price Index (CPI)**.
- The headline inflation figure includes inflation in a basket of goods that **includes commodities like food and energy**.
- It is different from core inflation, which excludes food and energy prices while calculating inflation.

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Most critical issue of 2019 amalgamation of RRBs was related to tech Book

About Regional Rural Banks (RRBs):

- RRBs are banks **formed in collaboration by the Central Government, State Governments, and Sponsoring Commercial Banks** to give loans to rural areas.
- Their **mission is to fulfill the credit needs of** the relatively **unserved sections in rural areas:** small and marginal farmers, agricultural labourers and socio-economically weaker sections.
- The RRBs **mobilize financial resources from rural/semi-urban areas** and **grant loans** and advances mostly to small and marginal farmers, agricultural labourers and rural artisans.
- **Origin:**
 - The **Narasimham Committee on Rural Credit(1975)** **recommended** the establishment of RRBs.
 - The establishment of RRBs finds its route in the **ordinance passed on 26th September 1975, and the RRB Act of 1976.**
 - **Prathama Grameen Bank was the first** RRB bank and was established on 2nd October 1975.
- RRBs were configured as hybrid micro banking institutions, combining the local orientation and small-scale lending culture of the cooperatives with the business culture of commercial banks.
- RRBs **perform various functions** in the following heads:
 - Providing **banking facilities** to rural and semi-urban areas.
 - Carrying out government operations like the **disbursement of wages of MGNREGA workers, distribution of pension,** etc.
 - Providing **Para-Banking facilities** like locker facilities, debit and credit cards, mobile banking, internet banking, UPI etc.
- The RBI has set a **Priority Sector Lending (PSL) target of 75%** of total outstanding advances for RRBs as against 40% for Scheduled Commercial Banks.

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- **Ownership:** The **shareholding pattern** of RRBs among the three sponsoring entities is **50:35:15** among the central government, sponsoring bank, and state government, respectively.
- The **area of operation** of RRBs is **limited to the area** as notified by the Government of India, covering one or more districts in the State.
- **Regulation:** Regional Rural Banks are **regulated by the RBI** and **supervised by the** National Bank for Agriculture and Rural Development (**NABARD**).
- **Sources of Funds:** It comprise of **owned funds, deposits, borrowings from NABARD, Sponsor Banks and other sources**, including SIDBI and the National Housing Bank.
- **Management:** The **Board of Directors** manages these banks, overall affairs, which consists of one Chairman, three Directors as nominated by the Central Government, a maximum of two Directors as nominated by the concerned State Government, and a maximum of three Directors as nominated by the sponsor bank.

Index of industrial production grows by 3.8 per cent in January 2024

About Index of Industrial Production (IIP):

- It is one of the prime indicators of economic development for the **measurement of trends** in the behavior of **industrial production over a period of time with reference to a chosen base year**.
- It is a **short-term indicator** measuring industrial growth until the actual result of detailed industrial surveys become available.
- It indicates **the relative change in physical production in the field of industries** during a specified year as compared to the previous year.
- It is computed and **published by the Central Statistical Organisation (CSO)**, Ministry of Statistics and Programme Implementation, **on a monthly basis**.
- **Calculation:**

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- The IIP is a **quantum index**, the **production of items** is expressed in physical terms. However, the unit of reporting in respect of certain items like machinery, machine tools, shipbuilding, etc. is in value terms.
- It is compiled as a simple weighted arithmetic mean of production relatives by using **Laspeyre's formula**.
- **In order to remove the effect of price rises** from the index, the **production figures** of such items **are deflated on the basis of Wholesale Price Indices** (Base 2011-12), compiled by the Office of Economic Adviser, Ministry of Commerce and Industry, before the compilation of the index.
- **Base Year:**
 - The **base year** is always **given a value of 100**.
 - The **current base year** for the IIP series in India **is 2011-12**.
 - So, if the current IIP reads as 116, it means that there has been 16% growth compared to the base year.
- **What is Laspeyre's formula?**
- It was proposed by German economist Étienne Laspeyres (1834–1913) for **measuring current prices or quantities in relation to those of a selected base period**.
- It is computed by taking the ratio of the total cost of purchasing a specified group of commodities at current prices to the cost of that same group at base-period prices and multiplying by 100.
- The base-period index number is thus 100, and periods with higher price levels have index numbers greater than 100.

After industry flags concerns, DGFT steps in with exemptions on quality control orders

About Directorate General of Foreign Trade:

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- It is a government organization in India responsible for the **formulation of exim guidelines** and principles for Indian importers and Indian exporters of the country.
- Before 1991, DGFT was known as the Chief Controller of Imports & Exports (CCI&E). It is an attached office of the **Ministry of Commerce and Industry** and is headed by Director General of Foreign Trade.
- It has been assigned the **role of "facilitator"**. It is responsible for implementing the Foreign Trade Policy or Exim Policy with the main **objective of promoting Indian exports**.
- The DGFT also issues scrips/authorization to exporters and monitors their corresponding obligations through a network of **24 regional offices**.
- **Functions:**
 - To **implement the Exim Policy or Foreign Trade Policy** of India by introducing various schemes and guidelines through its network of dgft regional offices thought-out the country.
 - To Grant **Exporter Importer Code Number** to Indian Exporter and Importers. IEC Number is a unique 10 digit code required by the traders or manufacturers for the purpose of import and export in India.
 - It permits or **regulate Transit of Goods from India** or to countries adjacent to India in accordance with the bilateral treaties between India and other countries.
 - To promote trade with neighboring countries.
 - To grant the permission of free export in Export Policy Schedule 2.
 - Setting standard input-output norms is also controlled by the DGFT.
- **Headquarter: New Delhi**

SM REITs can help investors bet on high-value assets

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About Small and Medium Real-Estate Investment Trusts:

- These are specialised real estate investment trusts that differ from conventional REITs in their scale and focus.
- **Aim:** To regulate the **fractional ownership industry** and safeguard investor interests, incorporating both commercial and residential properties within the new framework.
- The minimum subscription size of this scheme unit **will be 10 lakh** and treated as one unit. The SM REIT scheme requires a **minimum of 200 unit holders**, excluding the investment manager, its related parties and associates.
- An investment manager responsible for setting up an SM REIT is required to have a net **worth of at least ₹20 crore**, and a separate trustee will be appointed for oversight.
- The micro REITs will be able to list with an asset value of at least Rs 50 crore and a maximum of Rs 500 crore.
- These funds are to be used for **acquiring and managing real estate assets**, generating income for the investors. The ownership of these assets will be structured through one or more schemes, each operating under **special purpose vehicles** (SPVs).
- While traditional REITs primarily invest in large-scale commercial properties, such as office buildings and shopping malls, SM REITs concentrate on smaller and medium-sized properties with lower value.

NITI Aayog Launches 'Vocal for Local' Initiative Fostering Grassroots Entrepreneurship and Self- reliance

About 'Vocal for Local' Initiative:

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- It is an **initiative of NITI Aayog under its Aspirational Blocks Programme** to encourage a spirit of self-reliance among the people and propel them towards sustainable growth and prosperity.
- As a part of this initiative, **local products from 500 aspirational blocks** have been mapped and consolidated under the **Aakanksha brand**.
 - Aakanksha is an umbrella brand, which could be supplemented into multiple sub-brands that have the potential to create an international market.
- In order to encourage these products, a **dedicated window** for the Aspirational Blocks Programme under the brand name Aakanksha has been **established on the Government e-Marketplace (GeM) portal**.
- The **partners will also provide technical and operational support** for the facilitation of e-commerce onboarding, establishing linkages, financial/digital literacy, documentation/certification, and skill enhancement, among others.
- **Key Facts about Government e-Marketplace (GeM):**
- It is an **online platform for public procurement**, launched in 2016 by the Ministry of Commerce and Industry, Government of India.
- It is a one-stop portal to **facilitate online procurement of common use Goods & Services** required by various Government Departments / Organizations / PSUs.
- The **purchases** made through GeM by Government users have been authorised and **made mandatory by the Ministry of Finance** under the General Financial Rules, 2017.
- The platform is **owned by GeM SPV** (Special Purpose Vehicle), which is a 100% Government-owned, non-profit company under the Ministry of Commerce and Industry.
- **Key Facts about Aspirational Blocks Programme:**
- It is **on the lines of the Aspirational District Programme** that was launched in 2018 and covers 112 districts across the country.

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- This new programme is aimed at **improving performance of blocks lagging on various development parameters.**
- This will enable holistic development in those areas that require added assistance.
- The programme will initially **cover 500 districts across 31 States and Union Territories.**
- **Over half of these blocks are in six States:** Uttar Pradesh (68 blocks), Bihar (61), Madhya Pradesh (42), Jharkhand (34), Odisha (29), and West Bengal (29).

India ranks 134th in global human development index, says UNDP report

About Human Development Index:

- It is a summary composite measure of a country's average achievements in three basic aspects of human development: **health, knowledge and standard of living.**
- It is a measure of a country's average achievements in three dimensions of human development:
 - a long and healthy life, as measured by life expectancy at birth;
 - knowledge, as measured by mean years of schooling and expected years of schooling; and
 - a decent standard of living, as measured by GNI per capita in PPP terms in US\$.
- This is expressed as a **value between 0 and 1.** The higher a country's human development, the higher its HDI value. The HDI is the geometric mean of normalized indices for each of the three dimensions.
- The HDI also embodies **Amartya Sen's "capabilities"** approach to understand human well-being, which emphasizes the importance of ends (like a decent standard of living) over means (like income per capita).

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- Since 1990, the **United Nations Development Programme** (UNDP) has been publishing the Human Development Report every year.
- **Highlights of the recent report**
- The report stated that while India ranked 135 in 2021, it had moved up to 134 in 2022. A total of 193 countries were ranked in 2022 and 191 countries in 2021.
- In 2022, India saw improvements across all HDI indicators – life expectancy, education and Gross National Income (GNI) per capita.
- Life expectancy rose from 67.2 to 67.7 years, expected years of schooling reached 12.6, mean years of schooling increased to 6.57 and GNI per capita saw an increase from \$6,542 to \$6,951.
- While the country has moved up in 2022, it is still behind its South Asian neighbours, such as Bangladesh (129th), Bhutan (125th), Sri Lanka (78th) and China (75th).

RBI's gold purchase highest in almost two years

About World Gold Council (WGC):

- It is the **market development organisation** for the gold industry. It is a **nonprofit association** formed in 1987 whose members comprise the world's leading and most forward-thinking gold mining companies.
- It was established to **promote the use of and demand for gold** through marketing, research, and lobbying. It is also the **global authority on gold**, and they offer comprehensive analyses of the industry.

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- **Headquartered in London**, with operations in India, China, Singapore, and the USA, the WGC covers the markets which comprise about three-quarters of the world's annual gold consumption.
- It is an **advocate for gold consumption**. The WGC aims to maximize the industry's potential growth by monitoring and defending existing gold consumption.
 - It achieves this by **setting up gold standards, proposing policies, ensuring fairness** and sustainability in the gold mining industry and promoting the usage and demand for gold for individuals, industries, and institutions.
- It also **co-sponsors research in the development of new uses for gold**, or of new products containing gold.
- WGC was the **creator of the first gold exchange-traded fund**.

Union Minister Shri Parshottam Rupala will release Book and Video on Sagar Parikrama tomorrow at Rajkot, Gujarat

- **About Sagar Parikrama:**
- It is an **outreach program** intended to **reach out fishermen community across** the entire coastal belt of the country through a predetermined sea route.
- The initiative has been launched to **understand the issues**, experiences, and **aspirations of fishermen** and also to **create awareness of various schemes** and programs of the Government available to fishermen in coastal areas.
- **Nodal Ministry:** Ministry of Fisheries, Animal Husbandry and Dairying.
- The Sagar Parikrama Yatra **spanned over 12 captivating phases in just 44 days**. The Yatra meticulously navigated the diverse coastal tapestry of India, covering an impressive coastal length of 7,986 Kilometres out of 8,118 Kilometres, touching 3,071 fishing villages in 80 coastal districts of all the Coastal States/UTs.

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- During the Sagar Parikrama events, **certificates and sanctions related to the Pradhan Mantri Matsya Sampada Yojana (PMMSY) and Kisan Credit Card (KCC) were awarded** to progressive fishermen, fish farmers, and young fishery entrepreneurs.
- **Literature on various schemes**, including PMMSY, KCC and others, **was disseminated** through print media, electronic media, videos, and digital campaigns to raise awareness among fishers.
- **Key Facts about India's Fisheries Sector:**
- India has a **coastline of 8,118km**, covering **nine maritime states and four UTs** and provides livelihood support to 2.8 million coastal fishermen.
- The country contributes **8% of the global share of fish production** and is ranked **third-largest fish producer** in the world.
- The total fish production of India is 162.48 lakh tonnes (2021-22), of which 121.21 lakh tonnes are from inland and 41.27 lakh tonnes from marine, with exports of over Rs 57,586 crore contributing to about **17% of agriculture exports**.

Sebi decides to repeal certain circulars related to private placement of securities

About Private Placement:

- A private placement is the **sale of stock shares or bonds to pre-selected investors** and institutions rather than publicly on the open market.
- Investors invited to participate in private placement programs **include wealthy individual investors, banks and other financial institutions**, mutual funds, insurance companies, and pension funds. One advantage of a private placement is its **relatively few regulatory requirements**.

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- By opting for private placements, **companies can maintain closer relations with investors, negotiate flexible terms** and potentially **retain greater control over the company's** direction and growth strategies.
- There are **two kinds of private placement**: preferential allotment and qualified institutional placement.
- **Preferential allotment**:
 - It is a method of private placement where **a company issues new shares** to a select group of existing shareholders or to a specific group of investors, often at a price lower than the prevailing market price.
 - **Purpose**: This method is especially common when the company wants **to reward or retain existing shareholders**, such as promoters, by offering them the opportunity to purchase additional shares.
 - **SEBI regulations** and the **Companies Act govern** preferential allotment in India.
 - A **company must take permission from its shareholders** to carry on with preferential allotment.
- **Qualified Institutional Placement (QIP)**:
 - QIP is a private placement **exclusively available to listed companies**.
 - Under QIP, a listed company can **issue shares or other securities to qualified institutional buyers (QIBs)**, such as mutual funds, banks, insurance companies, and foreign institutional investors, **without making a public offering**.

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- **Purpose:** Companies use QIP to **raise capital from institutional investors quickly** and efficiently. Companies choose this option **when they require funds for expansion, reducing debt**, or other corporate purposes.
- **SEBI has established guidelines** for QIP issuances in India.

African Development Bank chief criticizes opaque loans tied to Africa's natural resources

About African Development Bank (AfDB):

- It is a **regional multilateral development finance institution** established to contribute to the economic development and social progress of African countries—the institution's regional member countries. The bank is also **known as the Banque Africaine de Développement**.
 - It was founded following an agreement signed by member states in 1963 in Khartoum, Sudan, which became effective in 1964.
- **Mission:** To help **reduce poverty, improve living conditions for Africans**, and **mobilize resources** for the continent's economic and social development.
- AfDB **seeks to stimulate and mobilize** internal and external **resources to promote investments** as well as provide its regional member countries with technical and financial assistance.
 - It is a **financial provider to African governments and private companies** investing in the Bank's regional member countries.
- **Headquarters:** Abidjan, Côte d'Ivoire
- The AfDB Bank Group **comprises three entities:** the African Development Bank, the African Development Fund (ADF), and the Nigeria Trust Fund (NTF).
 - While the **AfDB issues loans to African middle-income countries**, the **ADF supports countries that do not have sufficient resources** to benefit from

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regular AfDB financing. These countries are offered interest-free loans and grants to finance sustainable development.

- The **NTF** was founded in 1976 with capital from Nigeria. It **provides cofinancing** for AfDB measures and financing for NTF-specific measures in the public and private sectors in low-income member countries.
- **Membership:** It has 81 member countries: **54 from the African continent** and the other **27 from other regions** around the world.
- **Shareholding:**
 - The shareholding of the Bank is **60%-40% between regional member countries and non-regional member countries respectively.**
 - **Nigeria is the largest** shareholder of AfDB.

Interim Compensation In Cheque Dishonour Cases Isn't Mandatory : Supreme Court Lays Down Broad Parameters

About Negotiable Instruments Act, 1881:

- It was enacted to provide a uniform legal framework for the use of negotiable instruments in India.
 - A **negotiable instrument** is a piece of paper that guarantees the payment of a certain sum of money, either immediately upon demand or at any predetermined period, and whose payer is typically identified.
 - It is a document that is envisioned by or made up of a contract that **guarantees the unconditional payment of money** and may be paid now or at a later time.
- Section 13 of the Act states that, “A **negotiable instrument means a promissory note, bill of exchange or cheque** payable either to order or to bearer”.
 - However, no **section of this act affects the usage of paper currency**, which is governed by the Indian Paper Currency Act of 1871.

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- The Act has been **amended several times** to ensure that it is in line with changing business practices and legal requirements.
 - It was **amended in 1988** and now **includes cheque defaulters as well**. A person who issues cheques without sufficient balance in their account is considered a 'defaulter' and the act of 'cheque bounce' is a criminal offence.
 - The 2015 amendment allows filing cheque bounce cases in a court at a place where the cheque was presented for clearance and not the place of issue.
- **Promissory Notes:**
 - It is a **written promise to pay a specific amount of money** to the person named in the document.'
 - It can be transferred by endorsement and delivery.
 - In the case of State Bank of India vs. Gangadhar Ramchandra Panse, the court held that **a promissory note must contain an unconditional promise to pay** a specific amount of money. If the promise is conditional, the document will not be considered a promissory note.
- **Bills of Exchange:**
 - It is a **written order by the maker to the payee to pay a certain amount of money to a third party**.
 - The person who issues the bill is called the 'drawer,' and the person to whom the payment is to be made is called the 'drawee.' The person in whose favor the payment is to be made is called the 'payee.'
 - It can be **transferred by endorsement and delivery**. In the case of Bank of India vs. O.P. Swarnakar, the court held that a bill of exchange is a negotiable instrument that can be transferred by endorsement and delivery. The transfer of a bill of exchange is valid even if the transferor does not own the instrument at the time of transfer.
- **Cheques:**

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- A cheque is a **written order by the drawer to the bank to pay** a certain amount of money to the payee. The bank is required to pay the amount mentioned in the cheque to the payee or their authorized representative.
- It can be **transferred by endorsement and delivery**.
- In the case of Canara Bank vs. Nuclear Power Corporation of India Ltd, the court held that a cheque must be drawn on a specified bank and must not be expressed to be payable otherwise than on demand. The court also held that the **bank is under a legal obligation to pay the cheque amount** to the payee or their authorized representative, **even if the drawer has insufficient funds in their account**.

SEBI approves launch of beta version of T+0 settlement from March 28

About T+0 Settlement:

- It means that the **funds and securities for a transaction** will be **settled on the day the trade was entered**.
 - **At present**, the Indian securities markets operate on a **T+1 settlement cycle**, where the settlement happens on the next day of trade.
- In 2002, the regulator cut down the settlement period from T+5 to T+3, and in 2003, SEBI further reduced it to T+2. **In 2021, the T+1 settlement started** and was gradually implemented, with the final phase completed in January 2023.
- **Advantages:**
 - **Instant receipt of funds and securities** to the investor. It will **eliminate the risk** of any kind of settlement shortage and give greater control over funds and securities to the investor.
 - There is expected to be **lower counterparty risk** and **increased liquidity** in the market.
- The **Moscow Exchange** (MOEX), **Korea Exchange** (KRX), **Taiwan Stock Exchange** (TWSE), and **Hong Kong Stock Exchange** (HKEX) offer **T+0 settlements** for certain types of trades and transactions.

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Tightening of compliance rules by RBI; banks to prefer big fintechs for co-branded cards

About Co-branded Credit card:

- It is a card that is **issued jointly by a card-issuer and a co-branding entity** bearing the names and logos of both the partnering entities
- **Usage:** They can be used in any location where the card network is accepted, not just with the co-branding retailer.
- **Features:** They typically come with rewards or other benefits that are tied specifically to purchases made at the co-branding retailer and usually offer rewards or benefits for general purchases as well.
- **How Co-Branded Cards Work?**
- Co-branded cards work like any normal credit card. They can be used for any purchase wherever cards in that network (such as Mastercard, Visa, American Express, or Discover) are accepted.
- Co-branded card relationships can be structured in a variety of ways. But basically, in order to issue a **co-branded credit card, a merchant** (such as a department store, gas station, or airline) or another organization (like a university or nonprofit) must partner with a financial institution, which provides the actual credit.

Startups are now crowding for revenue-based financing

About Revenue-based financing:

- It is a **non-collateralised debt against** a percentage of **gross revenue**. It is an **alternative financing product** for digitally-enabled businesses, where they can raise capital in exchange for a percentage of their gross revenue as a monthly repayment, in addition to a fixed fee between 8-10% of the principal amount.

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- It is usually **opted by companies with steady revenue flow** that have a high requirement for short-term working capital, such as cloud kitchens, e-commerce merchants, financial services companies or software-as-a-service firms.
- In this type of investment **investors receive a regular share** of the businesses **income** until a predetermined amount has been paid.
- Typically, this predetermined amount is a multiple of the principal investment and usually ranges between three to five times the original amount invested.
- **Revenue-based Financing vs. Debt and Equity-based Financing**
- Revenue-based financing seems similar to debt financing because investors are entitled to regular repayments of their initially invested capital.
- However, revenue-based funding does not involve interest payments. Instead, the repayments are calculated using a particular multiple that results in returns that are higher than the initial investment.
- Also, in revenue-based financing, a company is **not required to provide collateral to investors**. Unlike equity-based investment models, **there is no transfer of an ownership** stake in a company to investors.

What do FTAs with European countries signal?

About TEPA:

- **Features**
 - **Investment:** TEPA sets out a target of a **\$100 billion investment** into India from **EFTA countries** and consequent one million jobs over a **15-year period**.
 - It also provides India the ability to **withdraw its tariff concessions** if such expected investment is not achieved. If India is not satisfied, it can pull back its tariff concessions in a proportionate **manner after 18 years**.

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- **Trade in goods:** India is **mandated to eliminate tariff** on most products within seven to 10 years.
- With regard to India's exports to EFTA, there will be no material impact since most products face very low or zero tariff for nations which have the Most Favoured Nation (MFN) status in EFTA countries.
- **Trade in services:** On services, both India and the EFTA members have committed to liberalisation across a wide range of sectors.
- **Sustainable development:** The TEPA's chapter on Trade and Sustainable Development (TSD), comprising commitments on **environment and labour aspects**, represents a first for India in any FTA.
- **Intellectual property rights:** the EFTA countries are home to several pharmaceutical and high technology MNCs, whose ask has been commitments on protection of intellectual property rights that exceed the WTO's Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.
- The TEPA's IPR Annex requires swift rejection of "prima facie unfounded" oppositions. This potentially opens up India's internal regulatory process to external scrutiny on whether this standard was met.

Exporters need to follow new UK rules to avail duty benefits: DGFT

About Developing Countries Trading Scheme (DCTS):

- It is a scheme introduced by the **UK Government** to **facilitate developing countries** to **integrate into the global economy**, create stronger trade and investment partnerships and strengthen supply chains.
- It is a simpler and more generous **preferential trading scheme** which has been designed **to boost trade with developing countries** in order to support their development.

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- It **reduces or removes rates of duty**, or tariffs, on imports from eligible developing countries into the UK. It also enables UK businesses to access thousands of products from around the globe at lower prices, reducing costs for UK consumers.
- The DCTS **applies to 65 countries, that are:**
 - least developed countries (LDCs) as defined by the United Nations.
 - low-income countries (LIC) and lower middle-income countries (LMIC) as defined by the World Bank.
- It will **provide duty-free, quota-free trade to LDCs on everything but arms** and duty-free, quota-free trade on 85% of eligible goods to most low LIC and LMIC countries.
- It **does not extend to countries** and territories **deemed by the World Bank as 'upper-middle income'** for three consecutive years, or to LICs and LMICs who have a free trade agreement (FTA) with the UK.

Cocoa beans are in short supply: What this means for farmers, businesses and chocolate lovers

About Cocoa:

- It is an important **plantation crop** grown for chocolates around the world. It is known as a **crop of humid tropics** and is **native to Amazon basin** of South America.
- It is mainly grown in an area of land **around the equator between 20 degrees latitude north and south.**
- **Required climatic conditions:**
- It can be grown up to 300 m above mean sea level.
- **Rainfall:** It requires an annual **rainfall of 1500-2000 mm.**

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- **Temperature:** The temperature range of 15°-39°C with optimum of 25°C is considered ideal.
- **Soil:** It requires deep and well drained soils. Majority of area under Cocoa cultivation is on clay loam and sandy loam soil.
- It grows well in the **pH range of 6.5 to 7.0.**
- **Shade requirement:**
- Cocoa was evolved as an **under-storey crop** in the Amazonian forests. Thus commercial cultivation of cocoa can be taken up in plantations where 50 per cent of light is ideally available.
- **Major producing regions in the world:** About 70 percent of the world's cocoa beans come from four West African countries: Ivory Coast, Ghana, Nigeria and Cameroon.
- In India, it is mainly cultivated in **Karnataka, Kerala and Tamil Nadu** mainly as intercrop with Arecanut and Coconut.

Startups 'reverse flip': Pine Labs, Zepto, Meesho in queue for India return

About Reverse Flipping:

- It is a term used to describe the **trend of overseas start-ups shifting their domicile to India** and listing on Indian stock exchanges.
- The general motivation for a reverse flip is the **increased certainty of an exit at a higher valuation in India.** This trend has been gaining traction in recent years, as start-ups look to capitalise on India's large and growing economy, access to deeper pools of venture capital, favourable tax regimes, better intellectual property protection, a young and educated population, and favourable government policies.
- The **Economic Survey 2022-23 recognised the concept of reverse flipping** and proposed ways to accelerate the process, such as simplifying the processes for tax vacations, taxation of ESOPs, capital movements, decreasing tax layers, and the like.
- **What is flipping:**

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- Flipping is **when an Indian company transforms into a 100% subsidiary of a foreign entity** after it has moved its headquarters overseas, including a transfer of its intellectual property (IP) and others.
- It effectively transforms an Indian startup (company) into a 100% subsidiary of a foreign entity, with the **founders and investors retaining the same ownership via the foreign entity**, having swapped all shares.
- What's the harm to India from flipping?
 - **Brain drain** of entrepreneurial talent from India.
 - It results in **value creation in foreign jurisdictions** rather than in India.
 - It also results in the **loss of Intellectual Property and Tax Revenue** for the country.

Bima Sugam approved: Insurance policies set to be more affordable; buying policies, claim-settlement to be easier

About Bima Sugam:

- It is like an e-commerce platform where insurance companies can sell their products. It on boards all the companies that offer life and non-life insurance products under one roof.
- It aims to provide an "end-to-end" digital journey to all policyholders like from buying insurance policies to renewals to claim settlement to portability to grievance redressal.
- It serves as a one-stop solution for all insurance stakeholders, including customers, insurers, intermediaries and agents, thereby, promoting transparency, efficiency and collaboration across the entire insurance value chain.

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- It will be a unified platform, which will be integrated with various govt databases, insurers, intermediaries, insurance repositories, etc., for fetching customer details, providing product information, and buying and servicing Insurance policies.
- Bima Sugam aims to eliminate the paperwork as you can simply have your policy in an electronic format. Customers can view all their policies — life, health and non-life insurance — in one single application or window under Bima Sugam.

ICCC: Integrated farm data dashboard for customised solutions

About Krishi Integrated Command and Control Centre:

- It is a **tech-based solution** involving multiple IT applications and platforms, housed in the Ministry of Agriculture & Farmers' Welfare.
- **Objectives:** It will enable **comprehensive monitoring of the farm sector** by making available at one place geospatial information received from multiple sources, including remote sensing; plot-level data received through soil survey and weather data from the India Meteorological Department (IMD) etc.
- **Working:** It uses state of the art technologies such as artificial intelligence, remote sensing, and **Geographic Information Systems (GIS)** to collect and process large amounts of granular data — on temperatures, rainfall, wind speed, crop yields and production estimations — and presents it in graphical format.
- **Features:**
- It **provides information** on crop yields, production, drought situation, cropping patterns (geographic region-wise and year-wise) in map, timeline and drill-down views.
- It uses platforms including the Krishi Decision Support System (DSS) to collect micro-level data, process it, and present the macro picture.
- It can create an ecosystem based on which **individual farmer-level advisories can be generated** through apps like Kisan e-mitra, a chatbot developed for PM-Kisan beneficiaries.

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- The AI-/machine learning-based system will identify a farmer through his/ her mobile number or Aadhaar, and match it with the farmer's field information obtained through land records, historical crop sowing information from the crop registry, weather data from IMD, etc.
- It will then **generate a customised advisory in the local language** of the farmer. For this, the system will use the Bhashini platform that allows translation into several Indian languages.

What are meme coins and should you add them in your portfolio?

About Meme coins:

- These are a **unique category of cryptocurrencies**, have gained significant popularity in the digital currency space. These trace their origin to the growth of meme culture on the internet.
- These are also known as **'memetic tokens' or 'community coins'**, meme coins are digital currencies created as a form of satire or humorous tribute to the internet culture.
- They often feature names, logos and branding that reference popular memes, jokes or internet phenomena.
- **Key characteristics:**
 - These are **highly volatile in nature**, subject to extreme changes in value over short periods, driven by the current buzz surrounding the token.
 - They typically have a **massive or uncapped supply**, leading to very low values per token.
 - These coins leverage blockchain technology, often utilising smart contracts on platforms like Ethereum and Solana.
 - **Creating a meme coin is relatively** easy compared to traditional cryptocurrencies.

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- With the proliferation of blockchain platforms and decentralized finance (DeFi) tools, virtually anyone can launch a meme coin with minimal technical expertise and resources.
- These coins are primarily driven by speculation and community engagement, lacking fundamental value or unique use cases. Also, the prices of meme coins can experience rapid fluctuations, making them risky investments.

Indian Banks Expected To Achieve 2.1 Per Cent Gross NPAs By FY25: Report

About Non-Performing Asset (NPA):

- A NPA is a loan or advance for which the **principal or interest payment remained overdue for a period of 90 days**. They can include various types of loans, such as personal loans, business loans, mortgages and credit card debt.
- When the ratio of NPAs in a bank's loan portfolio rises, its income and profitability fall, its capacity to lend falls and the possibility of loan defaults and write-offs rise.
- **Types of NPAs:** Different types of NPAs depend on how long they remain in the NPA category
 - **Sub-Standard Assets:** An asset is classified as a sub-standard asset if it remains as an NPA for a period less than or equal to 12 months.
 - **Doubtful Assets:** An asset is classified as a doubtful asset if it remains as an NPA for more than 12 months.
 - **Loss Assets:** An asset is considered a loss asset when it is “uncollectible” or has such little value that its continuance as a bankable asset is not suggested. However, some recovery value may be left in it as the asset has not been written off wholly or in parts.
- **NPA Provisioning:**

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- Provisioning means an **amount that the banks set aside** from their profits or income in a particular quarter **for non-performing assets**, such as assets that may turn into losses in the future.
- It is a method by which banks provide for bad assets and maintain a healthy book of accounts. It is done according to which category the asset belongs.
- **Gross non-performing assets (GNPA) and Net non-performing assets (NNPA):** Banks are required to make their NPA numbers public and to the RBI from time to time. There are primarily two metrics that help us understand any bank's NPA situation.
 - **GNPA:** GNPA is an absolute amount. It tells you the **total value of gross non-performing assets** for the bank in a particular quarter or financial year, as the case may be.
 - **NNPA:** NNPA **subtracts the provisions made by the bank from the GNPA.** Therefore, net NPA gives you the exact value of non-performing assets after the bank has made specific provisions.
- The **NNPA** is a **measure of the actual losses** that a bank has **incurred on its NPAs.** A high NNPA indicates that a bank has incurred large losses on its NPAs.

ENVIRONMENT

Zoologists spot new sea slug species, name it after the President of India

About Melanochlamys Droupadi:

- It is a new **marine species of head-shield sea slug** with **ruby red spot.**
- This species belonging to **Melanochlamys genus** was discovered from Digha of **West Bengal coast** and Udaipur of **Odisha coast.**
- **Features:**
 - It is a **small invertebrate** with a maximum length of up to 7 mm.

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- **Habitat:** It inhabits **wet and soft sandy beaches**.
- It is **brownish black** in colour with a **ruby red spot in the hind end**.
- This particular species of sea slug is hermaphrodite (having both male and female reproductive parts); however, they need another sea slug for reproduction.
- It has a shell inside the body. It has a posterior, accounting for 61 percent of its body length.
- It continuously secretes transparent mucus to form a sheath that prevents sand grains from entering parapodial space.
- It crawls beneath smooth sand to form a moving capsule where the body is rarely visible, leaving behind a trail like a turtle.

What are Sea Slugs?

- Sea slugs are a group of **molluscs that live primarily in marine habitats** and are **slug-like**.
- They can be found from the shallow intertidal to the deep sea and from the polar regions to the tropics.
- The sea slugs are **rapid hunters** and **feed upon mobile prey** such as other shelled and unshelled sea slugs, roundworms, marine worms, and small fishes.
- So far, **18 species** have been discovered across the globe.
 - They are distributed in temperate regions of the Indo-Pacific Oceanic realm, but three species are truly tropically distributed, *Melanochlamys papillata* from the Gulf of Thailand, *Melanochlamys bengalensis* from West Bengal and Odisha coast and the present species.

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Antarctica's "Doomsday Glacier" has been losing ice since 1940s, and El Nino is to blame: Study

About Doomsday Glacier:

- **Thwaites Glacier**, also known as the “Doomsday Glacier,” is located in the remote **Amundsen Sea in West Antarctica**.
- It’s a wide and fast-flowing glacier, roughly the size of Florida or Great Britain, and it has been a significant focus of scientific study due to its **sensitivity to climate change**.
- Satellite measurements have shown that the glacier is **losing an enormous amount of ice** each year, nearly 50 billion tons annually, contributing to rising global sea levels. The glacier already contributes 4% of global sea level rise.
- If the entire Thwaites Glacier were to melt, it could raise the world’s oceans by about 65 centimeters (over 2 feet).
- It **also acts as a buffer**, holding back neighboring glaciers that contain around three meters of potential sea level rise.
- A critical concern is that much of Thwaites sits on land that is below sea level, in a configuration known as **“marine-based.”**
 - This situation means that as the **glacier’s grounding line** – the point where the glacier’s ice lifts off the land and starts floating on the sea – retreats inland, it can pass over deeper and deeper valleys.
 - This process allows more and more ice to discharge into the sea, which might accelerate the glacier’s melt in a phenomenon known as **“marine ice sheet instability.”**

Cabinet approves establishment of International Big Cat Alliance (IBCA)

About International Big Cat Alliance:

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- It is an initiative launched by Prime Minister of India in April 2023 in Mysuru commemorating the 50th anniversary of Project Tiger.
- The objective of the IBCA is to ensure **cooperation for the conservation of seven** big cats: lion, tiger, leopard, cheetah, snow leopard, jaguar, and puma. Five of these cats, apart from jaguar and puma, are found in India.
- **Membership:** It is open to **97 "range" countries**, which contain the natural habitat of these big cats, as well as other interested nations, international organizations, etc.
- It aims for **mutual cooperation among countries** for mutual benefit in furthering the conservation agenda.
- It would have a multipronged approach in broad basing and establishing linkages manifold in several areas and help in **knowledge sharing, capacity building, networking, advocacy, finance and resources support**, research and technical support, education and awareness.
- **Governance Structure:**
 - A **General Assembly** consisting of all member countries.
 - A Council of at least seven but not more than 15 member countries elected by the General Assembly for a **term of 5 years**, and a Secretariat.
 - Upon the recommendation of the Council, the General Assembly will appoint the IBCA Secretary General for a specific term.
- **Funding:** It has secured Government of India's initial support of Rs. 150 crore for five years (2023-24 to 2027-28).

Amrabad Tiger Reserve plagued with staff and funds crunch

About Amrabad Tiger Reserve:

- **Location:** It is located in the Nagarkurnool and Nalgonda districts in the southern part of **Telangana**.

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- It is one of the largest tiger reserves in India. It is the **second-largest Tiger Reserve** in terms of core area.
- Earlier, it **was part of "Nagarjunasagar-Srisaïlam Tiger Reserve**, but post-state bifurcation, the northern part of the reserve was vested with Telangana state and renamed "Amrabad Tiger Reserve". The southern portion continues to be "NSTR" with Andhra Pradesh.
- ATR covers a **part of the Nallamala Forest** and is home to a variety of flora and fauna.
- Major reservoirs like the **Srishailam Dam and Nagarjunsagar Dam** are fed by the river Krishna and its several perennial streams that originate in the Tiger Reserve.
- **Flora:**
 - **Dense grass** occurs in **30% of the area** and is scattered in an additional 20%.
- **Fauna:**
 - Major wild animals found are **Tiger, Leopard, Wild dog, Indian Wolf, Indian fox, Rusty-spotted cat**, Small Indian civet, Sloth bear, Honeybadger, Wild boar etc.
 - Some important bird species include **Eagles, Pigeons, Doves, Cuckoos, Woodpeckers**, Drongos etc.

World Wildlife Day 2024: Date, theme, history, significance and all you need to know

About World Wildlife Day:

- It is celebrated to **promote sustainable practices** that can help **conserve biodiversity** and raise public awareness of the need to protect and care for animals.
- It aims to raise awareness of the interconnectedness of all living things on our planet and to promote peaceful coexistence between humans and animals through activism, campaigning and education.
- **History**

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- It was **first proposed by Thailand** to the UN General Assembly in 2013.
- The idea was to set aside a day to promote awareness of wild animals and plants around the world.
- The General Assembly adopted a resolution on 20 December 2013, designating March 3 as World Wildlife Day in 2014.
- The **Convention on International Trade in Endangered Species of Wild Fauna and Flora** (CITES), a global agreement to ensure that international trade in specimens of wild animals and plants does not threaten their survival, **was signed on this day in 1973**.
- **Theme of WWD 2024:** "Connecting People and Planet: Exploring Digital Innovation in Wildlife Conservation," highlights the potential of technology to advance conservation efforts.
- This theme is particularly relevant in today's digital age, where technological advances can offer novel solutions to long-standing conservation challenges.
- **Significance**
 - It is an important global awareness event for the protection and conservation of animals.
 - It **serves as a reminder** of the inherent **value of animals** and the need to treat them with kindness, decency and respect.

Strong GDP growth, weak monsoon drove up India's energy-related carbon emissions in 2023: IEA

About International Energy Agency:

- It is an **autonomous inter-governmental organisation** within the **Organisation for Economic Co-operation and Development (OECD) framework**.

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- **Mission:** It works with governments and industry to shape a secure and sustainable energy future for all.
- **Background**
 - It was created in **response to the 1973-1974 oil crisis** when an oil embargo by major producers pushed prices to historic levels and exposed the vulnerability of industrialised countries to dependency on oil imports.
 - It was **founded in 1974** to ensure the security of oil supplies.
- **Membership:** It is made up of **31 member countries**, 13 association countries, and 5 accession countries.
- **Criteria for membership:** A candidate country to the IEA **must be a member country of the OECD**. In addition, it must demonstrate several requirements.
 - Crude oil and/or product **reserves equivalent to 90 days** of the previous year's net imports, to which the government has immediate access (even if it does not own them directly) and could be used to address disruptions to global oil supply;
 - A demand restraint programme to reduce national oil consumption by up to 10%;
 - Legislation and organisation to operate the **Co-ordinated Emergency Response Measures** (CERM) on a national basis;
 - Legislation and measures to ensure that all oil companies under its jurisdiction report information upon request.

UNEA-6: Extraction & use of world's resources has grown three times more in 50 years

About Global Resource Outlook:

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- It is the flagship report of the **International Resource Panel of United Nations Environment Programme**.
- This year's report sheds light on **how resources are essential** to the effective implementation of the Agenda 2030 and multilateral environmental agreements to tackle the triple planetary crisis.
- It brings together the best available data, **modelling and assessments from 180 countries, seven world regions** and four income groups, to analyse trends, impacts and distributional effects of resource use.
- **Highlights of the report**
- It presents a stark **picture of global inequality**, where low-income countries consume six times less materials compared to wealthy countries, despite generating 10 times less climate impacts.
- Global production and consumption of material resources has grown more than three times over the **last 50 years**, growing at an average of more than 2.3 per cent a year, despite the increase being the main driver of the triple planetary crisis.
- The consumption and use of resources is largely driven by demand in upper income countries.
- The extraction and processing of material resources — including fossil fuels, minerals, non-metallic minerals and biomass — **accounts for over 55 per cent of greenhouse gas (GHG) emissions** and 40 per cent of particulate matter poisoning the environment.
- The extraction and processing of agricultural crops and forestry products accounts for 90 per cent of land-related biodiversity loss and water stress and a third of GHG emissions.
- The extraction and processing of fossil fuels, metals and non-metallic minerals including sand, gravel and clay account **for 35 per cent of global emissions**.

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- Despite this, resource exploitation could increase by almost 60 per cent from 2020 levels by 2060 — from 100 to 160 billion tonnes.

New species of parasitoid wasp discovered in Western Ghats

About Taeniogonalos deepaki:

- It was discovered in the **Belgaum region of Karnataka**. The genus Taeniogonalos belongs to the family Trigonalalyidae of the order Hymenoptera.
- The Trigonalalyidae family consists of a type of insects **called hyperparasitoids** that “sneak into” parasitoids or insects whose larvae develop on or within the bodies of other insects.
- **Distribution:** The Taeniogonalos genus is distributed in **Afrotropical, oriental, eastern palaeartic, nearctic, Australian and neotropical** regions; 6 of the species have been reported earlier from India and 20 from China.
- Most of the Taeniogonalos species have been reported from south India.
- **What is a parasitoid?**
- It is an organism that has young that develop **on or within another organism** (the host), eventually killing it. They have characteristics of both predators and parasites

Villagers oppose declaring ‘orans’ as deemed forests, fearing loss of access and livelihood

About Orans:

- Orans are traditional **sacred groves** found **in Rajasthan**. These are community forests, preserved and managed by rural communities through institutions and codes that mark such forests as sacred.
- There are **often local deities associated** with Oran. They are **rich in biodiversity** and usually include a water body.

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- Communities in Rajasthan have been conserving these Orans for centuries, and their lives have been intricately linked around these spaces.
- Orans are also spaces where herders take their **livestock for grazing** and are **places for communal congregations, festivals** and other social events, the performance of which is linked to agrarian rhythms and the continued commitment of the communities towards environmental conservation.
- Orans also form the **natural habitat** for India's most critically endangered bird, **the Great Indian Bustard (GIB)**, a protected species under the Wildlife Protection Act, which is also the State bird of Rajasthan.
- **What are Sacred Groves?**
- Sacred Groves are **relic forest patches** traditionally **protected by communities in reverence of a deity**. They form important repositories of forest biodiversity and provide refuge to many plant and animal species of conservation significance.
- Sacred groves are found all over India, especially in states like **Maharashtra, Karnataka, Kerala and Tamil Nadu**.
- These are known as Kavu/Sarpa Kavu in Kerala, Devarakadu/Devkad in Karnataka, Deorai/Devrai in Maharashtra, Jahera/Thakuramma in Odisha, etc.

Fourth global mass coral bleaching? Great Barrier Reef severely affected, corals seen dying

About Coral Reef Watch:

- It is a **free online tool** that provides a **global analysis of sea surface temperature (SST)** and outlooks to **identify coral reefs** that are at **risk of bleaching**. It is offering the world's only global early-warning system of coral reef ecosystem environmental changes.

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- It is **remotely monitors conditions** that can cause coral bleaching, disease and death; delivers information and early warnings in near real-time to our extensive and diverse user community; it uses operational climate forecasts to provide outlooks of stressful environmental conditions on coral reefs worldwide.
- Its products are primarily **sea surface temperature (SST)**-based but also incorporate light and ocean color, among other variables.
- It has been using remote sensing, modeled and in situ data to operate a decision support system to help all stakeholders around the world prepare for and respond to coral reef ecosystem stressors, predominantly resulting from climate change and warming of the Earth's oceans.
- It is developed by **National Oceanic and Atmospheric Administration (NOAA)** of the United States of America.
- **Key facts about Corals**
- Corals are **marine invertebrates** or animals not possessing a spine. Each coral is called a polyp and thousands of such polyps live together to form a colony, which grows when polyps multiply to make copies of themselves. Corals share a **symbiotic relationship** with single-celled **algae called zooxanthellae**.
- The algae provide the coral with food and nutrients, which they make through photosynthesis, using the sun's light. In turn, the corals give the algae a home and key nutrients. The zooxanthellae also give corals their bright colour.
- Australia's Great Barrier Reef is the world's largest reef system stretching across 2,300 km.

Countries hope to bring BBNJ or High Seas treaty into force by 2025; only 2 have ratified it so far

About Blue Leaders:

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- The Blue Leaders are an **ambitious group of countries** calling for urgent action **to save the global ocean** in the face of the climate crisis, overfishing, pollution and other threats.
- The Blue Leaders are committed to **two major goals:**
 - Securing a new international target to protect **at least 30% of the global ocean** through a network of highly and fully protected marine areas by 2030.
 - The rapid and successful conclusion of a new High Seas Treaty that provides for establishment of fully and highly protected marine areas in the high seas and strengthens management of human activities outside protected areas.
- The **first** Blue Leaders event **took place in New York** on the margins of the 2019 United Nations General Assembly and the second in Madrid, Spain during the 2019 UN Climate Change Conference, 'The Blue COP.'
- At each of these events the Blue Leaders have championed the call to realize protection of **30% of the ocean by 2030** (30x30) in that they are focused on calling for 30% to be **fully and highly protected.**
 - **“Fully protected”** means that no extractive or destructive activities are allowed and **“highly protected”** means only light extractive activities, such as subsistence or small-scale fishing with minimal impact, are allowed.
 - Fully protected ocean parks where extractive, polluting, and destructive human pursuits are banned provide sanctuaries for ocean wildlife.
- **Member countries:** The group of Blue Leaders has **24 countries as its members.**
- India is not a member of this group.

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Stakeholders Meeting on Right to Repair Portal India held

About Right to Repair Portal:

- The **Ministry of Consumer Affairs (MCA)** has launched the Right to Repair Portal India to **provide consumers** with **access to repair information** for their products and **reduce e-waste**.
- The launch was made on the occasion of National Consumer Rights Day 2022.
- **Features:**
 - It provides **information about the circular economy**, which is the new economic model that focuses on repairing and reusing products, as opposed to throwing them away.
 - The portal **brings together information from different sectors**, including automobiles, consumer durables, mobile and electronics, and farming equipment.
 - **All public information related to products, services, warranties**, terms, and conditions, etc. will also be easily **accessible through this portal**.
 - It gives consumers **access to affordable repair** mobile phones, appliances, and other **electronic devices by original equipment manufacturers (OEMs) or third-party repairers**.
 - The aim is to **offer a cheaper alternative to expensive replacements** to customers, instead of buying new products altogether.
 - The portal will **carry information for enabling consumers to self-repair**, knowing about authorized repairers, and promoting third party repairers.
 - It will also benefit small repair shops, as a list of authorised third-party repairs will be provided.
 - It also allows consumers to **submit feedback and suggestions** on products and services.

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MNRE to discuss specialised cylinders for hydrogen storage with stakeholders

About Green Hydrogen:

- It is produced **using electrolysis of water** with electricity generated by renewable energy. Its carbon intensity ultimately depends on the carbon neutrality of the source of electricity (i.e., the more renewable energy there is in the electricity fuel mix, the "greener" the hydrogen produced).
- It has enormous **potential to decarbonize several sectors**, reduce carbon emissions and achieve energy independence.
- Its production using **renewable energy sources like solar, wind, and hydropower** is sustainable and environmentally friendly. It **can replace traditional fossil fuels** in transportation and industry, providing a constant and reliable source of energy.
- Hydrogen is stored **in cylinders** at a much **higher pressure**.
 - Gas cylinders are typically categorised into four types, depending upon the materials used. Type 1 and Type 2 are suitable for storage, while Type 3 is preferred for storage and transportation, and Type 4 is recommended for on-board storage.
 - Unlike compressed natural gas (CNG), which is stored at a pressure of around 3,600 psi, the pressure at which hydrogen is **stored ranges between 5,000-10,000 psi**.
 - A vehicle can be powered by hydrogen in two ways– burning it in an internal combustion engine or using a fuel cell to convert it into electricity to charge on-board batteries.
 - While both Type 3 and Type 4 cylinders are reinforced with carbon fibre, which makes them light and ideal for use in vehicles, Type 4 cylinders are

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even lighter as they are lined with a polymer as opposed to the aluminium lining in Type 3 cylinders.

- **Application of Green hydrogen**
- It has numerous applications and can be **used in fuel cells** to power vehicles and provide electricity. It can also be used in heating systems and in the **production of chemicals and fertilizers**.
- Furthermore, Green Hydrogen can be used in microgrids, providing electricity to remote areas and enabling energy independence.

Methane emissions from fossil fuels remain high despite progress, US tops list of emitters: IEA

About Global Methane Tracker:

- It is an **annual report** released by the **International Energy Agency (IEA)**.
- It is **based on** the most **recently available data on methane emissions** from the energy sector and incorporates new scientific studies, measurement campaigns, and information collected from satellites.
- **Highlights of Global Methane Tracker 2024:**
 - **Methane emissions from fuel use** in 2023 were close to being the **highest ever at 120 million tonnes** (Mt). This is a small rise compared to 2022.
 - **Bioenergy**, a form of renewable energy generated by plant and animal waste, **caused another 10 million tons** of emissions.
 - Of the 120 Mt of methane that escaped into the atmosphere, around **80 million tons** of methane emissions **came from just 10 countries**, The United States leads in methane emissions from oil and gas operations, and is “closely followed” by Russia. China, on the other hand, leads in emissions from coal operations.

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- While studies suggested emissions are falling in some regions, overall emissions remain far too high to meet the world's climate goals.
- The world **needs to slash methane emissions from fossil fuels by 75 percent** by **2030 to achieve the Paris Agreement goal** of limiting warming to 1.5°C.
- The IEA estimated that this goal would require about \$170 billion in spending. This is less than 5 percent of the income generated by the fossil fuel industry in 2023.

New scorpion species with 8 eyes and 8 legs found in Thai National Park

About Euscorpiops Krachan:

- It belongs to the **subgenus Euscopiops** and has been named Euscorpiops Krachan after the national park in Thailand, where it was found.
- Scorpions in this genus have **limited distribution ranges** with a **high degree of endemism**. They can be found mainly in mountain areas, particularly in places with numerous rock crevices.
- **Features:**
 - They are **very small in comparison** to most other species of the subgenus, reaching just over 1 inch in length.
 - They are **brownish in colour**; however, females are darker than males.
 - They also have **eight eyes and eight legs**.

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- Other scorpions of the Scorpiops genus **hunt through "ambush or sit-and-wait type of foraging"**. It is believed that the new species employs similar strategies while hunting.

ETHANOL 100 fuel launched by Petroleum Minister Hardeep S Puri

About ETHANOL 100 fuel:

- It **has high-octane rating**, typically between 100-105. It proves ideal for high-performance engines, ensuring improved efficiency and power output all while minimizing environmental impact.
- Moreover, ETHANOL 100's versatility shines through, as it can be used **in a wide array of vehicles, including flex-fuel vehicles (FFVs) designed to run on gasoline**, ethanol or any blend of the two.
- Its practicality and potential to become a mainstream fuel option with the right infrastructure in place. It includes 93-93.5 percent ethanol blended with 5 percent petrol and 1.5 percent co-solvent, which is a binder.
- It stands as a cleaner, greener alternative to gasoline, boasting lower emissions of greenhouse gases and pollutants, thus aiding in combating climate change and enhancing air quality in our communities.
- **What are flex-fuel vehicles?**
- These are designed to run on a variety of fuels. These are equipped with an internal combustion engine (ICE) which can run on petrol or ethanol or methanol, giving consumers choice at the point of sale of the fuel.

Apart from a few modifications, flex fuel vehicles are similar to petrol-only cars.

Over 1.50 lakh migratory birds visited sanctuaries, wetlands in Andhra Pradesh this winter, say forest officials

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About Atapaka Bird Sanctuary:

- It is situated on the Kolleru Lake in the **Indian state Andhra Pradesh**. It is the home to a vast repertoire of birds. It is especially known for sheltering Pelicans.
- It spans across two districts namely West Godavari and Krishna. It falls under **Kaikalur forest range**.
- The common species that can be found in the sanctuary include Cormorants, Common Redshanks, Pied Avocets, Black-winged Stilts, Red-crested Pochards etc.
- **Key facts about Kolleru Lake**
- It is the **largest freshwater lake in India**. It is located in Andhra Pradesh **between the Krishna and Godavari deltas** and covers an area of 308 km². The lake serves as a natural flood-balancing reservoir for these two rivers.
- The lake is fed directly by water from the seasonal Budameru and Tammileru streams, and is connected to the Krishna and Godavari systems by over 68 inflowing drains and channels. It serves as a habitat for migratory birds.
- The lake was notified as a wildlife sanctuary in November 1999 under India's Wild Life (Protection) Act, 1972, and designated a wetland of international importance in November 2002 under the international Ramsar Convention.

Another cyclone alert for Northern Australia

About Gulf of Carpentaria:

- It is a **shallow rectangular sea** on the **northern coast of Australia** and an **inlet of the eastern Arafura Sea** (a Pacific Ocean Sea separating New Guinea and Australia).

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- The gulf **covers a continental shelf common to both New Guinea and Australia.** A ridge extends across Torres Strait, separating the floor of the gulf from the Coral Sea to the east.
- It is a **rare modern example of an epicontinental sea**(a shallow sea on top of a continent), a feature much more common at earlier times in the Earth's geologic history.
- **At least 20 rivers** empty into the gulf, including the **Roper, Wilton, Walker, Calvert,** Flinders, McArthur, and Norman Rivers.
- There are **several islands** in the gulf, with **Groote Eylandt,** being the largest. The gulf also contains fringing reefs and coral colonies.
- It gained international recognition in the 20th and 21st centuries following the discovery and exploitation of several mineral resources, including manganese and bauxite.

CAG alert on unacceptable pollution of Kshipra River in Madhya Pradesh

About Shipra River:

- The Shipra, also known as the Kshipra, is a **river in Madhya Pradesh state.** It is a **perennial river** and is considered as sacred as the Ganga River by the Hindus.
- **Course:**
 - **Origin:** It originates in the **Vindhya Range** from a **hill called Kakri-Tekdi,** which is in the north of Dhar and situated at a distance of 11km from Ujjain.
 - It flows across the Malwa Plateau to **join the Chambal River.**
- **Religious Significance:**
 - The Puranas, or ancient Hindu texts, put forward that the Shipra originated from the heart of Varaha, Lord **Vishnu's incarnation as a boar.**
 - Also on the banks of the Shipra **is Sage Sandipani's ashram** or hermitage, where Krishna, Lord Vishnu's eighth incarnation, had studied.

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- It **finds mention** not only in ancient Hindu texts but **also in Buddhist and Jain scriptures**.
- The holy city of **Ujjain is located on the right bank** of the Shipra River. The famous **Kumbha Mela takes place** in the ghats of this city, once every 12 years, a yearly celebration of the river goddess Kshipra.
- **Major Tributaries: Khan and Gambhir**

The problem of equity in IPCC reports

About Integrated Assessment Models:

- These are complex models that examine **possible futures of the energy** and climate system and economies. They are “integrated” because they **combine different strands of knowledge** to model human society alongside parts of the Earth system.
- Its macroeconomic models can point to future growth levels in terms of GDP; its energy models can project **future consumption**; vegetation models can examine land-use changes; and earth-system models use the laws of physics to understand how climate evolves.
- With such integration across disciplines, IAMs are meant to provide policy-relevant guidelines on climate action. They also prioritise least-cost assessments — for example, the absolute cost of setting up a solar plant or undertaking afforestation in India is lower than in the U.S.
- However, experts have said they could exercise the option of enabling countries to equitably share the burden of action, where the richest undertake more drastic mitigation action more immediately.
- They capture **human-society interactions** by describing them as coupled systems on the relevant geographical and intertemporal scales for policy-making.
- They typically include a description of human activity (e.g. energy and land use), direct drivers of environmental change (e.g. emissions, land use and resource use),

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resulting impacts (e.g. climate change and consequences for crop yields) and response options.

Worrisome and even frightening: Ancient ecosystem of Lake Baikal at risk of regime change from warming

About Lake Baikal:

- It is located in the **southern part of eastern Siberia** within the republic of **Russia**. It is the **oldest existing freshwater lake** on Earth (20 million–25 million years old), as well as the deepest continental body of water.
- It is also the world's largest freshwater lake by volume, containing about one-fifth of the fresh water on Earth's surface. The largest rivers that flow into it include the Selenga, Barguzin, Upper (Verkhnyaya) Angara, Chikoy, and Uda.
- It is **known as the "Galapagos of Russia"**. In 1996 Lake Baikal was designated a **UNESCO World Heritage Site**

Arunachal tribe donates land for critically endangered songbird Bugun Liocichla

About Bugun Liocichla:

- It is a **small babbler** (only 20 cm) with olive-grey plumage and black cap. It is found only in the **Eaglenest Wildlife Sanctuary** landscape and nowhere else in the world.
- The avian **species is critically endangered** with only 14 individual birds spotted so far in the Braiduah village under the Singchung sub-division.
- As a major step towards conservation, the Arunachal Pradesh government finally notified Braiduah Community Reserve under the Wildlife Protection Act, 1972. The reserve is situated adjacent to the Eaglenest Wildlife Sanctuary.
- **Key facts about Bugun Tribe:**
- The Buguns are migrated from Tibet via East Kameng, **Arunachal Pradesh**. They have their own geographical boundaries with neighbouring tribes and have a distinct **language called Khowa**.

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- Like other Indo-Mongoloid tribes of Arunachal Pradesh, Buguns (Khowas) too build their houses with bamboo.
- They are skilled at extracting oil from a **local wood species** found in the forests called **Chiblem**.
- They have their own socio-political administrative decision making body called the **Nimiang** that fluidly regulates the functioning of the community.
- The “**Pham-Kho**” is the annual festival of Bugun. They are **generally endogamous** as they marry within their community.

Canals used to drain peatlands are underappreciated hotspots for carbon emissions, new study finds

About Peatlands:

- Peatlands are terrestrial **wetland ecosystems** in which **waterlogged conditions** prevent plant material from fully decomposing. Consequently, the **production of organic matter exceeds its decomposition**, which results in a net accumulation of peat.
- These **occur in every climatic zone and continent** and cover around 2.84% of the Earth's terrestrial surface.
- The majority of the world's peatlands **occur in boreal and temperate** parts of the Northern Hemisphere, especially, Europe, North America, and Russia, where they have formed under high precipitation-low temperature climatic regimes.
- About **84% of the world's peatlands are considered to be in natural**, or near-natural state. **Drained peatlands make up about 16% of the world's peatlands**, or 0.5% of the Earth's terrestrial surface.
- Due to the process of peat accumulation, peatlands are **carbon rich ecosystems**. Peatlands are the largest natural terrestrial carbon store. They store more carbon than all other vegetation types in the world combined.

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- Damaged peatlands are a **major source of greenhouse gas emissions**, responsible for almost 5% of global anthropogenic CO2 emissions.

Conservation not enough for the highly inbred Ranthambore tigers — they require genetic rescue

About Genetic Rescue:

- Genetic rescue is the **process of increasing population growth with new genetic variation** by migrating individuals into another small population (i.e., gene flow).
- In practice, wildlife managers **take individuals from a larger, healthier population**, and bring them to a smaller population to introduce new variation. This conservation strategy aims to **alleviate genetic load, decrease extinction risk**, and enhance the viability of endangered species and populations.
- It is often employed in conservation biology to **mitigate the negative effects of inbreeding depression**, which can occur when individuals within a population mate with close relatives, leading to decreased reproductive success and viability of offspring.
- Genetic rescue can **have both beneficial and deleterious effects**, depending on factors such as the magnitude and duration of gene flow, as well as the genetic and non-genetic factors influencing population dynamics. There can be risks involved with moving animals around, so it's often **thought of as a last resort**.

Delhi World's Most Polluted Capital Again, India Has 3rd Worst Air Quality: Report

About World Air Quality Report 2023:

- It is published by the **Swiss organisation IQAir**.
- **Highlights:**
 - With an average air annual particulate matter 2.5 (PM2.5) concentration of 54.4 micrograms per cubic metre, **India had the third worst air quality**.

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- India was better than only two of its neighbouring countries, **Bangladesh and Pakistan.**
- While **Bangladesh remained the most polluted country** in the world, with an average PM2.5 concentration of 79.9 micrograms per cubic metre, **Pakistan was second**, with a level of 73.7.
- It also **identified Delhi** as the **most polluted capital city in the world** for the fourth consecutive time. **Bihar's Begusarai** was termed the **world's most polluted metropolitan area.**
- **Ten out of the top 11 most polluted cities** in the world **are from India**, the other being Lahore in Pakistan.
- 96 percent of the Indian population experiences PM2.5 levels more than seven times the WHO annual PM2.5 guideline.
- **What is Particulate Matter (PM)?**
- It is made of **solid particles and liquid droplets in the air.** In general, any type of burning or any dust-generating activities are sources of PM.
- PM comes in **many different sizes.**
 - Larger particles come mostly from the soil. Smaller particles come from burning of fossil fuels, like gasoline in cars, diesel in trucks, and coal used by power plants.
- PM is also divided into **primary and secondary categories.**
 - **Primary PM** is directly emitted from a smokestack or a tailpipe. **Secondary PM** forms downwind from sources of gaseous emissions through chemical reactions.

Oldest evidence of earthquakes found in strange jumble of 3.3-billion-year-old rocks from Africa

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About Barberton Greenstone Belt:

- It is situated on the eastern edge of the Kaapvaal Craton **in South Africa**. It is **known for its gold mineralisation** and for its komatiites, an unusual type of ultramafic volcanic rock named after the Komati River that flows through the belt.
- **Some of the oldest exposed rocks on Earth** (greater than 3.6 Ga) are located in the Barberton Greenstone Belt of the Eswatini–Barberton areas, and these **contain some of the oldest traces of life on Earth**, second only to the Isua Greenstone Belt of Western Greenland. The **Makhonjwa Mountains** make up 40% of the Baberton belt.
- **What are ultramafic rocks?**
- Ultramafic (or ultrabasic) rocks are **dark-colored igneous and meta-igneous rocks** that are rich in minerals containing magnesium and iron ("mafic" minerals) and have a relatively low content of silica.
- They are generally composed of more than 90 percent mafic minerals—that is, they have a high content of magnesium oxide (more than 18 percent MgO) and iron oxide (FeO). Their silica content is less than 45 percent, and their potassium content is low.
- The **Earth's mantle** is thought to be **composed of ultramafic rocks**. Most of the exposed ultramafic rocks have been found in orogenic (mountain-forming) belts.

Biomining at landfills in Ghazipur, Bhalswa set to miss latest deadline

About Biomining:

- It is the technique of **extracting metals from ores** and other solid materials, typically using micro-organisms (bacteria, algae, fungi, or plants). It may also be **used to clean up sites** that have been **polluted with metals**.
- **Process:**

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- **Valuable metals** are commonly bound up in solid minerals. Some **microbes can oxidize** those metals, allowing them to dissolve in water.
- It is the basic process behind most biomining, which is **used for metals** that can be more **easily recovered when dissolved** than from solid rocks.
- **A different biomining technique**, for metals which are not dissolved by the microbes, **uses microbes to break down the surrounding minerals**, making it easier to recover the metal of interest directly from the remaining rock.
- When the metal of interest is directly dissolved, the biomining process is called **“bioleaching,”** and when the metal of interest is made more accessible or “enriched” in the material left behind, it is called **“biooxidation.”**
- **What metals are currently biomined?**
 - Most current biomining operations target **valuable metals like copper, uranium, nickel, and gold** that are commonly found in sulfidic (sulfur-bearing) minerals.
 - Microbes are especially good at oxidizing sulfidic minerals, converting metals like iron and copper into forms that can dissolve more easily.
- Compared to typical mining that uses hazardous chemicals and has a large CO2 footprint, biomining represents an **environmentally friendly** alternative, **producing very little** (if at all) **hazardous waste.**

WMO report out: 6 charts that tell you everything about the health of our planet

About State of Global Climate Report 2023:

- It is an **annual report** published by the **World Meteorological Organisation (WMO)**. **Many experts and partners contribute** to the report, including UN organizations, National Meteorological and Hydrological Services (NMHSs), and Global Data and Analysis Centers, as well as Regional Climate Centres, the World Climate Research Programme (WCRP), the Global Atmosphere Watch (GAW), the

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Global Cryosphere Watch and the Copernicus Climate Change Service operated by ECMWF.

• **Highlights of the 2023 Report:**

- **2023 was the hottest year** on record, with the global average near-surface temperature at 1.45 °Celsius (with a margin of uncertainty of ± 0.12 °C) above the pre-industrial baseline. It was the **warmest ten-year period on record**.
- On an average day in 2023, nearly **one third of the global ocean** was **gripped by a marine heatwave**, harming vital ecosystems and food systems. Towards the end of 2023, over 90% of the ocean had experienced heatwave conditions at some point during the year.
- The **global set of reference glaciers suffered the largest loss of ice on record** (since 1950), driven by extreme melt in both western North America and Europe, according to preliminary data.
- **In 2023, renewable capacity additions increased by almost 50%** from 2022, for a total of 510 gigawatts (GW), the highest rate observed in the past two decades.

• **Key Facts about World Meteorological Organisation (WMO):**

- It is a **specialized agency of the United Nations (UN)**. It originated from the International Meteorological Organization (IMO), which was founded in 1873.
- **Established in 1950**, WMO became the specialized agency of the UN for meteorology (weather and climate), operational hydrology, and related geophysical sciences.
- **Headquarters: Geneva**, Switzerland.
- Currently, it has a membership of 191 countries.
- **Governance Structure:**
 - Its **supreme body is the World Meteorological Congress**, which consists of representatives of all members. It meets at least every four years to set general policy and adopt regulations.

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- A 36-member Executive Council meets annually and implements policy. The Secretariat, headed by a secretary-general appointed by the congress for a four-year term, serves as the administrative centre of the organization.

Lianas threaten Earth's carbon sinks

About Lianas:

- Lianas (also known as vines, climbing plants or climbers) are **plants with long, flexible, climbing stems** that are rooted in the ground, and usually have long dangling branches.
- They **particularly thrive in** disturbed forest areas — such as those **affected by logging, natural treefalls, landslides** because they can quickly grow towards the forest canopy using trees as support.
- In terms of climate, lianas are more **resilient to variations in moisture and temperature**, which gives them a competitive advantage over trees. They use their climbing ability, resilience to climatic stress, and efficient water and nutrient usage to outcompete trees for sunlight and resources.
- They compete for sunlight in the canopy and suppress trees. Their **lower carbon sequestering capacity** compared to trees further exacerbates the threat to carbon storage.
- **Impacts on forest ecosystem**
- An increase in lianas's competitive success over trees can significantly affect the forest ecosystem. Lianas, being a **disturbance-favouring plant form**, can impact trees from the understory to the canopy.
- Their prolific growth following heavy disturbance can lead to decreased tree regeneration, **growth and survival**, altering forest structure and ecosystem function, which, in turn, can affect the subsequent recovery of forest.
- Its proliferation **can alter nutrient cycling** within forests and decrease the overall resilience of forests to environmental changes, making ecosystems more susceptible to further disturbances.

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World Forestry Day 2024: Date, history, significance and all that we need to know

About World Forest Day:

- It is celebrated every year to remind people of the significance of forests and trees in our lives. Countries are encouraged to take part in regional, global, and local drives to set up a scope of forest and tree-related campaigns, like planting campaigns.
- The **Food and Agriculture Organization of the United Nations** (FAO) and the **United Nations Forum on Forests** are the coordinators of the International Day of Forests.
- It is observed on **March 21 every year.**
- **History:**
 - In 1971, the General Assembly of the European Confederation of Agriculture proposed that we should celebrate a day dedicated to forests.
 - March 21 was chosen as World Forestry Day by the United Nations as it **coincides with Vernal Equinox and Autumn Equinox** in northern and southern hemispheres.
- **The theme for this year is** - Forests and Innovation: New Solutions for a Better World.

New species of deep-sea isopod discovered off Kollam named after ISRO

About Brucethoa isro:

- It is a **new species of deep-sea isopod** discovered off the Kollam coast, **Kerala**. The tiny fish-parasitic crustacean, belonging to the genus Brucethoa, was recovered from the base of the gill cavity of the Spinyjaw greeneye, a marine fish.

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- It is the **second species within this genus** to be **documented in India**. It has been named *Brucethoa isro* in honour of the Indian space agency's successful space missions.
- Females of the species tend to be larger than males. Females grow to about 19 mm in length and 6 mm in width, while males are smaller at around half the size.
- **What are Isopods?**
- Isopods are an order of **invertebrates** (animals without backbones) that **belong to** the greater **crustacean group** of animals, which includes crabs and shrimp.
- They also live in many **different types of habitats**, from mountains and deserts to the deep sea and they are distributed worldwide.
- **Features:**
 - They are one of the most **morphologically diverse** of all the crustacean groups, coming in many **different shapes and sizes**
 - Isopods often **do not look alike**, but they **do have common features**. For example, all isopods have two pairs of antennae, compound eyes and four sets of jaws. Their body consists of seven segments, each with its **own pair of walking legs**.
 - Isopods have a **short abdominal section** composed of six segments, called "**pleons**," and one or more of these segments is fused into a tail section.
 - **About half of the known species** of isopods **live in the ocean**. Others live in coastal and shelf waters, moving around on the seafloor or living in plants.
 - **Most of them are free-living**, but a number of marine species are parasitic on other animals.

Subduction zone discovered beneath Gibraltar Strait: Concerns raised over future of Atlantic Ocean

About Subduction Zone:

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- A subduction zone is a spot where two of the **planet's tectonic plates collide** and one dives, or subducts, beneath the other.
 - **Tectonic plates** are pieces of the Earth's rigid outer layer that **slowly move across the planet's surface** over millions of years.
 - This is the main tenet of **plate tectonics**, the theory that portions of Earth's shell glide over the lower mantle, taking continents with them.
 - That **outer layer**, known as the **lithosphere, consists of the Earth's crust and the upper section of the mantle**, a dense, hot layer beneath the crust.
 - When two tectonic plates meet at a subduction zone and one slide underneath the other, this lithosphere material curves down into the hot mantle.
- This tectonic process can produce some of the planet's most powerful **earthquakes, tsunamis, and volcanoes**.
- This subduction process frequently occurs because of the two different types of lithospheres that make up tectonic plates: **Continental and oceanic**.
 - Because **oceanic material is denser** than continental lithosphere, when the two collide at a subduction zone, the **oceanic portion sinks** into the mantle beneath the more buoyant continental lithosphere.
- Subduction zones can also occur when both colliding plate sections consist of oceanic material. In these cases, older, denser oceanic lithosphere sinks below younger, more buoyant oceanic lithosphere.
 - A new oceanic lithosphere forms at the spots where plates separate, allowing hot mantle material to rise to the surface. As it moves away from those boundaries, this lithosphere cools and gets denser. Thus, older oceanic lithosphere can more easily sink.
- **The sinking plate**, or "slab," at a subduction zone tends to bend at an angle of about 30 degrees from Earth's surface, though some angles are flatter or steeper than this.

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- **Sometimes, subduction can begin spontaneously, without the forces of collision** between plates. This **happens as the lithosphere becomes unstable and sinks under** the force of **gravity**. The oceanic lithosphere may grow so old and dense that it collapses and spontaneously forms a subduction zone.
- Subduction zones **occur in a horseshoe shape around the edge of the Pacific Ocean**, offshore of the USA, Canada, Russia, Japan, and Indonesia, and down to New Zealand and the southern edge of South America. **Called the "Ring of Fire,"** these subduction zones comprise “the most seismically and volcanically active zone in the world,” responsible for more than 80% of the world's biggest earthquakes and most of the planet’s active volcanoes.

Switch off non-essential appliances during Earth Hour on Mar 23, urges BSES

About Earth Hour:

- It is a global grassroots movement uniting people to take action on environmental issues and protect the planet. It is **organized by the World Wildlife Fund (WWF)**.
- It **started in Sydney, Australia, in 2007** as a symbolic lights-out event and has since grown into a global movement involving millions of people in over 190 countries and territories. It takes place towards the **end of March every year**.
- “Earth Hour” **encourages people to switch off all lights for an hour, from 8:30 p.m. to 9:30 p.m. local time**, to promote awareness of climate change challenges and energy conservation.
- **Governments and companies also participate** by turning off non-essential lights in their buildings, monuments and landmarks to raise awareness about the impact of energy consumption on our planet.
- **Key Facts about World Wildlife Fund (WWF):**
- It is an international non-governmental organization (**NGO**) founded in 1961 in Morges, Switzerland, to **protect endangered species of wildlife** and preserve natural habitats.

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- **Mission:** To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.
- WWF **works with a broad spectrum of partners**, including governments, industry, and local communities, to find solutions to the challenges that face our natural world.

Spring Begins. Know About Vernal Equinox That Brings on A New Season

About Spring Equinox:

- As Earth revolves around the Sun, there are two moments each year when the **Sun is exactly above the equator**. These moments — **called equinoxes** — occur around March 19, 20 or 21 and September 22 or 23.
- Equinox literally **means "equal night,"** since the length of day and night is nearly equal in all parts of the world during the equinoxes.
The **March equinox marks when** the Northern Hemisphere starts to tilt toward the sun, which means **longer, sunnier days**.
- **In the Northern Hemisphere**, the **March equinox is called the vernal equinox**, because it signals the beginning of spring (vernal means fresh or new like the spring).
 - The **September equinox is called the autumnal equinox**, because it marks the first day of fall (autumn).
- When the Northern Hemisphere starts to tilt toward the sun in spring, the Southern Hemisphere starts to tilt away from the sun, signaling the start of fall.
 - Thus, **in the Southern Hemisphere**, the **March equinox is called the autumnal equinox**, and the September equinox is called the vernal equinox.
- While the March equinox brings later sunrises, earlier sunsets, chillier winds and dry, falling leaves in the Southern Hemisphere, while the reverse happens in the Northern Hemisphere.

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Forest fires singe Telangana wildlife sanctuaries

About Eturnagaram Wildlife Sanctuary:

- It is located near the border of Maharashtra, Chhattisgarh and Telangana. River Vagu separates the wildlife sanctuary into two parts. River Godavari also passes through it.
- The sanctuary is also famous for the Sammakka Sarakka Jathra, one of the Asia's largest tribal jahtra, taking place here every two years.
- Vegetation: The region falls in the tropical dry deciduous type of vegetation.
- Flora: It is rich in the growth of teak, bamboo and other trees like madhuca and terminalia.
- Fauna: The keystone species in the sanctuary are Indian gour and giant squirrel.

What are the new rules for elephant transfers?

Captive Elephants under the Wildlife Protection Act (WPA), 1972:

- Elephants are a Schedule I species, and therefore, be it wild or captive, cannot be captured or traded under any circumstances.
- Section 12 of the Act allows Schedule I animals to be translocated for 'special purposes' such as education and scientific research. They can also be translocated for population management of wildlife without harming any wild animals and the collection of specimens for recognised zoos/museums.
- Captive elephants, because of their historical role in forest management, timber transport, presence in estates of erstwhile royal families and in temple precincts for religious purposes can be owned and therefore come under a special category. However, strict rules guide the transfer of such elephants.

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- Section 40(2) of the WPA prohibits the acquisition, possession, and transfer of a captive elephant without the written permission of the Chief Wildlife Warden (CWW) of the State.
- The Environment Ministry in 2021 brought in an amendment that allowed the transfer of elephants for 'religious or any other purposes'.
- Captive Elephant (Transfer or Transport) Rules, 2024:
 - It lays down the procedure to be followed for the transfer of captive elephants within a State or between two States. The notification authorises the CWW of States and UTs to permit or reject the transfer of captive elephants.
 - The CWW shall permit the inter and intra-State transfers if the owner of the elephant is no longer in a position to maintain it or if the animal will have a better upkeep than in the present circumstances.
 - The transfer of captive elephants won't be permissible unless the genetic profile of the animal has been entered in the electronic monitoring application of the MoEFCC (Ministry of Environment, Forest and Climate Change).
 - The application for transfer of captive elephants should be made to the deputy conservator of forests (DCF), having jurisdiction over the area where the elephant is registered.
 - The DCF will conduct an inquiry and physical verification of the facility where the elephant is presently housed, and also the facility where the elephant is proposed to be housed and obtain a certificate of a veterinary practitioner, and then forward the details to the CWW, who within seven days will accept or reject the transfer.

The need to curb black carbon emissions

About Black carbon:

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- It is the dark, **sooty material emitted** alongside other pollutants when **biomass and fossil fuels are not fully combusted**.
- It **comprises** a significant portion of **particulate matter** or PM, which is an air pollutant. It is a **short-lived climate pollutant** with a lifetime of only days to weeks after release in the atmosphere.
- It is an **important contributor to warming** because it is **very effective at absorbing light** and heating its surroundings. It contributes to warming by converting incoming solar radiation to heat.
- It also **influences cloud formation** and impacts regional circulation and rainfall patterns. When deposited on ice and snow, black carbon and co-emitted particles reduce surface albedo (the ability to reflect sunlight) and heat the surface.
- **Impacts:**
- It contributes to **global warming** and poses severe risks. Studies have found a direct link between exposure to black carbon and a higher risk of heart disease, birth complications and premature death.
- It has a warming impact on climate that is 460-1,500 times stronger than CO₂.
- Most black carbon emissions in India arise from burning biomass, such as cow dung or straw, in traditional cookstoves.

Meghalaya: Researchers discover stunning new cicada species

About Butterfly Cicada:

- It is a **newly discovered** species of **cicada** belonging to the **genus Becquartina**. It brings the total number of known species in the genus Becquartina to seven.
- It was discovered in **Meghalaya**. It marks the first-ever record of this genus in the country.
- The **colorful wings** of the cicada **earned it the nickname “butterfly cicada”**, with the species name “bicolour” reflecting its two distinct colour forms.

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- **Features:**
 - The species is **localised in the Garo Hills** preferring thick forests and native vegetation. The **basal one-third of the hind wing is rich saffron** and the apical two-thirds are matte black with prominent rich saffron squarish spots.
- **What are Cicadas?**
- Cicada, (family Cicadidae) is any of a group of **sound-producing insects**. They have two pairs of membranous wings, prominent compound eyes, and three simple eyes (ocelli).
- Cicadas are **medium to large in size**, ranging from 2 to 5 cm (0.8 to 2 inches). More than **3,000 species** of cicadas are known. **Most of them are tropical** and occur in deserts, grasslands, and forests.
- Male cicadas produce loud noises by vibrating membranes (tymbals) near the base of the abdomen. Female cicadas usually **lay their eggs in woody plant tissues** that drop from the plant when, or shortly after, the eggs hatch.

System to identify pollution sources back in 2.0 version

About Decision Support System:

- It is a **numerical model-based framework** to **forecast Delhi's air quality and sources** of local and regional pollution which can impact the air. It is developed by **Indian Institute of Tropical Meteorology (IITM) Pune**.
- It provides quantitative information about:
 - The **contribution of emissions** from Delhi and the surrounding 19 districts
 - The contribution of emissions from **8 different emission sectors** in Delhi
 - The contribution from **biomass-burning activities** in the neighboring states
 - The effects of possible emission source-level interventions on the forecast

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- The system, which works only in winter and is stopped from March to August.
- The two models — System of Air Quality and Weather Forecasting And Research (Safar) and DSS — had temporarily stopped sharing data on air pollution for the country as there were differences between their forecasts and source contribution.

Panneer Thiratchai: A sweet treat from Cumbum that is available throughout the year

About Panneer Thiratchai:

- It is a **grape variety** mainly cultivated in the **Cumbum valley of Tamil Nadu**. A unique factor about 'panneer' grapes is that, these are harvested **all through the year** as against only during January and April in the rest of India.
- It is extremely popular among farmers because of quick **growth and early maturity**. The grapes grown are suitable for making wine, spirit, jams, canned grape juice and raisins.
- These grapes are rich in **vitamins, tartaric acid and antioxidants** and reduce the risk of some chronic diseases. They are also known for a superior taste apart from the purplish-brown colour. It has received **Geographical Indication Tag in 2023**.
- **Key facts about the Cumbum valley:**
- It is located at the **Western Ghats** in Tamil Nadu is known as the 'Grapes city of South India' and cultivates the Panneer Thiratchai.
- This variety which is also known as **Muscat Hamburg** constitutes almost 85% of the grape-growing areas in Tamil Nadu.

On sustainable building materials

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About Eco-Niwas Samhita:

- It is a **Residential Energy Conservation Building code** developed by **Bureau of Energy Efficiency (BEE)**.
- The code sets standards to limit heat gain and loss and ensure adequate natural ventilation and day lighting potential.
- It was launched in two parts
 - **ENS 2018 (Part 1)** sets minimum standards for building envelope designs for **energy-efficient** residential buildings.
 - **ENS Part 2** launched by the Bureau as ENS 2021 focuses on the building's code compliance and electromechanical systems. It also addresses other aspects such as, Energy Efficiency in Electro-Mechanical Equipment for Building Operation, Renewable Energy Generation, Embodied Energy of Walling Materials and Structural Systems.
- **What is Residential Envelope Transmittance Value?**
- It is a **metric measuring heat transfer** through a building's envelope. **Lower RETV** values lead to **cooler indoor environments** and decreased energy usage. For optimal efficiency, improved occupant comfort and lower utility expenses, it's recommended to maintain an RETV of 15W/m² or less.

A starry night: New lizard species discovered in India named after Van Gogh

About Cnemaspis vangoghi:

- It is a **new species of lizard** discovered from the **Southern Western Ghats** in **Tamil Nadu**. It is named for Dutch painter Vincent Van Gogh (1853–1890), as the striking colouration of the new species is reminiscent of one of his most iconic paintings, The Starry Night.

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- It is described as a **small-sized gecko** and has a distinctive yellow head and forebody, adorned with light blue spots on the back. It **prefers living among rocks** and can occasionally be found on buildings and trees.
- **Both species inhabit low-elevation, deciduous forests** within the Srivilliputhur-Megamalai Tiger Reserve, adding to the five previously known endemic vertebrates of the region.
- These **diurnal creatures** are mainly active during the cooler hours of early morning and evening, predominantly found on rocks.
- Their **restricted localities** present an intriguing **case of micro-endemism** in low-elevation species. Micro-endemism refers to a phenomenon in ecology and biogeography where a species or a group of species are restricted to a very small geographic area, often on the scale of a few square kilometers or even less.

UNESCO names 18 new Geoparks

About UNESCO Global Geoparks Network:

- These are **single, unified geographical areas** where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development.
- The UNESCO Global Geopark **designation was created in 2015** and recognizes “geological heritage of international significance”. These comprise a number of geological heritage sites of special scientific importance, rarity or beauty.
- The establishment of a UNESCO Global Geopark is **a bottom-up** process involving a strong local multiple partnership with long-term public and political support.
- It is **not a formal legislative designation**, though the defining geological heritage sites within a UNESCO Global Geopark must be protected under indigenous, local, regional or national legislation as appropriate.

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- This status **does not imply restrictions** on any economic activity inside a UNESCO Global Geopark where that activity complies with indigenous, local, regional and/or national legislation.
- **Recognition Period:** A UNESCO Global Geopark is given this designation **for a period of four years** after which the functioning of the site re-examined during a revalidation process.
- **Restrictions:** The selling or destruction of the geological value of a UNESCO Global Geopark or of material either from within the Geopark or from anywhere else in the world is not permitted.
- **Global Geoparks Network:**
- It is a **non-profit International Association** officially established in 2014 subject to French legislation. It is the official partner of UNESCO for the operation of the UNESCO Global Geoparks.

‘IRRI-ISARC targets low-methane rice varieties’

About International Rice Research Institute:

- It is an independent, nonprofit, research and educational institute, founded in 1960 by the Ford and **Rockefeller foundations** with support from the Philippine government.
- It is the world’s **premier research organization** dedicated to reducing poverty, hunger, and malnutrition through rice science.
- It aims to **improve the health and welfare** of those who **depend on rice-based agri-food** systems and promote and protect the environmental sustainability of rice farming for future generations.
- IRRI's research for development is characterized by its **collaborative nature:** from alliances with advanced research institutes; through strong collaborations and capacity development with governments and national agricultural research and extension systems.

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- The Government of India vide its Gazette notification recognises IRRI as an international organisation and accorded **privileges and immunities** (As per UN Privileges and Immunities Act 1947) that are applicable to United Nations (UN) organizations, for all offices and activities of IRRI in India including, for the IRRI South Asia Regional Centre.
- **Headquarter:** Los Banos, Philippines.

METOC SEMINAR "MEGHAYAN 2024" - AN INSIGHT INTO THE FRONTLINE OF CLIMATE CHANGE

- **About INDRA App:**
- The **Indian Naval Dynamic Resource for Weather Analysis** (INDRA) app will help to disseminate weather related information and forecasts empowering optimal & quick decision making.
- The application has been developed by **BISAG** (Bhaskaracharya National Institute for Space Applications and Geo-informatics) in coordination with **Directorate of Naval Oceanology and Meteorology**, Indian Navy.
- **Key facts about BISAG**
- It is an Autonomous Scientific Society registered under the **Societies Registration Act, 1860**.
- It undertakes technology development & management, research & development, facilitate National & International cooperation, capacity building and support technology transfer & entrepreneurship development in area of geo-spatial technology.
- The organisation has three main domain areas: Satellite Communication, Geo-informatics and Geo-spatial technology.
- **Nodal Ministry:** Ministry of Electronics & Information Technology (MeitY), Government of India.

SCIENCE AND TECHNOLOGY

New waste management technology could improve life in rural India, claims study

About BioTRIG:

- It is a **new waste management technology** based on the **pyrolysis system**.
- It works by sealing the **waste inside an oxygen-free chamber** and heating it above 400 degrees Celsius. Useful chemicals are produced in the process.
- In the study, the researchers outlined that three products of pyrolysis — **bio-oil, syngas and biochar fertiliser** — could help rural Indians live healthier and greener lives.
- **Significance**
 - The syngas and bio-oil facilitate heat and power the pyrolysis system in future cycles and surplus electricity is utilized to power local homes and businesses.
 - The **clean-burning bio-oil** to replace dirty cooking fuels in homes and using biochar to store carbon, while improving soil fertility.
 - Computer simulations showed that the BioTRIG system could also be effective in real-world applications.
 - It could help reduce greenhouse gas emissions from communities by nearly 350 kg of CO₂-eq per capita per annum.
 - It could help rural Indians cut indoor air pollution, improve soil health, and generate clean power
- **What is Pyrolysis?**
- It is a kind of **chemical recycling** that turns leftover organic materials into their component molecules.
- It works by sealing the waste inside an oxygen-free chamber and heating it to more than 400 degrees Celsius, producing useful chemicals in the process.

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Juice jacking: RBI issues warning against charging mobile phones using public ports

About Juice jacking:

- The term “juice jacking” was first coined in 2011 by investigative journalist Brian Krebs.
- It is a form of **cyberattack where a public USB charging port is tampered** with and infected using hardware and software changes to steal data or install malware on devices connected to it.
- The attack is used by hackers to steal users’ **passwords, credit card information, addresses**, and other sensitive data stored on the targeted device.
- This type of attack has been a growing concern, with incidents reported in various public spaces such as airports, hotels, and shopping centres.
- RBI emphasised the importance of protecting personal and financial data while using mobile devices.
- **How to prevent such attacks?**
 - To protect themselves from juice jacking and other cyber threats, mobile phone users have to use their personal chargers and avoid connecting their devices to public USB ports.
 - Additionally, using a virtual private network (VPN) and ensuring that devices have the **latest security updates** installed can help mitigate the risk of cyberattacks.

Bengaluru bomb blast: What are improvised explosive devices, or IEDs?

About Improvised Explosive Devices:

- IED is a type of **unconventional explosive weapon** that can take any form and be activated in a variety of ways.

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- An IED is basically a home-made bomb because they are improvised.
- IEDs can **come in many forms**, ranging from a small pipe bomb to a sophisticated device capable of causing massive damage and loss of life.
- They can be **deployed using a vehicle**, carried, placed, or **thrown by a person**, delivered in a package, or concealed on the roadside.
- While they have been in use for over a century, the term “IED” first entered common usage during the United States’ Iraq invasion (beginning in 2003), where such bombs were commonly used against US forces.
- **Components**
- Each IED comprises a few basic components, which can come in various forms, depending on resources available to the bomb-maker.
- These include an **initiator** or a **triggering mechanism**, (which sets the explosion off), a **switch** (which arms the explosive), a **main charge** (which causes the explosion), a **power source** (since most IEDs contain an electric initiator, they require an electronic power source), and a container.
- Additionally, IEDs may be packed with additional materials or “enhancements” such as nails, glass, or metal fragments designed to increase the amount of shrapnel released by the explosion — and thus the damage it causes.
- Enhancement may also include hazardous materials such as **toxic chemicals, or radioactive circumstances** — an IED packed with, say, depleted Uranium will be colloquially **called a “dirty bomb”**
- **Some common materials** used to build IEDs include **fertilisers** such as ammonium nitrate and urea nitrate, gunpowder, and hydrogen peroxide.

Cabinet approves 3 chip plants, including two by Tata, at estimated investment of Rs 1.26 lakh crore

About Semiconductor fabrication:

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- A semiconductor fab -- short for fabrication -- is a manufacturing plant in **which raw silicon wafers** are turned into **integrated circuits** (ICs).
- The process includes creating intricate patterns on the wafer **using light and chemicals**, depositing different materials to form components, and etching away unwanted materials.
- This results in the formation of transistors, interconnects, and other elements that make up a semiconductor device.
- A semiconductor fab facility **always includes a clean room** because its environment is carefully controlled to eliminate dust and vibrations and to keep the temperature and humidity within a specific narrow range.
- **What kind of technology is used in fabs?**
- **Photolithography:**
 - It is a crucial step in semiconductor fabrication where **patterns are transferred onto silicon wafers**.
 - A photosensitive material, called photoresist, is applied to the wafer and exposed to light through a mask.
 - The exposed areas are chemically etched, creating the desired pattern. This process enables the precise definition of features on the wafer, enabling the creation of intricate circuitry.
- Deposition techniques like **chemical vapor deposition** (CVD) and **physical vapor deposition** (PVD) to add thin layers of materials; etching processes to remove unwanted materials; and various metrology tools for inspection and measurement.

India to replace 2.5 million tonnes of conventional urea with nano urea in FY24

About Nano Urea:

- It is a **nanotechnology-based** revolutionary Agri-input that provides nitrogen to plants.

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- It is developed and **patented by the Indian Farmers Fertiliser Cooperative Limited (IFFCO)**.
- IFFCO Nano Urea is the **only nano fertilizer approved by the Government of India** and **included in the Fertilizer Control Order (FCO)**.
- **Features:**
 - Compared to conventional urea prill, Nano Urea has a **desirable particle size** of about 20-50 nm, and **more surface area** (10,000 times over 1 mm urea prill), **and number of particles** (55,000 nitrogen particles over 1 mm urea prill).
 - It **contains 4.0 % total nitrogen (w/v)**.
- **Benefits:**
 - It is produced by an **energy-efficient, environment-friendly production process** with **less carbon footprints**.
 - **Increased availability to crops by more than 80%**, resulting in higher nutrient use efficiency.
 - It is expected to **improve crop productivity, soil health, and nutritional quality** of produce and address the "imbalanced and excessive use" of conventional fertilizer.

Decoding the script: On the Genome India Project and its sequencing 10,000 Indian genomes

About Genome India Project:

- It is a **pan-India initiative** focused on the whole genome sequencing of representative populations across India.

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- **Goal:** The goal is to start with and execute whole genome sequencing and subsequent **data analysis of 10,000 individuals** representing the country's diverse population.
- This is a mission-mode, multi-institution consortium project, the first of its kind in India, supported and **funded by the Department of Biotechnology**, Government of India.
- The **specific aims** of the project are:
 - **Create** an exhaustive **catalogue of genetic variations** (common, low frequency, rare, single nucleotide polymorphisms, or SNPs, and structural variations) **in Indians**.
 - **Create a reference haplotype structure for Indians**. This reference panel can be used for imputing missing genetic variation in future studies.
 - **Design genome-wide arrays for research** and diagnostics at an affordable cost.
 - **Establish a biobank for DNA and plasma** collected for future use in research.
- **What is Genome?**
- A genome is the **complete set of genetic information** in an organism.
- In living organisms, the genome is stored in long molecules of DNA called **chromosomes**.
- In humans, the genome consists of **23 pairs of chromosomes** located in the cell's nucleus, as well as a small chromosome in the cell's mitochondria.
- A genome **contains all the information** needed for an individual to develop and function.

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Global malnourishment: 1 in 8 people are obese

About Obesity:

- Obesity is defined by **excess body fat** (adipose tissue) that may impair health.
- It is a long-term (**chronic**) **health condition** that progresses over time.
- **Causes:**
 - Obesity is the result of an **imbalance between daily energy intake and energy expenditure**, resulting in excessive weight gain.
 - It is a **multifactorial disease** caused by a myriad of genetic, cultural, and societal factors.
 - Various genetic studies have shown that obesity is **extremely heritable**, with numerous genes identified with adiposity and weight gain.
 - **Other causes** of obesity **include reduced physical activity, insomnia, endocrine disorders, medications**, the accessibility and consumption of excess carbohydrates and **high-sugar foods**, and decreased energy metabolism.
- Healthcare providers commonly **use the Body Mass Index (BMI) to define obesity** in the general population.
 - A **BMI over 25 is considered overweight, and over 30 is obese**.
- Obesity is **associated with cardiovascular disease, dyslipidemia**, and insulin resistance, causing **diabetes, stroke, gallstones, fatty liver**, hypoventilation syndrome, sleep apnea, **and cancers**.
- It is the **second-most common cause of preventable death** after smoking.
- Obesity **needs multiprong treatment** strategies and may **require lifelong treatment**.
- **What is Body Mass Index (BMI)?**
- It is a **person's weight in kilograms divided by the square of their height** in meters. For example, a BMI of 25 means 25 kg/m².
- For most adults, an **ideal BMI is in the 18.5 to 24.9 range**.

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- A high BMI **can indicate high body fatness.**
- BMI screens for weight categories that may lead to health problems, but it does not diagnose the body fatness or health of an individual.

NASA satellite captures 'odd holes' in clouds caused by aeroplanes

About Cavum clouds:

- These clouds are also known as “**hole-punch clouds** or **fallstreak holes.**”
- **How are Cavum clouds formed?**
 - These are form when aeroplanes pass through layers of **altocumulus clouds**, which are mid-level clouds containing **supercooled water droplets** (water below freezing temperature but still in liquid form).
 - As the aircraft moves through, a process **known as adiabatic expansion** can cause the water droplets to freeze into ice crystals.
 - These ice crystals eventually become too **heavy and fall out of the cloud layer**, creating a hole in the clouds.
 - They are formed when planes pass through at a relatively steep angle.
- **What are Altocumulus clouds?**
- These are typically found in groups or **heaps clumped together.**
- They're found in the middle layer of the troposphere, lower than cirrocumulus and higher than their cumulus and stratocumulus counterparts.
- The term mackerel sky is also common to altocumulus (and cirrocumulus) clouds that display a pattern resembling fish scales.

Scientists reveal secrets of Earth's magnificent desert star dunes

About Star dunes:

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- Star dunes - or **pyramid dunes** - are named after their **distinctive shapes** and reach hundreds of metres in height.
- They are found in **Africa, Asia and North America** and also have been spotted on Mars and on Saturn's large moon Titan.
- Star dunes make up just **under 10% of** the dunes in Earth's deserts. These are the tallest ones, surpassing other types such as crescent-shaped barchan dunes and straight and lengthy linear dunes.
- These are formed in areas with **complex wind regimes**, where winds blowing from different directions and net sand accumulation, points within the desert where big piles of sand can be blown around to form giant dunes.
- **Geographical distribution:**
 - Earth's largest star dunes are found in the **Badain Jaran desert** in western **China**.
 - **Namib Sand Sea** in Namibia, large sand seas in Algeria such as the Grand Erg Oriental and Grand Erg Occidental, and Rub' al Khali in Saudi Arabia.
 - In North America, Great Sand Dunes National Park in Colorado contains a series of them.
- **Recent research about Star dunes**
- The research team from the UK have estimated the age of star dune of Lala Lallia in Morocco, for the first time.
- The scientists used a technique called **luminescence dating** to work out the age of the star dune. The method calculates when the grains of sand were last exposed to daylight.

Cabinet Approves Ambitious IndiaAI Mission to Strengthen the AI Innovation Ecosystem

About IndiaAI Mission:

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- It will establish a comprehensive ecosystem **catalyzing AI innovation** through strategic programs and partnerships across the public and private sectors.
- It will be implemented by **'IndiaAI' Independent Business Division** (IBD) under Digital India Corporation (DIC).
- It has the following components:
 - **IndiaAI Compute Capacity:** It will build a high-end scalable AI computing ecosystem to cater to the increasing demands from India's rapidly expanding AI start-ups and research ecosystem. It will comprise AI compute infrastructure of 10,000 or more Graphics Processing Units (GPUs), built through public-private partnership. It will act as a one-stop solution for resources critical for AI innovation.
 - **IndiaAI Innovation Centre:** It will undertake the **development and deployment** of indigenous **Large Multimodal Models** (LMMs) and domain-specific foundational models in critical sectors.
 - **IndiaAI Datasets Platform:** It will streamline access to quality non-personal datasets for AI Innovation. A unified data platform will be developed to provide a one-stop solution for seamless access to non-personal datasets to Indian Startups and Researchers.
 - **IndiaAI Application Development Initiative:** It will promote the AI applications in critical sectors for the problem statements sourced from Central Ministries, State Departments, and other institutions.
 - **IndiaAI FutureSkills:** It is conceptualized to mitigate barriers to entry into AI programs and will increase AI courses in undergraduate, masters-level, and Ph.D. programs. Further, Data and AI Labs will be set-up in Tier 2 and Tier 3 cities across India to impart foundational level courses.
 - **IndiaAI Startup Financing:** It is conceptualized to support and accelerate deep-tech AI startups and provide them streamlined access to funding to enable futuristic AI Projects.

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- **Safe & Trusted AI:** It will enable the implementation of Responsible AI projects including the development of indigenous tools and frameworks, self-assessment checklists for innovators and other guidelines and governance frameworks.

The IndiaAI Mission will propel innovation and build domestic capacities to ensure the tech sovereignty of India.

WHO highlights growing HIV drug resistance to dolutegravir

About Dolutegravir (DTG):

- It is an **antiviral drug used with other medications to treat** human immunodeficiency virus (**HIV**) **infection**, the virus that can cause the acquired immunodeficiency syndrome (AIDS).
- Dolutegravir is in a class of medications called **HIV integrase inhibitors**. It works by **decreasing the amount of HIV** in your blood and **increasing the number of immune cells**.
- Although dolutegravir **does not cure HIV**, using it along with other medications may decrease your chance of developing AIDS and HIV-related illnesses such as serious infections or cancer.
- WHO has recommended the use of dolutegravir as **the preferred first- and second-line HIV treatment** for all population groups.
- It is more effective, easier to take and **has fewer side effects** than other drugs currently in use.
- **Common side effects** of dolutegravir **may include:**
 - **headache;**
 - tiredness; or

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- sleep problems (**insomnia**).
- **Some side effects can be serious.** These include severe skin rashes and allergic reactions, liver problems, and drug interactions.
- **What is HIV/AIDS?**
- AIDS is a **chronic**, potentially life-threatening condition caused by **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 by 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.

Parrot Fever: Here's all you should know about the deadly disease that has claimed five lives in Europe

About Parrot Fever:

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- It is also known as It is caused by the **bacterium Chlamydophila psittaci** (C. psittaci).
- The bacteria can infect many mammals — including dogs, cats and horses — but most often infects birds. It **primarily affects birds** but can be **transmitted to humans** through inhalation of contaminated particles from feathers or droppings.
- The disease is more common in people who come into close contact with birds — such as poultry workers, veterinarians and pet-bird owners.
- Humans can catch psittacosis by inhaling airborne particles containing C. psittaci, but **human-to-human transmission** of the disease is very rare, with only a handful of cases ever reported.
- **Symptoms:** Includes fever, headache, muscle pains, coughing, difficulty breathing and symptoms resembling pneumonia. Severe cases may lead to complications such as **myocarditis** or other neurological symptoms.
- **Treatment:** Treatment typically involves **antibiotics**, such as doxycycline or tetracycline, administered orally for two to three weeks.

Dressed in saree, meet India's first-ever AI teacher robot named 'Iris'

About IRIS AI Robot:

- It is powered by **Robotics and Generative AI technologies**. It has a dedicated Intel processor and coprocessor for seamless performance.
- Its **Android App interface** allows users to control and interact with the robot, ensuring a personalized learning experience.
- It is not just a passive presence in the classroom but a **dynamic voice assistant and interactive learning tool**. It acts as an **AI voice-controlled assistant**, responding to user queries, providing explanations, and delivering educational content.
- It engages users in interactive learning experiences through personalized content generation, quizzes and interactive activities.

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- Equipped with a 4-wheel chassis, Iris can move freely within its environment, facilitating interaction with users and navigating through learning spaces.
- Its hands, featuring 5 DoF each, enable Iris to manipulate objects, perform demonstrations and engage in hands-on learning activities.
- The robot can teach subjects from **nursery to Class 12**. The robot currently speaks **three languages - English, Hindi and Malayalam**.
- It is created by **the Maker Labs**.

Transcription factors that regulate development of light organs and bioluminescence in firefly identified

About Fireflies:

- Fireflies, also known as **lightning bugs, are beetles**. They get the names “firefly” and “lightning bug” because of the flashes of light they naturally produce. This phenomenon is called **bioluminescence**.
- There are about **2,000 firefly species**. They are found in **temperate and tropical regions** on every continent **except Antarctica**.
- **Features:**
 - They are **soft-bodied beetles** that range from 5 to 25 mm (up to 1 inch) in length.
 - Fireflies **use their light**, called bioluminescence, to light up the ends of their abdomen **to communicate** with their fellow fireflies. (Animals that produce light are called luminescent).
 - They have **special organs** under their abdomens that take in oxygen. Inside special cells, they combine the oxygen with a substance called luciferin to make light with almost no heat.
 - Each firefly species has its own pattern of light flashing and **males use this pattern to attract females** of the same species.

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- **Bioluminescence in fireflies is nearly 100 percent efficient**, meaning little energy is wasted to produce their light.
- From egg to adulthood, fireflies can **live up to a year**. Most fireflies are **nocturnal**, although some species are diurnal. They mostly **feast on plant pollen and nectar**.

‘Ore shortage’ hitting steel production, says sponge iron industry, seeks ban on exports

About Sponge Iron:

- **Direct-reduced iron (DRI)**, also called sponge iron, is **produced from the direct reduction of iron ore** (in the form of lumps, pellets, or fines) by a reducing gas produced from natural gas or coal.
- The **reducing gas is a mixture**, the **majority of which is hydrogen (H₂) and carbon monoxide (CO)**, which act as reducing agents.
- This process of reducing the iron ore in solid form by reducing gases is called **direct reduction**.
- **Why is it called Sponge Iron?**
 - The process of **sponge iron manufacturing involves the removal of oxygen** from iron ore.
 - When that happens, the **departing oxygen causes micropores** in the ore body, turning it porous.
 - When the eventual product is observed under a microscope, it resembles a **honeycomb structure**, which looks spongy in texture. Hence the name sponge iron.
- **Significance:**
 - Its significance in the steel industry ranges from an **alternative to scrap to boosting furnace efficiency**.
 - It is used as a **substitute for scrap in induction and electrical furnaces**.

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- The reason for this is that **melting scrap is expensive and also in short supply**, so sponge iron is the perfect alternative when it comes to using it in the production of high-quality steel.
- It is an iron source **that is relatively uniform in composition**, and virtually free from tramp elements.
- **India is the world's largest producer of sponge iron**, most of which is produced primarily through the coal-based method of production. India produces **20% of the world's sponge iron** with over 200 plants.

Samudrayaan's key test is complete, says govt

About Samudrayaan Mission:

- It is India's first manned mission to **explore the deep ocean**.
- It is **aimed to develop a self-propelled manned submersible** to carry three human beings to a water depth of 6,000 meters in the ocean.
- It is designed to **study the deep ocean resources** and **conduct biodiversity assessments** as well.
- The project is **part of the larger Deep Ocean Mission**, which supports the Central Government's Blue Economy policy.
- Nodal Ministry: **Ministry of Earth Sciences (MoES)**
- **What is MATSYA 6000?**
- It is a **manned submersible vehicle** developed by the National Institute of Ocean Technology (NIOT), Chennai.
- It was developed **under the Samudrayaan mission** to facilitate humans in the deep ocean in exploring mineral resources. It has an **endurance of 12 hours** of operational period and **96 hours in case of emergency**.
- It will **allow scientific personnel to observe** and understand **unexplored deep-sea areas** by direct interventions. Further, it will enhance the capability for deep-sea man-rated vehicle development.

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- Expected to be launched in 2024-25, it would **make India only one among six countries(US, Russia, Japan, France, and China)** to have piloted a crewed under-sea expedition beyond 5,000 metres.
- **Key Facts about Deep Ocean Mission:**
- It is a mission-mode project to **support the Blue Economy Initiatives** of the Government of India.
- It has been launched as a **Central Sector Scheme of Ministry of Earth Sciences.**
- It is a high-level, **multi-ministerial, multi-disciplinary** programme for a better **understanding of the deep sea living and non-living resources of the Indian Ocean.**
- The Mission consists **of six major components:**
 - Development of Technologies for Deep Sea Mining and Manned Submersible and Underwater Robotics;
 - Development of Ocean Climate Change Advisory Services;
 - Technological innovations for exploration and conservation of deep-sea biodiversity;
 - Deep Ocean Survey and Exploration;
 - Energy and freshwater from the Ocean;
 - Advanced Marine Station for Ocean Biology;

Ministry of Heavy Industries announces Electric Mobility Promotion Scheme 2024

About Electric Mobility Promotion Scheme 2024:

- It aims to further accelerate the **adoption of Electric Vehicles** in the country. It is a fund limited scheme with a total outlay **of Rs. 500 crore** for the period **of 4 months.**

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- It is for faster adoption of **electric two-wheeler (e-2W) and three-wheeler (e-3W)** to provide further impetus to the green mobility and development of electric vehicle (EV) manufacturing eco-system in the country.
- **Eligible EV categories**
 - Two Wheelers (electric) (e-2W)
 - Three-wheeler (electric) including registered e-rickshaws & e-carts and L5 (e-3W)
- The scheme will be applicable mainly to those e-2W and e-3Ws registered for commercial purposes. Further, in addition to commercial use, privately or corporate owned registered e-2W will also be eligible under the scheme.
- To encourage advance technologies, the benefits of incentives, will be extended to only those vehicles which are fitted with advanced battery.
- **Nodal Ministry:** Ministry of Heavy Industries

Meet Devin: World's 1st fully autonomous AI software engineer and here's what it can do

About Devin AI:

- It is the world's first **AI software engineer**.
- **What can Devin do?**
 - The AI agent comes with some advanced capabilities in **software development, including coding, debugging**, problem-solving, etc.
 - It uses **machine learning algorithms** to constantly learn and improve its performance and adapt according to new challenges.
 - In simple words, Devin can build and deploy apps end-to-end and can also train and fine-tune its own AI models. It can plan and **execute complex engineering** tasks that would require thousands of decisions.

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- It can recall relevant context at each step, self-learn over time, and even fix mistakes. This software engineer has the ability to proactively collaborate with the user.
- It **reports progress in real-time**, is capable of accepting feedback, and works along with the user through design choices as needed.
- **Performance**
 - On the **SWE-Bench benchmark** (a benchmark for evaluating large language models on real-world software issues found on GitHub), Devin correctly resolved 13.86 per cent of the issues without any assistance.
 - It is capable of **augmenting efficiency and speed** within software development processes by automating repetitive tasks, instantly generating code, expediting project timelines, and cutting down development expenses substantially. It is immune to human errors or inconsistencies.

Lab to monitor sea water quality and testbed to track monsoon systems inaugurated

About Atmospheric Research Testbed:

- It is established by **Indian Institute of Tropical Meteorology (IITM)**, MoES at Silkheda for better understanding on processes governing monsoon convection.
- ART-CI will have an extensive set of **remote-sensing and in-situ instruments** that will provide continuous observations of convection, clouds, precipitation, soil moisture, radiation, microphysics to capture major modes of variability.
- **Phases**
 - In the first phase, an ART **would be set up in central India** to study convection, land-atmosphere interactions and precipitation processes. It is expected to provide a sound basis for other research testbed programs in climatologically interesting and important areas.

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- In the second phase, ART is to be set **up in the northeast/eastern** part of the country to study severe thunderstorm processes.
- **Objectives**
 - It is for **better understanding on processes governing monsoon convection** and land-atmosphere interactions over the monsoon core region and to measure relevant meteorological parameters using the state-of-the-art observational systems.
 - To organize intense observational campaigns along with **weather prediction model runs** for testing hypotheses and to improve physical parameterizations in the models related to convection and land surface processes.
 - **Outreach, Training and Dissemination of ART-CI data sets.** The testbed will be made into an international facility for intense observational campaigns and testing physical parameterization schemes including sensitivity runs.
- It has nearly 25 high-end instruments like the aethalometer for aerosol studies, cloud condensation nuclei counter, laser ceilometer to measure cloud sizes, micro rain radar to calculate raindrop size and its distribution have been installed.
- **A Ka-band cloud radar and a C-band doppler** weather radar will also help track the movement of rain-bearing systems over this zone.

International Day of Mathematics 2024: Date, Theme, History, and Significance

About International Day of Mathematics:

- International Day of Mathematics, **or Pi Day**, is celebrated on **March 14** every year to recognize the mathematical constant, Pi.
- **The theme of** International Day of Mathematics 2024 is "**Playing with Math**".
- **Why March 14?**

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- The **approximate value of Pi is 3.14.**The date, when written **in the format of month/day** (3/14), **matches the first three digits** of the mathematical constant.
- **History:**
 - The first Pi Day was celebrated in 1988 by physicist Larry Shaw at the San Francisco Exploratorium.
 - In 2009, the United States House of Representatives designated March 14 as Pi Day.
 - **UNESCO marked Pi Day as the 'International Day of Mathematics'** during its general conference **in 2019.**
 - Mathematician and physicist **Albert Einstein**, known for the "General Theory Of Relativity," **was born on Pi Day in 1879.**
- **What is Pi (π)?**
- Pi is a **mathematical constant** that represents the ratio of the circumference of a circle to its diameter.
- It is an infinitely long, irrational number, and its exact value cannot be known.
- Pi is **roughly equal to 3.14, or 22/7.**
- **History:**
 - Pi has been known for nearly 4,000 years and was **discovered by the ancient Babylonians.**
 - One of the first calculations of pi was carried out by Greek mathematician Archimedes of Syracuse (287 B.C. to 212 B.C.).
 - It also has a **symbol, 'π.'**The symbol π was **devised by British mathematician William Jones in 1706.**
- **Applications:** It is used in a wide variety of mathematical and scientific calculations, including **geometry, trigonometry, calculus,** and more.

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Lyme disease reported in Kerala's Ernakulam

About Lyme Disease:

- It is a **vector-borne infectious disease** caused by the bacterium *Borrelia burgdorferi*.
- **Transmission:**
 - It is primarily **transmitted to humans** through the **bite of infected black-legged ticks**, often referred to as deer ticks.
 - Lyme disease **cannot spread:**
 - between humans
 - from pets to humans
 - through air, food, or water
 - Lice, mosquitoes, fleas, and flies also do not transmit it.
- It is **prevalent in wooded and grassy areas** worldwide, **particularly during warmer months**. It is most commonly reported in North America, Europe, and some parts of Asia.
- **Symptoms:**
 - Early symptoms of Lyme disease **start between 3 to 30 days** after an infected tick bite you.
 - It commonly manifests with symptoms such as **fever, headache, fatigue**, and a **characteristic "bull's-eye"** red rash called erythema migrans (EM).
 - Erythema migrans serves as a hallmark sign, aiding in the early diagnosis and management of this tick-borne illness.
 - Left untreated, it can lead to more **severe complications affecting the joints, heart, and nervous system**.

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- **Treatment:**
 - The standard treatment for Lyme disease **is antibiotics**, such as doxycycline or amoxicillin, especially in the early stages.
 - In later stages, intravenous antibiotics may be required.

What is SIMA, Google Deepmind's new AI that can play video games with you

About SIMA:

- **Scalable Instructable Multiworld Agent (SIMA) as an AI Agent which can process data and take action themselves.** It can be called a generalist AI Agent that is capable of doing different kinds of tasks.
- **Features**
 - It is like a **virtual buddy** who can understand and follow instructions in all sorts of virtual environments
 - It can accomplish tasks or solve challenges assigned to it. It “understands” commands as it has **been trained to process human language.**
 - One distinct feature of this AI Agent is that it is **capable of learning and adapting.**
 - SIMA does this through the interactions it has with the user. The more you interact with SIMA, the smarter it gets by learning from its experiences and improves over time. This makes it better at understanding and fulfilling user requests.
- However, SIMA goes beyond that and can **follow instructions in a variety of game** This could potentially introduce more helpful AI agents for other environments.
- These research marks the first time an agent has demonstrated it can understand a broad range of gaming worlds and follow natural-language instructions to carry out tasks within them, as a human might.

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First drug to treat common, lethal liver disease gets US nod

About Nonalcoholic Steatohepatitis (NASH):

- It is **liver inflammation and damage** caused by a buildup of **fat in the liver**. It is part of a group of conditions called **nonalcoholic fatty liver disease**.
- NASH can get worse and cause **scarring of the liver**, which leads to cirrhosis. But the disease doesn't always get worse.
- It is similar to the kind of liver disease that is caused by long-term, heavy drinking. But NASH occurs in people who don't drink alcohol.
- **Symptoms:** As NASH progresses and liver damage gets worse, one may start to have symptoms such as:
 - Fatigue (feeling tired all the time).
 - Weight loss for no clear reason.
 - General weakness.
 - An ache in the upper right part of your belly.
- **Causes:** Things that put people at risk for NASH and for liver damage include: **obesity, Insulin resistance and type 2 diabetes, high cholesterol** and high triglycerides, metabolic syndrome etc.
- Treatment for NASH includes managing conditions that increase your risk for NASH or make it worse. You can:
 - Reduce your total cholesterol level.
 - Reach a healthy weight. Losing 3% to 10% of your total body weight can make a difference.
 - Control diabetes.

What is the HbA1C test and why is it used to check for diabetes?

About Hemoglobin A1C (HbA1C) Test:

- It is one of the most commonly-used tests to **diagnose pre-diabetes and diabetes** (both type 1 and type 2) and to help manage diabetes. It is also known as the **glycated haemoglobin or glycosylated haemoglobin test**.
- It is an important blood test that gives a good indication of how well your diabetes is being controlled.
 - Hemoglobin is the part of your red blood cells that carries oxygen from your lungs to the rest of your body.
- **How does the test work?**
- Sugar enters your bloodstream from the food you eat. The sugar or glucose, attaches to the haemoglobin in your red blood cells. Haemoglobin is a protein that transports oxygen to all the cells of your body.
- Everybody has some sugar attached to their haemoglobin. Those with pre-diabetes and diabetes, however, have more. The HbA1C test measures the **percentage of your red blood cells** that have sugar-**coated, or glycated, haemoglobin**.
- **What is Diabetes?**
- It is a chronic disease that occurs when the pancreas **can no longer make insulin**, or the body cannot make good use of the insulin it produces.
 - Insulin is a hormone that regulates blood glucose.
- Not being able to **produce or use insulin effectively leads** to raised glucose levels in the blood, known as hyperglycaemia.

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- Over the long-term high glucose levels are associated with damage to the body and failure of various organs and tissues. Diabetes is a major cause of **blindness, kidney failure, heart attacks**, stroke, and lower limb amputation.

FMD disease affects 60 per cent milch cattle in Pilibhit

About Foot-and-Mouth Disease (FMD):

- It is a highly **contagious viral disease of livestock** that has a significant economic impact. The disease affects cattle, swine, sheep, goats and other cloven-hoofed ruminants.
 - **Intensively reared animals** are **more susceptible** to the disease than traditional breeds.
 - It **does not affect horses, dogs, or cats.**
- It is a **Transboundary Animal Disease (TAD)** that deeply affects the production of livestock and disrupts regional and international trade in animals and animal products.
- It is also **not related to hand, foot and mouth disease**, which is a common childhood illness caused by a different virus.
- The organism which causes FMD is **an aphthovirus** of the family Picornaviridae.
 - There are **seven strains** (A, O, C, SAT1, SAT2, SAT3, and Asia1) which are **endemic in different countries worldwide.**
 - **Immunity to one type does not protect an animal against other types** or subtypes.
- FMD is characterised **by fever and blister-like sores** on the tongue and lips, in the mouth, on the teats and between the hooves.
- The disease is **rarely fatal in adult animals**, but there is often **high mortality in young animals.** The disease **causes severe production losses**, and while the majority of affected animals recover, the disease often leaves them weakened and debilitated.

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- It was the first disease for which the World Organisation for Animal Health (WOAH, founded as OIE) established official status recognition.

Apple, Samsung smart rings to be available soon: What's wearable tech? Is it worth buying? Here is all you should know

About Wearable technology:

- Wearable technology, also **known as "wearables,"** is a category of **electronic devices that can be worn as accessories**, embedded in clothing, implanted in the user's body, or even tattooed on the skin.
- These come in many shapes and sizes, including smart watches and sports watches, fitness trackers, head-mounted displays, smart jewellery, smart clothing and even implantable devices. At a minimum, wearable devices are **equipped with sensors, software and connecting technology.**
- **Working:**
 - The sensors gather information from the person wearing the device and the software gathers the data and sends it to a device with processing capacity via a wireless connection.
 - The ecosystem on which wearable technology **works is known as the Internet of Things (IoT).**
 - It is the same principle as smart technology used at home, on devices such as thermostats that can be operated from a mobile device outside the home, or smart speakers, but applied at a personal level.
 - What makes an IoT solution even more attractive is the interpretation of the data gathered by the sensors.
- **Benefits:**

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- Smart rings can provide **more accurate readings than smartwatches**, because they can use the capillaries (small blood vessels) in your finger to get their readings.
- Another advantage of smart rings is that they have a longer battery life than smartwatches.
- **Drawbacks:**
 - Smart rings won't be able to replicate the functionality offered by a smartwatch. Also, they are unlikely to come with GPS or a screen.

Astronomers detect seven potential 'ghost particles' that passed through planet

About IceCube Neutrino Observatory:

- It is a device at the **earth's South Pole** that detects subatomic particles **called neutrinos**. It was built and is maintained by the IceCube Collaboration, which consists of many universities worldwide led by the University of Wisconsin, Madison.
- It consists of **thousands of sensors buried** more than 1.4 km beneath the ice plus multiple detectors above the surface. It is the world's **biggest 'neutrino telescope'**.
- **Working:**
 - When a neutrino interacts with the ice surrounding the sensors, it may produce some charged particles and some radiation.
 - The sensors detect the radiation to infer the detection of a neutrino and use the radiation's properties to understand more about the particle.
 - Neutrinos come in different types. IceCube can identify some of them in real-time.

United States bans white asbestos, last of its kind still in use

About Asbestos:

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- Asbestos is a generic term for a **group of six silicate minerals** with similar but distinct properties. These are generally divided into **two sub-groups; serpentine and amphiboles**. Serpentine asbestos (chrysotile or white asbestos) was the most commonly used type of asbestos.
- **Properties:**
 - These are **resistant to heat and corrosion**.
 - It is non-flammable even at very high temperatures.
 - It is extremely flexible and durable.
 - It has good **tensile strength**.
 - It has **low heat conductivity and high resistance** to electricity.
- It was once widely used in **construction materials, insulation and consumer goods**. India's asbestos requirement is met through **imports from Russia, Kazakhstan, Brazil and China**.
- The newly banned **chrysotile asbestos** in USA was primarily used by the **chlor-alkali industry**, which produces chlorine bleach, caustic soda and other chemicals used in water treatment.
- **Health impacts:**
 - According to the World Health Organization, all varieties of asbestos are associated with conditions such as **lung cancer, mesothelioma, laryngeal cancer, ovarian cancer and asbestosis**, a lung fibrosis.
 - If products containing asbestos are disturbed, tiny asbestos fibers are released into the air. When asbestos fibers are breathed in, they may get trapped in the lungs and remain there for a long time.

What is Nvidia's Project GROOT, designed to create AI-powered humanoid robots

About Project GROOT:

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- The project GR00T stands for **Generalist Robot 00 Technology**. It is a **multimodal AI system** that acts as the mind for humanoid robots, allowing them to learn new skills and interact with the real world.
- Robots built on this platform are designed to understand **natural language and emulate** movements by observing human actions, such as instantly learning coordination, dexterity, and other skills.
- The project aims to **empower humanoid robots** with human-like understanding and movement **using Artificial Intelligence (AI)**.
- The humanoids learn from human demonstrations with imitation learning and from the robotics platform NVIDIA Isaac Lab for reinforcement learning.
- While imitation learning involves observing an expert performing a task and learning to imitate those actions, **reinforcement learning is a machine learning method** that trains software to make decisions to achieve the most optimal results.

India hosts 41st IPHE meeting, focuses on accelerating hydrogen economy

About International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE):

- IPHE, established in 2003, is an **international inter-governmental** partnership currently consisting of 23 member countries and the European Commission.
- **Objective:** To **facilitate and accelerate the transition to clean and efficient energy** and mobility systems using fuel cells and hydrogen technologies.
- It serves as a mechanism to **organize and implement effective**, efficient and focused **international research**, development, demonstration and commercial utilization activities **related to hydrogen and fuel cell technologies**.
- It also **provides a forum** for sharing information on policies and technology status, as well as on initiatives, codes, and standards to accelerate the cost-effective transition to the use of fuel cells and hydrogen in the economy.
- **Members:** **Australia**, Canada, European Commission, **India**, Netherlands, Switzerland, Austria, Chile, France, Italy, Norway, UAE, Belgium, China, Germany,

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Japan, South Africa, United Kingdom, Brazil, Costa Rica, Iceland, South Korea, Singapore, and the United States.

New technique devised to measure water held in snowpacks, could help manage supply

About Snowpacks:

- In mountainous areas that experience a winter season, precipitation can fall in the form of snow. **Snow that has fallen** on the ground **and does not melt** for months due to below-freezing temperatures is called **a snowpack**.
- It can **consist of multiple layers** of snow, each one from a different snowfall, that become compacted under the weight of the subsequent layers that lie on top.
- The snowpack remains on the ground until the **arrival of above-freezing temperatures** in the spring, which causes it to start to melt.
- The **water from the melting snowpack is called snowmelt**.
 - It is an important **water source that keeps streams flowing** in the warmer months.
 - It is also an important water source for humans, **replenishing reservoirs**.
- The **depth of the snowpack is influenced** not only by the amount of snowfall but **also by temperature and wind**.
 - **Strong winds** can **evaporate snow cover**, eroding the top layers of the snowpack, while an **increase in temperature can cause layers to melt**.
- The **density of a snowpack**—how closely packed the snow particles are—**increases as more layers accumulate**, pushing down on the layers below.
- **Weak layers**, such as snow-covered surface hoar, can **increase the risk of avalanches**. Snowpack data is valuable for monitoring the effects of climate change.

Scientists find potential new drug target to prevent Ebola

About Ebola:

- Ebola **virus disease** (EVD, or Ebola) is a rare but severe illness in humans.

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- It is caused by several species of **viruses from the genus Ebolavirus**, that are found primarily in sub-Saharan Africa.
- It gets its **name from the Ebola River**, which is near one of the villages **in the Democratic Republic of Congo where the disease first appeared.**
- **Transmission:**
- Ebola **isn't as contagious as more common viruses** like colds, influenza, or measles.
- It **spreads to people by contact with** the skin or bodily fluids of an **infected animal**, like a monkey, chimp, or fruit bat.
- Then it **moves from person to person** in the same way.
- You **can't get Ebola from air, water, or food.** A person who has Ebola but has no symptoms can't spread the disease, either.
- There are **occasional Ebola disease outbreaks** in people, occurring **primarily on the African continent.**
- **Symptoms:**
- Symptoms of Ebola can **start two to 21 days** after being infected by the virus.
- Symptoms **start out flu-like** but can **progress to severe vomiting, bleeding, and neurological** (brain and nerve) **issues.**
- **Treatment:**
- There is **no known treatment** for Ebola, although **experimental vaccines and therapeutics are being tested.**
- Current therapy consists of **maintenance of fluid and electrolyte balance** and the **administration of blood and plasma** to control bleeding.
- **Mortality:**
- Mortality rates for EVD range from **25 percent to 90 percent**, with an average of 50 percent.
- **Death usually occurs** as a result of **shock due to fluid loss** rather than blood loss.

Beyond Holi and bhang, the many uses of cannabis – from medicine to rope-making

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About Cannabis:

- It is found mainly in the Indo-Gangetic plains – in Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar and West Bengal – along with the Deccan region. It is termed Ganzai in Telugu, Ganja in Tamil, and Bangi in Kannada. Three products can be obtained from the plant – fibre, oil, and narcotics.
- Bhang is obtained from the seeds and leaves of the plant, which are reduced to powder. Then, the powder is filtered and prepared for drinking, mixed often with cold, flavoured milk or thandai on Holi.
- Other uses of Cannabis
- Hemp-seed oil is used in varnish industries as a substitute for linseed oil and in the manufacturing of soft soap. It has many medicinal uses, too.
- As per ICAR, the ash of cannabis is applied on animals' skin in cases of haematoma, a condition in which blood clots outside of the blood vessels.
- It is cultivated in the Chhota/Bada Bhangal of Kangra and the Karsog area of Mandi district in Himachal Pradesh.
- While cultivation for extraction of addictive narcotics is illegal, States allow controlled and regulated cultivation of cannabis for obtaining its fibre and seed for industrial or horticultural purposes.
- Treating paddy seed with bhang is effective in paddy seed germination and this treatment is common in temperate areas of Jammu and Kashmir, where temperature during nursery raising is low. They are also used for controlling threadworms in paddy nurseries by the farmers.
- Cannabis leaves are heated and crushed to make a paste for treating honey bee or wasp sting.

Why do so many contemporary vaccines have low durability?

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About Post-vaccination immunity:

- Process
- In the fundamental immunological mechanism, our lymph nodes first produce the memory B cells that confer long-term protection against a disease.
- These cells 'memorise' the antigen the vaccine has delivered. When a foreign object like a virus enters the body bearing the same antigen, the B cells will trigger the production of a large number of potent antibodies to destroy it, removing the infection.
- These memory B cells require T cell support, and only vaccines that stimulate T cells can also induce the body to produce them. Further, not all vaccines – including the polysaccharide typhoid and the pneumococcal vaccines – prompt the body to make B cells.
- In some cases, frequent boosters are required to enhance the duration of immunity the cells confer, ranging from six months to a few years.
- Also, vaccines trigger the production of memory B cells to different degrees, plus having memory B cells alone does not guarantee protection.
- Another essential immune cell, called long-lasting plasma cell (LLPC), migrates from the lymph node to the bone marrow and may endure for decades.
- LLPCs are the main immunological factor in vaccine-induced immunity. Every vaccine tries to create long-lasting plasma cells for lifelong protection.
- The measles and rubella vaccines produce these cells in the bone marrow. However, some potent vaccines, such as the mRNA COVID-19 shots, fail to activate these cells in the bone marrow.
- To provide long-term protection, then, vaccines must generate memory B cells and LLPCs in the bone marrow. Different vaccines differ in their ability to produce these cells, explaining the disparity in their durabilities.

Goa scientists find 50,000-year-old magnetic fossils in Bay of Bengal

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About Magnetofossils:

- These are the fossilised remains of magnetic particles created by **magnetotactic bacteria, also known as magnetobacteria**, and found preserved within the geological records.
- **What are Magnetotactic bacteria?**
 - These are **mostly prokaryotic organisms** that arrange themselves along the earth's magnetic field.
 - These organisms were believed to **follow the magnetic field** to reach places that had optimal oxygen concentration.
 - These bacteria contained “novel structured particles, rich in iron” in small sacs that essentially worked as a compass.
 - These magnetotactic **bacteria create tiny crystals** made of the iron-rich minerals magnetite or greigite. The crystals help them navigate the changing oxygen levels in the water body they reside in.
- **What did the study find?**
- The three-metre-long sediment core from the southwestern Bay of Bengal consisted mainly of “pale green silty clays,”. Researchers reported **finding abundant benthic and planktic foraminifera** — single-celled organisms with shells found near the sea bed and free-floating in water.
- At a depth of **around 1,000-1,500 m, the Bay of Bengal** has a distinctively **low oxygen concentration**. Analysis of the sediment sample confirmed fluctuations in the monsoon took place as the scientists found particles of **magnetic minerals from the two distinct geological periods**.
- The rivers Godavari, Mahanadi, Ganga-Brahmaputra, Cauvery, and Penner, which empty into the Bay of Bengal, played a **crucial role in the formation of the magnetofossils**.

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- The **nutrient-rich sediment** carried in by these rivers provided a sufficient supply of reactive iron, which combined with the available organic carbon in the suboxic conditions of the Bay of Bengal to create a **favourable environment for the growth of magnetotactic bacteria.**
- The freshwater discharge from these rivers along with the other oceanographic processes, like **eddy formation, rendered** the oxygen content in these waters that isn't usually found in other low-oxygen zones.
- The scientists also said the presence of the magnetofossils showed that the **suboxic conditions** of the Bay of Bengal persisted for a long time, **allowing the bacteria to thrive.**

Powerful X-class solar flare slams Earth, triggering radio blackout over the Pacific Ocean

What are Solar Flares?

- Solar flares are **large explosions** that occur at the **sun's surface** when twisted magnetic field lines suddenly snap, emitting large bursts of electromagnetic radiation. They are seen as bright areas on the sun and they can last from **minutes to hours.**
- In a matter of just a few minutes, they heat the material to many millions of degrees and **produce a burst of radiation** across the electromagnetic spectrum, including from radio waves to x-rays and gamma rays.
- Although solar flares can be **visible in white light**, they are often more readily noticed via their bright X-ray and ultraviolet emissions.
- **Effect of Solar Flare on Earth:**
 - The intense radiation emitted during a solar flare can **affect satellite communications**, disrupt **radio signals** and even pose a risk to astronauts in space.

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- Additionally, the increased solar radiation can lead to **geomagnetic storms**, which may impact power grids and cause auroras (northern and southern lights).
- **About X-Class Solar Flares:**
- Flares are **classified according to their strength**. The smallest ones are **B-class**, followed by **C, M and X, the largest**.
- Similar to the Richter scale for earthquakes, **each letter represents a ten-fold increase** in energy output. Within each letter class, there is a finer scale from 1 to 9.
 - So, an X is 10 times an M and 100 times a C.
- C-class flares are too weak to noticeably affect Earth. M-class flares can cause brief radio blackouts at the poles and minor radiation storms that might endanger astronauts.
- The biggest X-class flares are by far the largest explosions in our solar system. X-class flares are most **common during solar maximum**.

Fish otolith ornaments make market debut

About Fish otolith:

- Otoliths are biomineralised ear stones that help fish hear and provide it a sense of balance. These are important in fish studies as they have species-specific shapes and **grow throughout their life**.
- They are commonly known as "earstones," are hard, calcium carbonate structures located directly **behind the brain of bony fishes**.
- There are **three types of otoliths**, all of which aid fish in balance and hearing:
 - **Sagitta:** It is involved in the **detection of sound** and the **process of hearing** or converting sound waves into electrical signals.
 - **Asteriscus:** It is involved in the detection of sound and the process of hearing.
 - **Lapillus:** It is involved in the detection of gravitational force and sound.

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- Different species have otoliths of different shapes and sizes; and cartilaginous fishes, such as sharks, skates and rays, have none.
- **Significance:**
 - These otoliths can be used to **identify** the species, **size, age, growth rate**, and season of death of an individual fish.
 - Analysis of the oxygen isotope values of fish otoliths can provide information on the temperature of the water in which the fish lived.

SOCIETY

Tripura's traditional tribal attire 'risa' gets GI tag

About Risa Textile:

- It is a handwoven cloth **used as a female upper garment** and also as headgear, a stole, or a present to express respect.
- It is woven in colourful designs and has a **crucial social and religious significance**.
- Adolescent Tripuri girls are first given a risa to wear in an event called **Risa Sormani**, around age 12 to 14.
- **Religious relevance:** The risa is used in religious festivals such as Garia Puja by tribal communities, a turban by men during weddings and festivals, a cummerbund over the dhoti, a head scarf by young girls and boys and a muffler during winters.
- It is presented as a mark of **honour to distinguished recipients**.
- Risa is common in almost all 19 indigenous tribal communities of Tripura.
- The traditional Tripuri female attire consists of three parts — risa, rignai and rikutu.
 - **Risa** is a handwoven cloth used as a female upper garment.
 - **Rignai** is primarily worn as the lower garment and literally means 'to wear'.

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- **Rituku** is mainly used as a wrap, or like a 'chunri' or a 'pallu' of the Indian saree. It is also used to cover the heads of newly married Tripuri women.
- The complete Tripuri attire is claimed to have originated even before the time of the Manikya kings, who ruled Tripura for over 500 years starting from the 15th century.

Atal Innovation Mission, NITI Aayog and Meta join hands to establish Frontier Technology Labs in schools to democratize access to future technologies and innovation

About Frontier Technology Lab:

- It is an advanced version of **Atal Tinkering Lab**. It aims to advance the government's agenda of digital inclusion, skilling and growth.
- **Collaboration: Atal Innovation Mission and Meta** will partner to set up FTLs **in schools** of strategic importance to ensure that students from diverse backgrounds across India will have equal opportunities to learn and engage with **frontier technologies**.
- **Funding:** The FTLs will be **funded by Meta** and Atal Innovation Mission will be the **knowledge partner**.
- It is equipped with state-of-the-art infrastructure, including all components of the Tinkering Lab to empower students to innovate using technologies like Artificial Intelligence, Augmented & Virtual Reality, Blockchain, Cybersecurity, Robotics, 3D Printing and Internet of Things.
- **Significance:** The labs support the Government's focus on equipping youth with digital skills to succeed in the evolving landscape of technology and the global economy.

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GI tag for Majuli masks of Assam: History, cultural significance of the centuries-old art form

About Majuli masks:

- These are handmade masks traditionally used to depict characters in **bhaonas, or theatrical performances** with devotional messages under the neo-Vaishnavite tradition, introduced by the 15th-16th century reformer saint **Srimanta Sankardeva**.
- **Srimanta Sankardeva** established this art of masks through a play called **Chinha Jatra**.
- The masks can depict gods, goddesses, demons, animals and birds — Ravana, Garuda, Narasimha, Hanuman, Varaha Surpanakha all feature among the masks.
- They can range in size from those covering just the face (mukh mukha), to those covering the whole head and body of the performer (cho mukha).
- **Material used:** The masks are made of **bamboo, clay, dung, cloth, cotton**, wood and other materials available in the riverine surroundings of their makers
- Traditional practitioners are working to take the art out of their **traditional place in sattras**, or monasteries, and give them a new, contemporary life.
 - **Sattras are monastic institutions** established by Srimanta Sankardev and his disciples as centres of religious, social and cultural reform.
- **Key facts about Majuli manuscript painting**
- It is a form of painting — also originating in the **16th century** — done on **sanchi pat, or manuscripts** made of the bark of the **sanchi or agar tree**, using homemade ink.

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- The earliest example of an illustrated manuscript is said to be a rendering of the Adya Dasama of the Bhagwat Purana in Assamese by Srimanta Sankardev.
- This art was **patronised** by **the Ahom kings**. It continues to be practised in every sattra in Majuli.

Odisha: Cuttack city's silver filigree receives Geographical Indication tag

About Rupa Tarakasi:

- It is one of the most exquisite **silver crafts**.
- This centuries-old, sophisticated craft is practiced in the **silver city of Cuttack, Odisha**.
- **Origin:**
 - It is known to have existed as far back as the **12th century**.
 - The art form received considerable **patronage under the Mughals**.
- **Process:**
 - In this work of craft, **silver bricks** are **transformed into thin, fine wires** (tara) or foils, from which silver filigree is made with all designs (kasi).
 - While **different grades of silver** are used in the main metal alloy, the craftsmen also use other metals like **copper, zinc, cadmium and tin**.
- The artists involved with this filigree work are called **“Rupa Banias”** or **“Roupyakaras”** (in Odia).
- This craftsmanship extends to creating various items, including **jewellery** worn by Odissi dancers, decorative artifacts, accessories, and religious and cultural pieces.

School Soil Health Programme and Central Fertilizer Quality Control and Training Institutes' portal was launched

About School Soil Health Programme:

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- **Department of Agriculture and Farmers welfare** in collaboration with Department of School Education and Literacy has undertaken a pilot project on school soil health programme.
- **Features**
 - Under the project, 20 soil labs were set up in 20 schools of **Kendriya and Navodaya Vidyalaya of rural areas**. Study modules were developed and training was given to students and teachers.
 - Mobile application was customized for the school programme and portal is having a separate segment for the programme where in all the activities of students has been documented.
 - **Kendriya Vidyalaya, Navodaya Vidyalaya and Eklavya Model Schools** have been taken under this programme. Schools are being onboarded on the portal and online batches are being created.
 - **Department of Agriculture and Farmers welfare (DA&FW)** through **National Bank for Agriculture and Rural Development (NABARD)** will setup soil labs in these schools.
 - School students will collect soil samples, test in the labs set up in schools and generate Soil health Card.
 - After generating Soil Health Card, they will go to the farmers and educate them about recommendation of Soil health Card.
- **Significance**
 - It will provide students with the chance to conduct experiments, analyze soil samples, and explore the fascinating biodiversity within the soil.
 - By engaging in practical activities, students will develop critical thinking skills, problem-solving abilities and a holistic understanding of the **interconnectedness of ecosystems**.

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International Women's Day 2024: All you need to know, from theme to history, significance and more

About International Women's Day:

- It is an annual event celebrated on **March 8** to raise awareness about a number of issues, including violence and abuse against women, women's reproductive rights, gender equality and **women's achievements in various fields**.
- **March also marks the start of Women's History Month** around the world. It begins on March 1 and ends on March 31.
- The campaign theme for International Women's Day 2024 is "**Invest in women: Accelerating Progress**".
- **History:**
 - **First celebrated in the United States** on February 28, 1909, in New York City, the event was organised on the suggestion of activist Theresa Malkiel.
 - In August 1910, German delegates of International Socialist Women's Conference, held in Copenhagen, Denmark, drew inspiration from American activists, and proposed to establish an annual "Women's Day".
 - On March 19 of the **following year**, more than a **million people in Austria-Hungary, Denmark, Germany and Switzerland celebrated** Women's Day.
 - Since then, International Women's Day has evolved into a worldwide day of acknowledgment and festivity.
 - As the women's liberation movement swept around the world in the 1970s, the **United Nations designated 1975 International Women's Year** and celebrated the holiday for the first time. Two years later, **in 1977, it designated March 8 International Women's Day**.

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Over 230 million girls and women alive today have undergone female genital mutilation: UNICEF

About UNICEF:

- The **United Nations Children's Fund (UNICEF)**, originally known as the United Nations International Children's Emergency Fund, was created by the United Nations General Assembly on December 11, **1946**, to provide **emergency food and healthcare to children and mothers** in countries that had been devastated by World War II.
- **In 1950**, UNICEF's **mandate** was **extended to address the long-term needs of children and women in developing countries everywhere.**
- **In 1953**, it became a **permanent part of the UN System**, and the words "international" and "emergency" were dropped from the organization's name, though it retained the original acronym, "UNICEF".
- UNICEF **works in over 190 countries** and territories and in the world's toughest places to reach the children and young people in greatest need.
- UNICEF supports immunization programs for **childhood diseases** and programs to prevent the spread of HIV/AIDS; it also provides **funding for health services, educational facilities**, and other welfare services.
- **Since 1996**, UNICEF programs have been **guided by the Convention on the Rights of the Child (1989)**, which affirms the right of all children to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health.
- **Funding:** UNICEF's activities are financed **by both government and private contributions.**
- **Headquarters: New York**, United States.
- It was awarded the **Nobel Prize for Peace in 1965.**

Khelo India Rising Talent Identification will take sports to the doorstep of aspiring champions: Anurag Singh Thakur

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About KIRTI Programme:

- It is aimed at school children between **nine and 18 years age group**.
- The nation-wide scheme will have two main objectives:
 - To **hunt talent from** every nook and corner of the country and
 - To use sports as a tool to curb addiction towards drugs and other gadgetry distractions.
- KIRTI aims to conduct 20 lakh assessments across the country throughout the year to identify talent through notified Talent Assessment Centres.
- KIRTI made a solid launch across 50 centres in India. Fifty thousand applicants are being assessed in the first phase across 10 sports, including athletics, boxing, wrestling, hockey, football and wrestling.
- KIRTI's athlete-centric programme is conspicuous by its transparent **selection methodology based on Information Technology**.
- **Data analytics based on Artificial Intelligence** is being used to predict the sporting acumen in an aspiring athlete.
- **What is Khelo India Scheme?**
- It is the flagship Central Sector Scheme of the **Ministry of Youth Affairs & Sports**.
- It aims at infusing sports culture and achieving sporting excellence in the country thus allowing the populace to harness the power of sports through its cross-cutting influence.
- Under the "Sports Competitions and Talent Development" vertical of the Khelo India Scheme, the "Talent Identification and Development" component is dedicated to working towards the identification and development of athletes at the grassroots and elite levels to develop the sports ecosystem in the country.

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What you need to know about Gorsam kora festival in Tawang

About Gorsam Kora Festival:

- It is held in **Arunachal Pradesh's Zeminthang Valley** along the **Nyanmjang Chu River**.
- **History**
 - This annual festival is held at Gorsam Chorten, a 93 feet tall Stupa, built during 13th century AD by a **local monk- Lama Pradhar**.
 - This is also the place where the 14th Dalai Lama had his first rest after fleeing from Tibet in 1959.
 - It features cultural performances and **Buddhist rituals** at the Gorsam Chorten, which is older than the Tawang Monastery.
- Many devotees including large number of Bhutanese nationals visit during Gorsam Kora festival to celebrate the virtuous occasion during the last day of the first month of the **Lunar calendar**.
- The festival featured a diverse array of events, including enthralling performances by local cultural troupes and by the Indian army bands, martial performances like **Mallakhamb and Zanjh Pathaka**.

Conservationists to propose Kazhuveli watershed region in T.N. for nomination to World Monuments Fund Watch 2025

About World Monuments Fund:

- It is the leading independent organization **devoted to safeguarding the world's most treasured places** to enrich people's lives and build mutual understanding across cultures and communities.

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- Since 1965, it has preserved the world's diverse cultural heritage using the highest international standards at more than 700 sites in 112 countries.
- It draws on heritage to address some of today's most pressing challenges: climate change, underrepresentation, imbalanced tourism, and post-crisis recovery.
- **Headquarter:** New York City
- In **2015**, WMF India became the most recent entry to the World Monuments Fund family of affiliates, established under India's Companies Act, following the country's policy to include heritage conservation in corporate social responsibility programs
- **What is the World Monuments Watch?**
- It is a nomination-based program that connects local heritage preservation to global awareness and action.
- **Every two years**, the Watch rallies support to places in need and the people who care for them, spotlighting new challenges.
- At its core, the Watch's call to action seeks to empower timely preservation efforts that improve the lives of communities. The 2025 Watch will include 25 places, each telling an urgent local story with global relevance.

Foundational Literacy and Numeracy Assessment Test (FLNAT) to be Conducted Nationwide Under ULLAS - Nav Bharat Saaksharta Karyakram

About ULLAS Initiative:

- The **Understanding Lifelong Learning for All in Society** (ULLAS) initiative is poised to revolutionise education and **literacy across the nation**.
- It is done by **fostering a learning ecosystem** that reaches every individual, bridging the gaps in basic literacy and critical life skills.

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- It imparts basic education, digital and financial literacy and critical life skills to citizens **aged 15 and above** who lost on the opportunity to go to school. It is being implemented through volunteerism.
- Its objective is to impart not only Foundational Literacy and Numeracy but also to cover other components which are necessary for a citizen of 21st century such as
- **Critical Life Skills**(including financial literacy, digital literacy, commercial skills, health care and awareness, child care and education, and family welfare);
- **Vocational Skills Development**(with a view towards obtaining local employment);
- **Basic Education**(including preparatory, middle, and secondary stage equivalency)
- **Continuing Education**(including engaging holistic adult education courses in arts, sciences, technology, culture, sports, and recreation, as well as other topics of interest or use to local learners, such as more advanced material on critical life skills).
- The ULLAS app can be used for registration of learners and volunteers either through self-registration or by surveyors. It will serve as a digital gateway for learners to engage in diverse learning resources through the DIKSHA portal of NCERT.

NAAC'S accreditation system needs change to be creditable

About National Assessment and Accreditation Council (NAAC):

- It is an **autonomous body of the University Grants Commission (UGC)**, under the Ministry of Education. It was established in 1994 in pursuance of the recommendations made by the National Policy of Education, 1986. It's headquarter is in Bengaluru.
- **Function:** Evaluation, assessment, and accreditation of Higher Education Institutions (HEIs) in the country.

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- **Assessment is a performance evaluation** of an institution and its units and is accomplished through a process based on self-study and peer review using defined criteria. Accreditation refers to the **certification given** by NAAC, which is valid for a period of **five years**.
- **The ratings** of institutions range from A++ to C. If an institution is graded D, it means it is not accredited.
- **Eligibility Criteria:** HEIs with a record of **at least two batches of students graduated or been in existence for six years**, whichever is earlier, **are eligible to apply** for the process of Assessment and Accreditation (A&A) of NAAC and fulfill all the specified conditions. At present, the Assessment and Accreditation by NAAC is **done on a voluntary basis**.
- NAAC has identified **seven criteria:** i. **Curricular aspects**, ii. **Teaching-learning** and evaluation, iii. **Research, Consultancy** and extension, iv. **Infrastructure** and learning resources, v. **Student support** and progression, vi. **Governance** and leadership and vii. **Innovative practices** as the basis for its assessment procedure.
- **Composition:**
- It **functions through its General Council (GC) and Executive Committee (EC)**, comprising educational administrators, policymakers and senior academicians from a cross-section of the Indian higher education system.
- The **Chairperson of the UGC is the President of the GC** of the NAAC.

39 sewage treatment plants from AMRUT scheme to line Musi river in Hyderabad

About AMRUT Scheme:

- It was launched by the **Ministry of Housing and Urban Affairs** in 2015, in 500 selected cities and towns across the country. It has been **subsumed under AMRUT 2.0** in **2021**.

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- It focuses on development of **basic infrastructure** in the selected cities and towns in the sectors of water supply, sewerage and septage management, storm water drainage, green spaces and parks, and non-motorized urban transport. A set of **Urban Reforms and Capacity Building** have been included in the mission.
- **AMRUT 2.0**, which was launched for a period 2021-26, is designed to **provide universal coverage of water supply** through functional taps to all households in all the statutory towns in the country and coverage of sewerage/septage management in 500 cities covered in the first phase of the AMRUT scheme.
- AMRUT 2.0 will **promote a circular economy of water** through the development of **City Water Balance Plan (CWBP) for each city** focusing on recycle/reuse of treated sewage, the rejuvenation of water bodies, and water conservation.
- It will **help cities to identify scope for projects** focusing on universal coverage of functional water tap connections, water source conservation, rejuvenation of water bodies and wells, recycle/reuse of treated used water, and rainwater harvesting.
- It also has a reform agenda on ease of living of citizens through reduction of non-revenue water, recycle of treated used water, rejuvenation of water bodies, augmenting double entry accounting system, urban planning, strengthening urban finance etc.
- **Other components of AMRUT 2.0 are:**
 - **Pey Jal Survekshan** to ascertain equitable distribution of water, reuse of wastewater, mapping of water bodies and promote healthy competition among the cities /towns.
 - **Technology Sub-Mission for water** to leverage latest global technologies in the field of water.
 - **Information, Education, and Communication (IEC) campaign** to spread awareness among the masses about conservation of water.
- The **total indicative outlay** for AMRUT 2.0 is **₹2,99,000 crore** including Central share of ₹76,760 crore for five years.

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Konda Reddi tribe's indigenous knowledge of Indian laurel tree proves resourceful

About Konda Reddi Tribe:

- Konda Reddis is a **Particularly Vulnerable Tribal Group** inhabiting the **banks of the river Godavari** and also in the hilly forest tracts of Godavari and Khammam districts of **Andhra Pradesh**.
- Their **mother tongue is Telugu**, with a unique accent.
- **Subdivisions:**
- The Konda Reddy tribe is **divided into exogamous septs** for regulating matrimonial relations.
- Like other Telugu-speaking people, their **surnames are prefixed** to individual names.
- Generally, each sept is exogamous, but certain septs are considered as brother septs and marriage alliances with brother septs (agnate relations) are prohibited.
- **Family and Marriage:**
- The family is **patriarchal and patrilocal**. **Monogamy is a rule**, but polygamous families are also found.
- **Marriage by negotiations, by love and elopement**, by **service, by capture** and by **exchange** are socially accepted ways of acquiring mates.
- **Religion:** The primary religion practiced by the Konda Reddi is **Folk Hinduism**, characterized by local traditions and cults of local deities worshiped at the community level.
- **Political Organization:**
- They have their own institution of social control called '**Kula Panchayat**'.
- Each village has a traditional **headman called 'Pedda Kapu'**.
- The office of the headman is **hereditary**, and the headman is **also the Pujari (priest) of the village deities**.
- **Livelihood:**

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- They are **primarily shifting cultivators** and largely depend on flora and fauna of forest for their livelihood.
- They **collect and sell non timber forest produce** like tamarind, adda leaves, myrobolan, broom sticks, etc., to supplement their meagre income.
- They **cultivate largely jowar**, which is their **staple food**.

Vikramaditya Vedic Clock: PM Modi inaugurates world's 1st Indian 'panchang'-based timepiece in Ujjain | 5 things to know

About Vikramaditya Vedic Clock:

- It is the **world's first "Vedic Clock"**, designed to **display time according to** the ancient **Indian traditional Panchang (time calculation system)**.
- It has been positioned on an 85-foot tower within Jantar Mantar in **Ujjain, Madhya Pradesh**.
- It also **provides information on planetary positions, Muhurat, astrological calculations, and predictions**.
- In addition to this, it **also indicates** Indian Standard Time (**IST**) and Greenwich Mean Time (**GMT**).
- The clock will **calculate time from one sunrise to another**.
 - The period between the two sunrises will be divided into 30 parts, whose one hour consists of 48 minutes, according to ISD.
 - The reading will start from 0:00 with the sunrise functions for 30 hours (an hour of 48 minutes).
- It has been developed by Lucknow-based Sanstha Arohan, using digital interventions, enabling it to be connected to the internet and provide a wide range of features through a mobile app named after the clock.
- **Why Ujjain?**

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- Ujjain's **rich heritage in timekeeping** dates back centuries, with the city playing a pivotal role in determining India's time zones and time difference.
- Ujjain is **located at the precise point of interaction with zero meridian and Tropic of Cancer.**
- Before 82.5E longitude was adopted for IST, Ujjain (75.78E) was considered as Bharat's time meridian.
- The Vikrami Panchang and Vikram Samvat calendars are also released from Ujjain, which makes Ujjain the ideal location to have the Vaidik Clock.

Devotees throng Shankaracharya Temple in Srinagar to celebrate Maha Shivratri

About Shankaracharya Temple:

- The Shankaracharya Temple in **Srinagar**, located on **top of the Shankaracharya Hill**, is a **Hindu temple** dedicated to **Lord Shiva** and is one of the **oldest shrines in Kashmir.**
- The temple **dates back to 200 BC**, however **present structure** was probably **constructed in 9th Century AD.**
- It is said that the temple was **originally built by Jaluka**, the **son of Emperor Ashoka**, a follower of Buddhist religion; and hence, the temple is also **regarded as scared by the Buddhist people**, and they **called this temple as Pas-Pahar.**
- Also **known as Jyesteshwara Temple**, the temple is named after the great philosopher Shankaracharya who is believed to have visited Srinagar about ten centuries ago.
- It is believed that **Adi Shankaracharya attained spiritual enlightenment at this place**, and it was after this enlightenment that he went out and formed the four Hindu schools of Advaita, or the philosophy of non-dualism.
- **Features:**

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- The temple's architecture reflects a **blend of Hindu and Buddhist styles** and boasts intricate carvings that depict various mythological stories.
- The early **Shihara style** is prominently evident in the building design and is indicative of a horseshoe arch type of pattern.
- The temple **sits on a solid rock** and is **constructed on a high octagonal platform**. The **main sanctum** sanctorum **houses a black stone idol of Lord Shiva** along with other deities.

Mumbai Central station could be named after Nana Jagannath Shankarseth: who was this social reformer celebrated as ‘architect’ of Mumbai?

About Nana Jagannath Shankarseth:

- He was a **social reformer, educationist and philanthropist** is often described as the “architect” of Mumbai (then Bombay).
- He made extremely valuable contributions in terms of both ideas and money to multiple sectors, to lay **a strong foundation for the city**.
- He was greatly inspired by the legendary merchant and **philanthropist Sir Jamsetjee Jeejeebhoy**.
- He became the **first Indian to be nominated** to the Legislative **Council of Bombay**.
- **What are some of Shankarseth’s most significant contributions?**
- **Education:**
 - Shankarseth was deeply committed to the growth and spread of education in Bombay, and donated land owned by his family for educational institutions.
 - He founded the **Native School of Bombay**, which was renamed first as the Bombay Native Institution, and then as the Board of Education.
 - Finally, this institution evolved into the **prestigious Elphinstone College**.
- **Museum, Temples:**

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- Shankarseth was among the wealthy donors who helped promote Dr Bhau Daji Lad Museum in Byculla, which was designed by a famous London-based architect.
- The **Bhawani Shankar Temple** near Nana Chowk was Shankarseth's tribute to his late mother Bhawanibai Murkute.
- **Railways**
 - The first train in India ran between Boribunder and Thane on April 16, 1853. The 34-km project undertaken by the Great Indian Peninsular Railway Company.
 - The committee that gave the project impetus included **Sir Jamsetjee Jeejeebhoy and Nana Shankarseth.**

Pandavula Gutta designated exclusive Geo-heritage site in Telangana

About Pandavula Gutta:

- It is a geological marvel older than the Himalayan hills. It is located in Jayashankar Bhupalpally district **in Telangana** is home to many prehistoric habitation sites.
- It is rich in terms of **number of paintings**, rock shelters and its habitation, right from the **mesolithic to medieval times.**
- The paintings feature geometrical designs and impressions in green, red, yellow and white pigment colours. These **cave paintings** offer a rare glimpse into the prehistoric man's rock art identified on walls and ceilings of caves, rock shelters and isolated boulders.
- The **rock art paintings** depict wild life like Bison, Antelope, Tiger, Leopard etc. Other shapes like swastika symbol, circles and squares, weapons such as bows, arrows, sword and lancer etc are present in these paintings.
- **What is a Geo-heritage site?**

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- “Geoheritage” is a generic but descriptive term applied to sites or areas of geologic features with significant **scientific, educational, cultural or aesthetic value**.
 - **Scientifically and educationally significant geoheritage sites** include those with textbook geologic features and landscapes, distinctive rock or mineral types, unique or unusual fossils, or other geologic characteristics that are significant to education and research.
 - **Culturally significant geoheritage sites** are places where geologic features or landscapes played a role in cultural or historical events.
 - **Aesthetically significant geoheritage sites** include landscapes that are visually appealing because of their geologic features or processes.

ART AND CULTURE

Customs seize Karachi-bound consignment at Nhava Sheva port

About Nhava Sheva Port:

- The Port of Nhava Sheva lies to the **east of the Port of Mumbai**, about six nautical miles away **across Thane Creek on the Arabian Sea**.
- It is also **commonly known as the Jawaharlal Nehru Port**, as it is run by the Jawaharlal Nehru Port Trust.
- It is known to be the **busiest port in India** and deals with almost **half of the country's imports and exports**.
- The **Port of Nhava Sheva and the Port of Mumbai have a common entry channel** that stretches about 21 kilometres (33.9 miles) and at a depth of 10.1 to 11 metres (33 to 36 feet).
- The Port of Nhava Sheva was **commissioned in 1989 as a satellite port to** relieve the **Port of Mumbai** from heavy congestion.
- As a small port in its early years, it only had single terminals for bulk cargos and containers.

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- It has **since expanded to include five privately-operated port terminals** for **containerized cargo handling** and also a facility for **handling bulk liquid cargo**.
- It is recognized as **one of the top 30 global container ports** in terms of size and capacity.

900-year-old Chalukyan inscription discovered in state of utter neglect at Gangapuram

About Chalukya Dynasty:

- The Chalukyas ruled over the central Indian plateau of the Deccan between the **sixth and twelfth centuries**. During that period, they ruled as three closely related but individual dynasties.
- The **Chalukyas of Badami**, who ruled between the sixth and eighth centuries, and the two sibling dynasties of the **Chalukyas of Kalyani**, or the Western Chalukyas, and the **Chalukyas of Vengi**, or the Eastern Chalukyas.
- **Key Facts about Chalukyas of Kalyani:**
- Primarily a **Kannadiga dynasty**, they were known after their **capital city, Kalyani**. It is present in the modern-day Bidar district of Karnataka.
- The empire was **established by Tailapa II** when the Western Chalukya was a **feudatory of the Rashtrakuta** Empire and Tailapa II governed Tardavadi in the Bijapur district of Karnataka.
- In the **300 years long rule** in the western Deccan and southern part of the Indian peninsula, Chalukya of Kalyani expanded and **reached the zenith of power during** the rule of **Vikramaditya VI (1076-1126 CE)**.
- It is considered the **most successful period of the later Chalukya** rulers in Karnataka's history and many scholars refer to this period as the '**Chalukya Vikrama era**'.

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- Vikramaditya VI was not only controlling feudatories in the northern region, such as Kadamba Jayakesi II of Goa, Silhara Bhoja and the Yadava King; he won several battles against the Chola dynasty. He **won the battle of Vengi in 1093** and **defeated Cholas again** in 1118. He gained the rights on territories amid hostilities with the Cholas.
- **Decline:**
 - **After Vikramaditya VI's death**, the consistent confrontation with the Chola dynasty exploited both empires and gave opportunities to their subordinates to rebel.
 - After 1126, the Western Chalukya empire started declining, and by the time of Jagadhekamalla II, everything was falling apart.
- **Administration, Art, and Architecture:**
 - The king passed his powers to the male heir and brother in the absence of a male heir. The whole kingdom was divided and managed by feudatories such as the **Hoysala and the Kakatiya**.
 - While the Chalukya Dynasty maintained a great **army of infantries, cavalries, elephant units**, etc, the Western Chalukyas followed the trend and achieved a great extent of power.
 - They were **primarily Hindus** but also acknowledged and **tolerant of Buddhism and Jainism**. The Chalukyas contributed greatly to the development of Kannada and Telugu literature.
 - The Western Chalukya minted punch-marked **gold coins called pagodas** with Kannada legends. Coins were minted, and cryptograms of temples, lions, and lotus were imprinted on them.
 - Their architecture is a link between the Badami Chalukya architecture of the 8th century and the **Hoysala architecture** of the 13th century. Their art is also called the '**Gadag style**' because numerous temples were built in the Tungabhadra-Krishna doab region in the present-day Gadag district.

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- Their temples depict both religious and secular themes. The **Mallikarjuna temple of Bellary, Siddeshvara temple in Haveri, Kallesvara temple** in Davangere district, etc are a few of the finest examples of later Chalukya architecture.

Why Centre won't "protect" these 18 "lost" monuments

About Monuments of National Importance (MNI):

- The **Ancient Monuments and Archaeological Sites and Remains Act (AMASR Act)**, 1958 (amended in 2010), **provides for the declaration** and conservation of ancient and historical monuments and archaeological sites, and remains of national importance.
- **Uttar Pradesh** (745 monuments/sites) have the highest number.
- **Declaration:**
 - **After considering the views/objections** received within the stipulated period, the **Central Government may declare** the ancient monument to be of national importance by publishing a notification in the official gazette.
- **Once a monument** or a site is declared to be MNI, their protection and upkeep is the **responsibility of the Archaeological Survey of India**, under the Ministry of Culture.
 - ASI undertakes the conservation, preservation, and maintenance of MNI throughout the country.
 - The One-hundred-meter radius of the monument is then considered a **'prohibited area'** where there is a ban on construction activities. Further 200 meters (i.e., 100+200 meters) are considered a **'regulated area'** where there are regulations on construction.

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- The **ASI also has the power to delist monuments** it deems to "have ceased to be of national importance" under Section 35 of the Act. Once a monument is delisted, the ASI becomes no longer responsible for protecting these monuments.

Kalamandalam opens doors for boys to learn Mohiniyattam

- **About Mohiniyattam:**
- It is an **Indian classical dance** form that evolved in the **state of Kerala**.
- **History and Evolution:**
 - Its roots date back to the age-old **Sanskrit Hindu text** on performing arts called **'Natya Shastra'**.
 - It is used to be **performed by Devadasis** (temple dancers) in temples during the rule of the **Chera kings** from 9 to 12 C.E.
- **Features:**
 - It is conventionally a **solo dance** performed by **female artists**. It adheres to **the Lasya type** that showcases a more graceful, gentle and feminine form of dancing.
 - **Theme:** The dance form Mohiniyattam has **love and devotion to God** as its major themes, with usually **Lord Vishnu or his incarnation Lord Krishna** as the lead character.
 - It emotes a play through **dancing and singing**, where the song is customarily in Manipravala, which is a mix of Sanskrit and Malayalam language.
 - The recitation may be performed by the dancer or a vocalist, with the music style being Carnatic. The dance is characterized by its graceful swaying body movements with no abrupt jerks or sudden leaps.
 - More than the footwork, **emphasis** is given to **hand gestures and Mukhabhinaya** or subtle facial expressions. The hand gestures, 24 in

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number, are mainly adopted from '**Hastha Lakshana Deepika**', a text followed by Kathakali.

- Costumes in Mohiniyattam include plain white or ivory cream traditional sari embroidered with bright gold-laced brocade.
- **Instruments used:** Mridangam, Madhalam, Idakka, flute, Veena and Kuzhitalam(cymbals).

FACTS FOR PRELIMS

170 People "Executed" In Attacks On 3 Villages In Burkina Faso: Report

About Burkina Faso:

- It is a landlocked country in **western Africa** and has territories in both the Eastern and Western Hemispheres.
- **Borders:** It shares its borders with six other nations: **Mali** to the north and west, **Niger** to the east, and **Benin** to the southeast, while to the south it touches **Togo, Ghana, and Ivory Coast**.
- **Capital: Ouagadougou**
- **Geography:**
 - It is predominantly characterized by **savannahs, plateaus, and low mountains in the southwest**.
 - The **northern region**, known as the **Sahel**, is arid and desert-like.
- **History:** Burkina Faso, previously known as Upper Volta, was once part of French West Africa since 1896. It **gained independence from France in 1960** and changed its name to Burkina Faso in 1984.
- **Languages:**
 - The **official language** of Burkina Faso is **French**, which is used in government and education.

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- There are many indigenous languages spoken throughout the country, with Moore (Mossi) being one of the most widely spoken.
- **Economy:** The economy is **largely based on agriculture**, which employs over 80% of the workforce. It is one of the world's poorest countries.
- **Government:** It is a **republic with a presidential system** of government.
- By early 2023, insecurity in Burkina Faso had displaced more than 2 million people and led to significant jumps in humanitarian needs and food insecurity.

Pakistan National Day to be celebrated in Delhi: What was the Lahore Resolution, which it marks

About Lahore Resolution:

- It was adopted by the **All-India Muslim League** during its general session in Lahore from March 22 to March 24, 1940, formally called for an independent state for India's Muslims.
- The resolution does not include the word 'Pakistan' anywhere.
- The Lahore Resolution was criticised by many Indian Muslims, like Abul Kalam Azad and the Deoband ulema led by Husain Ahmad Madani, who advocated for a united India.
- **What did the Resolution say?**
 - Geographically contiguous units are demarcated into regions which should be so constituted, with such territorial readjustments as may be necessary, that the areas in which the **Muslims are numerically in a majority** as in the North-Western and Eastern Zones of India, **should be grouped to constitute "Independent States"** in which the constituent units shall be autonomous and sovereign."

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- In other parts of India where the Mussalmans are in a minority, adequate, effective and mandatory safeguards shall be specially provided in the constitution for them and other minorities for the protection of their religious, cultural, economic, political, administrative and other rights and interests in consultation with them.”
- **What was the lead-up to the Lahore Resolution?**
- Till the early 1930s, many Muslims had been agitating for better representation and safeguarding of their rights within the Indian Union, and the separate electorate granted to them in the Government of India Act, 1935, was a step towards that.
- The Muslim League session was held days after the **Khaksar tragedy**, when members of a Muslim group called the Khaksars, fighting for India’s independence, were shot at by the British on March 19 in Lahore, killing many.

PM Modi inaugurates India’s first under-river metro route in Kolkata

About India's First Under-River Metro Tunnel:

- It is a part of **Kolkata Metro’s** East-West Corridor.
- It passes **under the Hooghly River** and forms part of section from Howrah Maidan to Esplanade.
- The **stretch also has the deepest metro station** in the country, the Howrah Maidan station, at 32 metres below ground level.
- **Key Facts about River Hooghly:**
- The **Hooghly River**, also known as the Bhagirathi-Hoogly and Kati-Ganga Rivers, is one of the significant rivers in West Bengal. It is a **distributary or arm of the Ganges River**.
- **Course:**

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- It is **formed in Murshidabad**, where the Ganga splits into two parts, while the **part flowing through Bangladesh is called the Padma**.
- The Hooghly River is silted up above Kolkata, and the river flows to the west and south to the estuary of Rupnarayan and then south and southwest to enter the Bay of Bengal through a 32-kilometer-wide estuary.
- The Hooghly's **majority of water comes from the Farakka Feeder Canal** instead of natural water.
 - The **Farakka Barrage is a dam** that diverts water from the Ganges into a canal near the town of Tildanga in Malda district. This supplies the Hooghly with adequate water even in the dry season.
- **Haldi, Ajay, Damodar and Rupnarayan** are the rivers that feed the lower reaches of the Hooghly.
- The **important cities** near the Hoogli River are **Jiaganj, Azimganj, Murshidabad**, and Baharampur.

Modi inaugurates redeveloped Kochrab Ashram in Gujarat, Gandhi's first home after returning to India

About Kochrab Ashram:

- It was the **first ashram founded by Mahatma Gandhi in 1915**, following his return to India from South Africa. It is located in **Kochrab village**, situated on the **outskirts of Ahmedabad, Gujarat**.
- It was **called Satyagraha Ashram** based on his ideas of achieving India's independence from British rule through peaceful methods.
- **Establishment:**

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- **Gopal Krishna Gokhale requested Mahatma Gandhi to return** to India, which needed his skills as a community organizer.
- Mahatma Gandhi **began his association with Ahmedabad after returning** to India from South Africa. About his decision to settle in Ahmedabad in 1915, Gandhi wrote that, as a Gujarati, he should be able to serve the country best through the Gujarati language.
- **On 20th of May, 1915, Gandhi began living in a bungalow in Kochrab village.** The bungalow, which he soon rechristened as the Satyagraha Ashram, was **given to him by his fellow lawyer and colleague, Jeevanlal Desai.**
- Mahatma **Gandhi based himself here for about one-and-a-half years before moving to** the new campus of **Sabarmati Ashram.** It is a **colonial-style building** with a white-washed façade.

Union Minister Shri Anurag Thakur launches Prasar Bharti - Shared Audio Visuals for Broadcast and Dissemination (PB-SHABD)

About PB-SHABD:

- **Prasar Bharti - Shared Audio Visuals for Broadcast and Dissemination (PB-SHABD)** platform has been designed to provide **daily news feeds in video, audio, text, photo** and other formats to the subscribers from media landscape.
- It is powered by the vast network of Prasar Bharati reporters, correspondents and stringers, the service would bring you the latest news from different parts of the country.
- It will **be a single point source** of news content for all organizations. SHABD service is **being offered free of cost** for the first year as an introductory offer and will provide news stories in **all major Indian languages across fifty categories.**

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- The shared feeds can be used for customized storytelling across different platforms. As an introductory offer, the services would be available free of cost and help the smaller newspapers, TV channels and digital portals immensely.
- **What is Prasar Bharti?**
- It is the Public Service Broadcaster of the country.
- It is a **statutory autonomous** body established in 1997 **under the Prasar Bharati Act.**
- **Objective:** To conduct public broadcasting services intended to inform and entertain the public.
- It comprises the Doordarshan Television Network and All India Radio, which were earlier media units of the Ministry of Information and Broadcasting.
- **Headquarter:** New Delhi

PM Modi Inaugurates India's First Oil Palm Processing Mill Under National Mission on Edible Oil

About National Mission for Edible Oils - Oil Palm (NMEO-OP):

- Launched by the Government of India in August 2021, NMEO-OP **targets a substantial increase in oil palm cultivation and crude palm oil production.**
- It is a **Centrally Sponsored Scheme** with a special focus on the North east region and the Andaman and Nicobar Islands, with a focus on increasing the area and productivity of oilseeds and Oil Palm.
- **Targets:**
 - To **increase the area of oil palm to 10 lakh hectares** from 3.5 lakh ha during 2019-20 by 2025-26 (an additional 6.50 lakh ha).
 - To **increase the Crude Palm Oil production** from 0.27 lakh tonnes during 2019-20 to 11.20 lakh tonnes by 2025-26.

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- **Increase consumer awareness to maintain a consumption level** of 19.00 kg/person/annum till 2025-26.
- The **State Department of Agriculture, State Department of Horticulture, Central University, ICAR-Institutions, CDDs, SAUs, KVKs, Central Agencies/Cooperatives, Oil palm processors/ Associations, DD Kisan, AIR, DD, TV channels** will be the implementing stake holders of the NMEO-Oil palm.
- **Features:** The salient features of NMEO-OP include assistance for planting material, inputs for intercropping upto gestation period of 4 years and for maintenance, establishment of seed gardens, nurseries, micro irrigation, bore well/pumpset/water harvesting structure, vermi compost units, solar pumps, harvesting tools, custom hiring centre cum harvester Groups, farmers and officers training, and for replanting of old oil palm gardens etc.
- **Oil Palm Production in India:**
- Oil Palm (*Elaeis guineensis*), originated in West Africa is comparatively a new crop in **India** and has the **highest vegetable oil yielding capability per ha**.
- It produces two distinct oils, i.e., **palm oil and palm kernel oil**, which are used for culinary as well as industrial purposes.
- **Andhra Pradesh, Telangana, and Kerala are major Oil palm-growing States** and account for 98% of total production.
- Karnataka, Tamil Nadu, Odisha, Gujarat, and Mizoram also have sizable area under Oil palm cultivation.

India extends ban on de-oiled rice bran export by four months

About Rice Bran:

- It is one of the main **byproducts** in the process **of rice milling**. It is the **outer brown layer of brown rice** and is separated during the milling process.

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- The bran fraction **contains 14-18% oil**.
 - Rice bran oil is **popular as a "healthy oil"** in Japan, Asia, and particularly India.
 - It is a **pale yellow, odourless, nutty-flavoured oil** with a sweet taste.
 - It is a good **source of unsaturated fats, vitamin E** and other important nutrients.
- The nutrient composition of rice bran depends on the rice variety and the efficiency of the milling system. It is currently **mostly used as animal feed**. The oily nature makes bran an excellent binder for animal feeds.
- **Health Effects:**
 - It has **anti-diabetic**, lipid-lowering, **hypotensive, antioxidant** and **anti-inflammatory effects**, while its consumption also improves bowel function.
 - It contains substances that might **decrease how much cholesterol the body absorbs**. It might also decrease calcium absorption, which might help prevent certain types of kidney stones from forming.

Krishi Sammelan was organised by ICAR-CPCRI

About Central Plantation Crops Research Institute (CPCRI):

- The CPCRI was **established in 1970** as one of the agricultural research institutes in the National Agricultural Research System (NARS) **under the Indian Council of Agricultural Research (ICAR)**.
- **Headquarters:** Kasaragod, Kerala
- **Mandate:**
 - To **undertake research on coconut, arecanut, cocoa**, cashew, oil palm and spices at the time of establishment
 - The research on **cashew, oil palm and spices was later delinked from CPCRI** to form separate institutes.

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- **In 2023, a new mandate crop, Palmyra Palm, was added** to its institute.
- The research programmes of the institute are organized under five divisions viz. Crop Improvement, Crop Production, Crop Protection, Physiology, Biochemistry and Post Harvest Technology and Social Sciences.
- The Institute also **holds the International Coconut Gene Bank for South Asia** at Kidu in Karnataka.
- The Institute also **serves as the headquarters of the All-India Co-ordinated Research Project (AICRP) on Palms.**

Ae Watan Mere Watan: The story of Usha Mehta and Congress Radio

About Usha Mehta:

- She was born in a village named Saras, near Surat in Gujarat in 1920. She was a true Gandhian at heart and was popularly known as Ushaben.
- At the age of eight in 1928, she participated in a protest march against the Simon Commission.
- In 1942, she and her associates established the **Secret Congress Radio during Quit India Movement**. It played a crucial role in keeping the freedom movement leaders connected with the public.
- **Setting up an underground station:**
- **Background:** At the advent of the War in 1939, the **British had suspended all amateur radio licences** across the Empire. Operators were supposed to turn in all equipment to the authorities, with severe punishment for those who failed to do so.
- Alongside Mehta, **Babubhai Khakar, Vithalbai Jhaveri and Chandrakant Jhaveri** were key figures in organising Congress Radio.

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- **Congress Radio case:**
 - The trial of the five accused in the— Mehta, Babubhai Khakar, Vithalbai Jhaveri, Chandrakant Jhaveri, and Nanak Gainchand Motwane (who sold key pieces of equipment to the team) — generated a lot of excitement in Bombay.
 - **Vithalbai and Motwane were acquitted**, Mehta, Babubhai and Chandrakant received stern sentences.
 - Usha Mehta was released from Pune's Yerawada Jail in March 1946, and hailed in the **nationalist media as "Radio-ben"**.

National Internet Exchange to unveil BhashaNet portal on Universal Acceptance Day

About National Internet Exchange of India (NIXI):

- It was established in 2003 as a **not-for-profit** organization under the **Companies Act 2013**. It was set up to extend the **use of Internet Service Protocols (ISPs) for the purpose of routing domestic traffic within the country** instead of taking it all the way abroad, thereby resulting in a better quality of service (reduced latency) and reduced bandwidth charges for ISPs by saving on international bandwidth.
- It is **tasked to increase Internet penetration and adoption** in India by facilitating the various infrastructure aspects to enable the Internet ecosystem to be managed and used by the masses.
- **.IN is India's Country Code Top Level Domain (ccTLD)**. The Government of India delegated the operations of INRegistry to NIXI in 2004. The INRegistry operates and manages India's .IN ccTLD.
- Another activity being carried out by NIXI is that of **National Internet Registry (NIR)**. The NIR is known as the Indian Registry for Internet Names and Numbers (IRINN). It **offers IXPs towards building Internet Exchange Points**.
- **What is Universal Acceptance (UA) Day?**

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- It is held annually and organized by the community-led Universal Acceptance Steering Group (UASG) and the **Internet Corporation for Assigned Names and Numbers (ICANN)**.
- It was established as a means to rally local, regional and global stakeholders to **spread awareness and encourage UA adoption** through a mix of virtual, in-person and hybrid informational and training sessions.
 - **UA is a technical requirement** that ensures all valid domain names and email addresses, regardless of script, language or character length, can be equally used by all Internet-enabled applications, devices and systems.
 - Achieving UA ensures everybody has the ability to experience the full social and economic power of the Internet using their chosen domain name and email address.
- The **first UA Day was held on 28 March 2023** and marked the first time a diverse set of technical and language communities, companies, governments and Domain Name System (DNS) industry stakeholders mobilized to champion UA and a multilingual Internet on a global scale.

World's happiest countries 2024: Full list and where India stands

About World Happiness Report:

- The annual World Happiness Report is a partnership of Gallup, the **Oxford Wellbeing Research Centre**, the **UN Sustainable Development Solutions Network** (SDSN), and the World Happiness Report's Editorial Board.
- It is based on global survey data from people based on **people's own assessments of their happiness**, as well as economic and social data. It considers **six key factors**: social support, income, health, freedom, generosity, and the absence of corruption. It assigns a happiness score **based on an average of data over a three-year period**.

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- **Highlights of World Happiness Report 2024:**
 - **The Nordic nations** continue to **dominate** the top rankings. **Finland topped the list** for the seventh year in a row.
 - The other top 10 countries are Denmark, Iceland, Sweden, Israel, Netherlands, Norway, Luxembourg, Switzerland, and Australia.
 - Out of the 143 countries surveyed, **Afghanistan remained at the bottom** of the list.
 - For the first time in over a decade, the United States and Germany have slipped out of the top 20 happiest nations, landing at 23rd and 24th place, respectively.
 - The report underscores a change wherein the **happiest countries no longer include any of the world's most populous nations**. Only the Netherlands and Australia, both with populations exceeding 15 million, are present in the top 10.
- **Where does India stand?**
 - India is **ranked 126th** on the list, the same as last year, in the happiness index.
 - **Older age is associated with higher life satisfaction** in India. The report said that older Indian men, particularly those in higher age brackets, presently married and those with an education, tend to report greater life satisfaction compared to their counterparts. However, **older women in India report lower life satisfaction than older men**.
 - Satisfaction with living arrangements, perceived discrimination, and self-rated health emerged as the top three predictors of life satisfaction.

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World wastes 1 billion meals a day, says U.N. report

About Food Waste Index Report 2024:

- It a study jointly authored by the **United Nations Environment Programme** (UNEP) and **WRAP (Waste and Resources Action Programme)**, a U.K.-based non-profit.
- It tracks the **global and national generation** of food and inedible parts wasted at the retail and consumer (household and food service) levels.
- **Highlights of the report:**
- The report defines “**food waste**” as “food and the associated inedible parts removed from the human food supply chain”.
- “**Food loss**” is defined as “all the crop and livestock human-edible commodity quantities that, directly or indirectly, completely exit the post-harvest/slaughter production/supply chain up to, and excluding, the retail level”.
- It noted that in 2022, there were 1.05 billion tonnes of food waste generated (including inedible parts), amounting to 132 kilograms per capita and almost one-fifth of all food available to consumers.
- Many **low- and middle-income countries** continue to **lack adequate systems** for tracking progress to meet Sustainable Development Goal 12.3 of halving food waste by 2030.
- At present, **only four G-20 countries** (Australia, Japan, U.K., U.S.) and the European Union have **food waste estimates** suitable for tracking progress.
- **Hotter countries** appear to generate **more food waste** per capita in households, potentially due to higher consumption of fresh foods with substantial inedible parts and a lack of robust cold chains.
- As compared to urban areas, rural ones generally wasted less food, due to “greater diversion of food scraps to pets, livestock and home composting”.

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- As of 2022, only **21 countries** had included **food loss and/or waste reduction** in their climate plans or **Nationally Determined Contributions** (NDCs).

Remembering Vaikom satyagraha, a 100 years later

About Vaikom Satyagraha:

- It is the **first anti-caste movement**, as the pupil of the depressed class and untouchables were restricted from entering the temple.
- It was aimed to establish the **rights of the oppressed classes** to walk on the roads to the Shree Mahadeva Temple in Vaikom in Kottayam district.
- **Background:**
 - The issue of temple entry was **first raised by Ezhava leader TK Madhavan** in a 1917 editorial in his paper Deshabhimani.
 - In AICC (All India Congress Committee) meeting in Kakinada 1923, **K Madhavan along with Sardar Panikkar and KP Kesava Menon** submitted a petition to the Travancore legislative council.
 - The petition sought to grant the right to temple entry and worship of gods for all sections of the society irrespective of caste, creed and community. The movement was launched on **30th March 1924**.
 - The movement in the vicinity of Mahadev temple in **Kottayam district of Kerala** took place during 1924-1925.
- **Factors responsible to Satyagraha:**
 - Christian missionaries, supported by the East India Company, had expanded their reach and many **lower castes converted to Christianity** to escape the clutches of an oppressive system that continued to bind them.
 - **Maharaja Ayilyam Thirunal** took many progressive reforms and the most important of these was the **introduction of a modern education system** with free primary education for all – even lower castes.

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- Prominent people who supported this Satyagraha are **Sree Narayana Guru and Periyar E.V Ramaswamy.**

Madagascar cyclone "Gamane" kills at least 18, displaces thousands

About Madagascar:

- Located **off the coast of East Africa** in the **Indian Ocean**, Madagascar is the second-largest island country in the world.
- It covers an area of 592,800 sq. kilometers.
- Geography: The country can be divided into **three parallel longitudinal physiographic regions.**
 - The coastal strip in the east, the central plateau and the western regions of low plateaus and plains.
 - The Tsaratanana Massif region at the northern end of the island is home to Madagascar's highest point, Maromokotro, at 2,876 m.
- **History:**
 - France invaded the island in 1883. France officially **declared Madagascar a French colony in 1896.**
 - After World War II, in 1947, locals fought for their independence from France in what became known as the Malagasy Uprising. **In 1960, Madagascar finally became an independent nation.**
- **Capital: Antananarivo**
- **Languages: Malagasy, French**
- **Government:** It is a **semi-presidential republic.** The public elects a president, who in turn appoints a prime minister to put together a cabinet to advise the president.

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- **Economy: Eighty percent** of Madagascar's economy is fueled **by agricultural industries**, including **forestry** and **fishing**. Among the island's most frequently sold agricultural products are **coffee, vanilla and sugarcane**.
- **Biodiversity:**
 - **Lush rainforests, dry deserts, and grassy plains** cover the island, with **coral reefs and mangrove forests** stretching along its coastlines.
 - Almost 90 percent of the plants and animals living on Madagascar aren't found anywhere else in the world. That's **because strong ocean currents have isolated the island** from the African continent, so the species living there haven't traveled beyond the island's borders.