



SROTHAS

A Monthly Magazine for UPSC Civil Service Examination

**CURRENT
AFFAIRS 2023
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POLITY & GOVERNANCE

National Company Law Appellate Tribunal

- It was established under Section 410 of the Companies Act, 2013 for hearing appeals against the orders of the National Company Law Tribunal(s) (NCLT), with effect from 1st June 2016.
- The NCLAT was established to provide an efficient and specialized forum for addressing matters related to company law, insolvency, and competition law.
- Functions:
 - Hear appeals against the orders passed by NCLT(s) under Section 61 of



the Insolvency and Bankruptcy Code, 2016 (IBC).

- Hear and dispose appeals against any direction issued or decision made or order passed by the Competition Commission of India (CCI).
- It also hears and disposes of appeals against the orders of the National Financial Reporting Authority.
- Composition:
 - It is composed of a chairperson and judicial and technical members
 - Appointment: These members are appointed by the Central Government based on their expertise and experience in relevant fields such as law, finance, accountancy, management, and administration.
- Headquarter: New Delhi.

India Flags Off First International Cruise Liner

- The Union Minister of Ports, Shipping & Waterways flagged off the maiden voyage of the vessel Costa Serena, the first International Cruise Liner in India from Mumbai.
- The initiative aligns with the Dekho Apna Desh campaign, reflecting the government's emphasis on promoting tourism.
- The development of cruise and lighthouse tourism is part of the Sagarmala Programme,

which aims to establish India as the premier cruise hub in the Asia Pacific region by 2030.

- The goal is to increase the annual number of cruise passengers in India to 18 lakhs by 2030, up from the current figure of 4.72 lakhs.
- India plans to have 25 operational cruise terminals by 2047, with an estimated annual passenger count of 5 million.

Krishi 24/7

- The Union Agriculture Ministry, in collaboration with the Wadhvani Institute for Artificial Intelligence (Wadhvani AI), developed Krishi 24/7.



- Krishi 24/7 is the first-ever AI-powered solution for automated agricultural news monitoring and analysis, with support from Google.org.
- The tool scans news articles in multiple languages and translates them into English.
- It extracts essential information from news articles, such as headline, crop name, event type, date, location, severity, summary, and source link, ensuring that the ministry receives timely updates on relevant events published on the web.
- It addresses the need for an efficient mechanism to identify and manage agricultural news articles of interest to aid timely decision-making.
- It will aid the Department of Agriculture and Farmers Welfare (DA&FW) to identify relevant news, generate timely alerts, and take prompt action to protect farmers interests and promote sustainable agricultural growth through improved decision-making.

LEAP AHEAD Initiative

- The Ministry of Electronics & Information Technology (MeitY) launched the LEAP AHEAD initiative, a collaborative effort between the Software Technology Parks of India (STPI) and The Indus Entrepreneurs (TiE) Delhi-NCR, aimed at supporting and accelerating the success of tech startups in India.

- Launchpad for Tech Entrepreneurs towards Accelerated Growth and Pioneering AHEAD (LEPAHEAD) aims to support tech startups by offering them access to funding (up to ₹1 Crore), mentorship and global connections.
- Start-ups are companies in their early stages of operation, founded by entrepreneurs aiming to meet demand with innovative products or services.
- India has become the 3rd largest start-up ecosystem in the world after the US and China.
- India is home to 75,000 Startups.



Pauradhvani Program : Kerala State Literacy Mission

- The Kerala State Literacy Mission (KSLM) is launching the Pauradhvani program in Ernakulam and eight other districts to shape informed and independent citizens.
- This program aims to instill scientific aptitude, independent thinking, secularism, democratic spirit, constitutional values, and awareness about rights among the population.
- Pauradhvani has a six-point motto, emphasizing the
 - rights of marginalized sections
 - Democracy
 - Brotherhood
 - Building an egalitarian society
- The program covers topics such as the independence struggle, forest rights, rules for coastal areas, women-centric rules, and rights and laws governing children, health, and nutrition.

Composite Water Management Index



- The Composite Water Management Index (CWMI) has been a pivotal tool in India, serving as a significant barometer for assessing states' efficacy in water management.

- The Composite Water Management Index (CWMI) is launched by NITI Aayog to provide an annual snapshot of the water sector status and water management performance of the states and union territories in India.
- Launched in June 2018 by Niti Aayog, the CWMI's debut edition spotlighted India's water challenges, rating states based on 28 parameters, utilizing data from 2015-16 and 2016-17.
- The second edition launched in August 2019 was for 2017-18.
- The report was a result of collaborative efforts between NITI Aayog and three key ministries: Water Resources, Drinking Water & Sanitation, and Rural Development.
- The Index comprises nine themes (each having an attached weight) with 28 different indicators.

Alliance For Transformative Action On Climate And Health (ATACH)

- The World Health Organization (WHO) has introduced an Operational Framework for constructing climate-resilient and low-carbon health systems.
- Framework is important to implement the Alliance for Transformative Action on Climate and Health (ATACH) goal
- Climate-resilient and low-carbon health systems are designed to withstand the impacts of climate change while minimizing their carbon footprint.
- ATACH is a WHO initiative, established in 2022, and is an informal voluntary network which works to realize the ambition set at COP26 to build climate-resilient and sustainable health systems.

Digital Advertisement Policy, 2023

- The Ministry of Information and Broadcasting sanctioned the Digital Advertisement Policy, 2023, which aims to expand the government's outreach through digital media channels.
- Key Highlights:
 - The policy enables the Central Bureau of Communication to employ digital advertising for government initiatives, using digital media's wide reach to efficiently convey citizen-centric messages.



- CBC will leverage digital audio platforms, Over-the-Top services, video on demand, mobile apps, and social media for government advertising.
- The policy introduces competitive bidding for rate discovery, ensuring fair pricing and efficiency.
- Aligning with the current social media presence of various government departments, this policy amplifies the outreach of government schemes and initiatives through CBC's extensive advertisement dissemination.
- The policy acknowledges the dynamic nature of the digital landscape and incorporates provisions to embrace new technologies and platforms.

Cell Broadcast Alert System

- National Disaster Management Authority's Cell Broadcast Alert System is a cutting-edge technology enabling the government to send urgent disaster management messages to all mobile devices within a specific geographic area.
- Developed by C-DOT under the Department of Telecommunication, it is designed to deliver critical alerts for severe weather warnings, public safety messages, evacuation notices, and other emergency information.
- The system was recently tested in collaboration with the Department of Telecommunications, with sample alerts labelled as SAMPLE TESTING MESSAGE.

AAINA Dashboard For Cities

- A A I N A Dashboard for Cities portal has been made live by Ministry of Housing and Urban Affairs (MoHUA).
- A A I N A Dashboard for Cities would serve as a tool for comparing similarly placed Urban Local Bodies (ULBs) and promoting peer learning amongst ULBs.
- This dashboard helps ULBs by pointing to possibilities and areas of improvement and



providing them the opportunity to learn and engage with frontrunners.

- It aims to create a robust database of the key performance metrics of Urban Local Bodies, which could be accessed by all stakeholders, and subsequently would open for public view once it gets populated.
- AAINA Dashboard are to help cities to:
- The Dashboard has been envisaged as a permanent platform for ULB related data, that would be updated on a regular basis.
- The Ministry through Digital India Corporation will provide handholding support to ULBs / States in the data submission process on a need basis.

One Station One Product Scheme

- One Station One Product scheme is an initiative by the Indian Railways, under the Ministry of Railways.
- It was launched with a vision to promote Vocal for Local.
- It provides uniquely designed sale outlets for locals to sell indigenous products nationwide.
- This scheme is designed by the National Institute of Design, Ahmedabad.
- It aims to build each railway station as a promotional hub and showcasing local and indigenous manufacturing products.
- Under the scheme, the allotment is done to all eligible applicants on a rotational basis.
- The pilot of the scheme was started on March 25, 2022.
- This scheme is providing welfare of local artisans, potters, weavers, tribals etc.
- The eligible applicant will be allotted a temporary stall or kiosk for a period of 15 days on deposition of Rs 1,000 with Railways.
- Sale outlets are provided at stations nationwide, allotted through a tendering process.
- The zonal railways will identify the stations, eligible products and the vendors.



Annappurna Certificate Programme

- Annappurna Certificate Programme, an initiative by the Indian Council for Cultural

Relations (ICCR), has recognized six Indian restaurants worldwide for promoting Indian culinary traditions.

- This annual program acknowledges restaurants contributing to India's cultural cause through cuisine on a global scale.
- The Indian Council for Cultural Relations was founded in 1950.
- It is an autonomous organisation of the Government of India.
- It is involved in India's global cultural relations, through cultural exchange with other countries and their people.

National Health Claim Exchange

- National Health Claim Exchange (NHCX) is a digital health claims platform developed by the National Health Authority.
- National Health Authority (NHA) and the Insurance Regulatory and Development Authority of India (IRDAI) together functions to operationalize the National Health Claim Exchange
- It will serve as a gateway for exchanging claims-related information among various stakeholders in the healthcare and health insurance ecosystem.
- It is designed to be interoperable, machine-readable, auditable and verifiable, as well as help ensure the information exchanged is accurate and trustworthy.

National Health Authority

- It is the apex body responsible for implementing Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY).
- It has been entrusted with the role of designing strategy, building technological infrastructure and implementation of National Digital Health Mission to create a National Digital Health Eco-system.
- It is the successor of the National Health Agency, which was functioning as a registered society.
- According to the Cabinet decision for full functional autonomy, the National Health Agency was reconstituted as the National Health Authority in January 2019.
- It is an attached office of the Ministry of Health and Family Welfare with full functional autonomy.

- It is governed by a Governing Board chaired by the Union Minister for Health and Family Welfare.

Hello Naariyal

- Coconut Development Board launched Hello Naariyal Call Centre.
- To bolster coconut farmers and improve coconut cultivation practices, CDB has introduced the Hello Naariyal Friends of Coconut Trees (FoCT) call center facility.
- This initiative is designed to offer essential support to farmers in different aspects of coconut harvesting and plant management operations.

Central Adoption Resource Authority

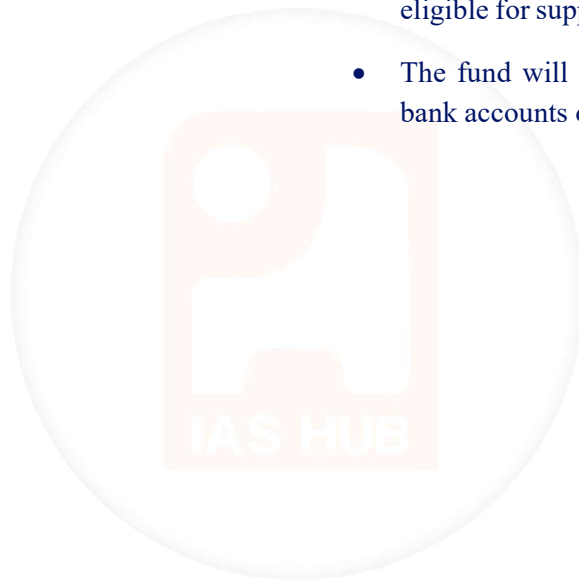
- The Supreme Court has recently questioned the significant delay in India's adoption processes. Approximately 30,000 prospective parents wait for an average of three years, with only 10% of orphaned children adopted annually.
- Central Adoption Resource Authority is a statutory body of the Ministry of Women & Child Development, Government of India.
- It is designated as the Central Authority to deal with inter-country adoptions in accordance with the provisions of the Hague Convention on Inter-country Adoption, 1993, ratified by the Government of India in 2003.
- It is the nodal body regulating the adoption of orphaned, surrendered and abandoned children in India.
- It monitors and regulates bodies such as the State Adoption Resource Agency (SARA), Specialised Adoption Agency (SAA), the Authorised Foreign Adoption Agency (AFAA), Child Welfare Committees (CWCs), and District Child Protective Units (DPU).
- In India, a child can be placed with a family under the Hindu Adoption and Maintenance Act, 1956; the Guardians and Wards Act, 1890; and the Juvenile Justice Act, 2000.

- The mandatory registration of Child Care Institutions (CCIs) and linking to CARA has been provided in the Juvenile Justice (Care and Protection of Children) Act, 2015.

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Yojana

- The Prime Minister recently distributed the 15th installment of the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Yojana, totalling over Rs 18,000 crore and benefiting more than 80 million farmers.
- PM-KISAN is a Central-Sector scheme with 100% funding from the Government of India.

- The scheme aims to supplement the financial needs of the farmers in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income.
- It has become operational from 1.12.2018.
- Under the scheme, income support of 6,000/- per year in three equal installments will be provided to all land-holding farmer families.
- The definition of family for the scheme is husband, wife, and minor children.
- The State Government and UT administration will identify the farmer families that are eligible for support as per scheme guidelines.
- The fund will be directly transferred to the bank accounts of the beneficiaries.



ECONOMY

GST Amnesty Scheme

- The finance ministry has come out with an amnesty scheme for filing appeals against Goods and Services Tax (GST) demand orders.
- GST Amnesty Scheme will be open till January 31, 2024.
- It will be available for entities that were unable to submit their appeals against orders issued by the tax officer on or before March 31.
- The scheme aims to help those who missed the deadline for filing appeals due to various reasons, including administrative errors or unforeseen circumstances.
- The entities willing to avail of the scheme will have to pre-deposit 12.5 percent of the tax demand, against 10 percent.
- This initiative can also promote enhanced compliance among taxpayers.
- A fair and lenient approach to appeal filing encourages better cooperation with tax authorities and a willingness to resolve disputes or clarify tax matters.
- This benefits both taxpayers and the tax administration by streamlining the appeal process and potentially reducing the need.

Toll Operate Transfer (TOT) Model

- In the TOT model, public-funded projects, operational for two years, are put up for bidding, wherein the right of collection and appropriation of fees is assigned for a predetermined concession period (30 years) to concessionaires (developers or investors)



against the upfront payment of a lump sum amount to NHAI.

- Such assignment of rights shall be based on the toll revenue potential of the identified NH projects.
- Operation & Maintenance (O&M) obligations of such projects shall be with the concessionaire till the completion of the concession period.

- The concessionaires for such projects shall be appointed through a transparent and uniform procurement process within the ambit of a pre-defined and approved implementation framework.
- It will help in the utilisation of the corpus (generated from proceeds of such project monetisation) by the Government to meet fund requirements for future development and O&M of highways in the country, including in unviable geographies.
- TOT model has been developed to encourage private participation in Highway sector.

Payment Aggregator Cross Border

- The Reserve Bank of India (RBI) has brought under its direct regulation all entities facilitating cross-border payments for import and export of goods and services and termed them Payment Aggregator-Cross Border (PA-CB).
- Payment Aggregator-Cross Border (PA-CB) facilitates cross-border online payments for the import and export of permissible goods and services.
- The RBI has set a minimum net worth requirement of Rs 15 crore for these entities, which will be categorised as PA-CB.
- They will be accountable for ensuring that they do not facilitate payment transactions for the import of any restricted or prohibited goods and services.
- If the amount involved exceeds Rs 2.5 lakh, the PA-CB must carry out due diligence on the buyer as well.
- Payment Aggregator is a third-party service provider that allows merchants to accept payments from customers by integrating it into their websites or apps.
- It facilitates different types of payment transactions, including cash and cheques, online payments through multiple payment sources, or offline touchpoints.
- It allows merchants to accept bank transfers without setting up a bank-based merchant account. It means a merchant need not have a merchant account directly with the bank.
- A PA in India is incorporated under the Companies Act 2013.
- A PA can be a bank or a non-bank entity.
- Since a PA handles funds, it requires a license from the RBI.

National Coal Index

- The National Coal Index (NCI) rose 3.83 points to 143.91 in September amid growing demand for coal.
- National Coal Index is a price index which reflects the change in the price level of coal on a particular month relative to the fixed base year.
- This price index combines the prices of coal from all the sales channels- Notified Prices, Auction Prices and Import Prices.
- It has been rolled out on 4th June 2020 and the aim is to have an index that will truly reflect the market price.
- The base year is FY 2017-18.
- The concept and design of the Index as well as the Representative Prices have been developed by the Indian Statistical Institute, Kolkata.
- The Index is meant to encompass all transactions of raw coal in the Indian market.
- This includes coking and non-coking of various grades transacted in the regulated (power and fertilizer) and non-regulated sectors.
- The NCI's upward movement indicates rising demand of coal because of upcoming festive season and winter in the country, which will encourage coal producer to take maximum benefit by further scaling-up domestic coal production to meet the growing energy demands.



- According to a recent gazette notification, individuals can initiate the process of opening an account within three months from the date of receiving their retirement benefits, provided they can provide proof of the disbursement date of these benefits.
- The revised scheme allows depositors to extend their accounts multiple times upon maturity.

MSCI Index

- MSCI Index is owned by the multinational investment management and financial services company Morgan Stanley.



- It is an investment research firm that provides stock indexes, portfolio risk and performance analytics, and governance tools to institutional investors and hedge funds.
- It is a leading provider of critical decision support tools, including stock indexes, and services for the global investment community.
- MSCI indices facilitate the construction and monitoring of portfolios in a cohesive and complete manner, avoiding benchmark misfits.
- It has over 160,000 indices in its portfolio.
- MSCI has indexes for countries, regions, emerging markets, developed markets, small-cap, all cap and even Islamic indexes.
- It selects stocks for its equity indexes that are easily traded and have high liquidity, with companies having high free float getting more weightage.
- It prefers stocks that have active investor participation and are without owner restrictions.
- MSCI India Index is designed to measure the performance of the large and mid-cap segments of the Indian market.

Senior Citizen's Savings Scheme And PPF

- The Indian government has introduced revised rules for various small savings schemes, including the Senior Citizen's Savings Scheme and the Public Provident Fund (PPF), with the aim of making them more attractive to investors.
- These changes include extending the timeframe for opening a Senior Citizen's Savings Scheme account and modifying premature withdrawal rules for the PPF.
- Under the new norms for the Senior Citizen's Savings Scheme, individuals now have three months to open an account, an increase from the previous one-month timeframe.

IndusInd Bank Platinum RuPay Credit Card

- IndusInd Bank has taken a significant leap in the realm of digital payments with the launch of its groundbreaking initiative – the 'IndusInd Bank Platinum RuPay Credit Card' on the UPI platform.
- This collaboration with the National Payments Corporation of India (NPCI) marks a pivotal moment in the evolution of seamless and versatile payment options for customers.

INTERNATIONAL RELATIONS

Exercise KAZIND-2023

- The Indian Army and Indian Air Force contingent, comprising 120 personnel, departed to take part in the Joint Military Exercise KAZIND-2023 conducted at Qatar,



Kazakhstan, from October 30th to November 11th, 2023.

- Exercise KAZIND-2023 is the 7th edition of Kazind exercise.
- The Joint Exercise between India and Kazakhstan was instituted as Exercise PRABAL DOSTYK in the year 2016.
- After the second edition, the Exercise was upgraded to a company-level exercise and renamed as Exercise KAZIND.
- The Exercise has been further upgraded as a Bi-service Exercise this year by including the Air Force component.
- In this edition of the Exercise, both sides will practise conduct of Counter Terrorism operations in a sub-conventional environment under United Nations mandate.
- The contingents will jointly rehearse various tactical drills to include Raid, Search and Destroy Operations, Small Team Insertion and Extraction operations, etc.
- The scope of the Exercise also includes conduct of Counter Unmanned Aerial System Operations.

United Nations Interim Force In Lebanon

- United Nations Interim Force in Lebanon was created by the Security Council in March 1978 after Israel's invasion of Lebanon.
- According to Security Council resolutions 425 (1978) and 426 (1978) of 19 March 1978
- UNIFIL was established to:
 - Confirm the withdrawal of Israeli forces from southern Lebanon.
 - Restore international peace and security.
 - Assist the Government of Lebanon in ensuring the return of its effective authority in the area.

- The mandate had to be adjusted twice, due to the developments in 1982 and 2000.
- The mission maintains an intensive level of operational and other activities amounting to approximately 14,500 activities per month, day and night, in the area of operations.
- Seventeen percent of activities are carried out jointly with the Lebanese Armed Forces. UNIFIL is complemented by a five-vessel Maritime Task Force.
- UNIFIL is funded through a separate account approved on an annual basis by the General Assembly.
- It is a part of UN peacekeeping force.

Treaty Of Conventional Armed Forces In Europe

- Russia formally withdrew from the Treaty of Conventional Armed Forces in Europe (CFE) recently.
- Treaty of Conventional Armed Forces in Europe (CFE) negotiated during the final years of the Cold War and signed a year after the fall of the Berlin Wall, CFE placed limits on the deployment of military equipment to maintain military balance between North Atlantic Treaty Organization (NATO) and the then-Warsaw Pact countries.
- Its purpose was to stop Cold War rivals from building up forces that could be used in a swift assault.
- Twenty-two member states of the two military alliances, NATO and the Warsaw Pact came together in Paris on November 19, 1990, to sign the agreement.
- It finally entered into force on November 9, 1992. The Warsaw Pact by this time had disintegrated, and its treaty obligations were consequently passed to the pact's successor states.
- Specifically, the Treaty required NATO and Warsaw Pact states to have in total no more than 40,000 battle tanks, 60,000 armoured combat vehicles, 40,000 pieces of artillery, 13,600 combat aircraft, and 4,000 attack helicopters on the whole territory of the respective alliances.

INDUS-X Investors Meet

- The inaugural INDUS-X Investors Meet, organized by Innovations for Defence Excellence (iDEX) and the US Department of

Defence, preceded the 2+2 Indo-US Ministerial Dialogue.



- During the event, the INDUS-X Educational Series Gurukul was launched.
- The Gurukul initiative aims to guide innovators and startups within the defence ecosystems of both the US and India.
- The INDUS-X initiative, launched in June 2023, serves as a defence innovation bridge, fostering strategic partnerships, joint challenges, innovation funds, academia engagement, and industry-startup connections between India and the US.
- It is a major upcoming initiative under the Initiative on Critical and Emerging Technologies (iCET).

Exercise CORPAT And Bongosagar

- Exercise CORPAT and BONGOSAGAR between the Indian Navy and Bangladesh Navy were conducted in the Northern Bay of Bengal from 07 – 09 Nov 2023.
- Exercise CORPAT and Bongosagar is the 4th edition of the BONGOSAGAR and the 5th edition of Coordinated Patrol (CORPAT) exercise. Both are bilateral naval exercise.
- Indian Navy Ships Kuthar, Kiltan and Maritime Patrol Aircraft (MPA) Dornier participated in the exercise along with Bangladesh Navy Ships Abu Bakr and Abu Ubaidah.
- CORPAT-23 also included the maiden Humanitarian Assistance and Disaster Relief (HADR) drills conducted between the two navies wherein a Search and Rescue scenario at sea was exercised.
- INS Kuthar is an indigenously built guided-missile Corvette, whereas INS Kiltan is an indigenously built anti-submarine Corvette

6th Session Of India-Ethiopia Joint Trade Committee

- The 6th Session of the India-Ethiopia Joint Trade Committee (JTC) concluded in Addis Ababa, Ethiopia, bringing together officials from both countries to strengthen economic ties.

• Key Highlights of the JTC meeting:

- India invited Ethiopia to collaborate on integrating the Unified Payment Interface (UPI) with Ethiopia's Ethswitch.
- Ethswitch is a payment platform infrastructure in Ethiopia.
- India urged Ethiopia to explore settling trade transactions in the local currency for enhanced bilateral trade and conservation of foreign exchange.
- Health and pharmaceuticals, automobiles, textiles, infrastructure projects, food, and agro-processing are identified as key sectors for mutual investments.
- Both sides also reviewed the progress of ongoing discussions for Memorandum of Understanding (MoUs) in the field of Standardization and quality assurance and Customs procedure and agreed to conclude them expeditiously.

India-US 2+2 Ministerial Dialogue



- 5th Edition of the India-US 2+2 Ministerial Dialogue took place, where both countries highlighted progress in various areas of bilateral cooperation including defense, semiconductors, emerging technology, space, health etc.
- The 2+2 meetings signify the participation of two high-level representatives, Ministers holding Foreign and Defence portfolios, from each of the two countries who aim to enhance the scope of dialogue between them.
- Key Highlights of the India-US 2+2 Dialogue
 - Both nations aimed to collaboratively co-develop and co-produce defence systems, fostering a deeper partnership in defence technologies.
 - India and the U.S. negotiated deals for the purchase of MQ-9B unmanned aerial vehicles and the licensed manufacturer of General Electric's F-414 jet engine in India.
 - Both sides discussed infantry combat vehicles, particularly the Stryker, as part

- of the defence industry cooperation roadmap.
- Both sides reviewed the progress of the India-U.S. Defence Industrial Ecosystem, INDUS-X, launched in June 2023, aimed at expanding the strategic technology partnership and defence industrial cooperation.
- India's decision to become a full member of the Combined Maritime Forces, a multilateral construct headquartered in Bahrain, was welcomed by the Defense Secretary of the US
- The Ministers welcomed the rapid progress made under the India-US Initiative on Critical and Emerging Technology (iCET) to build science and technology and critical technology value chain collaborations in both the commercial and defence sectors.
- The US emphasized that the bilateral relationship extends beyond addressing the challenges posed by China.
- The ongoing row between India and Canada, particularly concerning security concerns related to a Khalistan separatist based in the US and Canada, was addressed.
- India reiterated its stance on the Israel-Hamas Conflict, advocating for a two-state solution (Two countries officially demarcated and Internationally Recognised) and the early resumption of dialogue.

Trishakti Prahar

- Trishakti Prahar is a joint military exercise involving the Indian Army, the Indian Navy, and the Indian Air Force.



- It aims to enhance mutual coordination and operational efficiency.
- It seeks to create new strategies and assess operational capabilities in the context of modern warfare.
- During the exercise, all three wings of the Indian Army actively engage in live practice sessions, simulating real war scenarios with complete coordination.

- The exercise includes long-range attacks by reconnaissance aircraft, emphasizing precision and high-volume attacks to effectively neutralize hypothetical adversaries.
- It involves a diverse array of military assets, including various types of howitzers, helicopters, and weaponry.
- This encompasses the deployment of the Army's T-90s and Arjun main battle tanks.
- A major highlight of the exercise is the demonstration of the operational capability and readiness of the Pune-based South-western Command of the Indian Air Force.
- This segment showcases the Air Force's preparedness for integrated air-land operations, combined arms operations, and its fast mobility and deep strike offensive capabilities.
- Fighter aircraft, Apache attack helicopters, Chinook heavy lift helicopters, and various Navy aircraft contribute to the multifaceted nature of the exercise.
- It serves as a platform to evaluate the effectiveness of modern warfare technologies such as unmanned aerial vehicles, precision-guided missiles, loiter munitions, counter-drone systems, communication systems, and automatic spectrum monitoring systems in a simulated operational environment.

6th India-OPEC Energy Dialogue

- The 6th High-Level Meeting of the India-Organization of the Petroleum Exporting Countries (OPEC) Energy Dialogue brought together key representatives at the OPEC Secretariat in Vienna, Austria.
- Key Highlights :
 - The Meeting focused on key issues related to oil and energy markets with a specific emphasis on ensuring availability, affordability and sustainability, which are necessary to ensure the stability of energy markets.
 - The meeting concluded with both parties underscoring the importance of fostering enhanced cooperation between OPEC and India moving forward.
 - World Oil Outlook 2023, which forecasted that India would be the fastest-growing major developing economy, averaging long-term growth of 6.1% between 2022-2045 and accounting for over 28% of incremental global energy demand during the same period.

- Both sides have recognized the importance of India as the third-largest energy consumer, crude oil importer and the fourth-largest global refiner, in global economic growth and energy demand.
- The meeting also acknowledged the achievements and initiatives of India in the fields of renewable energy, energy efficiency, hydrogen economy, and climate change mitigation.
- It was agreed to hold the next High-Level Meeting of the India-OPEC Energy Dialogue in 2024 in India.

Innovation Handshake : India And US

- India and the United States have officially launched the Innovation Handshake agenda, a collaborative effort aimed at deepening bilateral ties in technology.
- The Innovation Handshake signals a commitment to strengthen the start-up ecosystem and promote cooperation in Critical and Emerging Technologies.
- The concept, developed under the US-India Commercial Dialogue, aims to connect dynamic start-up ecosystems, address regulatory hurdles, and promote innovation and job growth, especially in emerging technologies.
- The initiative focuses on priority sectors identified under the US-India Initiative for Critical and Emerging Technology (iCET).
- The goal is to foster a tech partnership and open up opportunities for collaboration while addressing challenges in these sectors.

CFE Treaty : Formal Suspension

- North Atlantic Treaty Organization has announced the formal suspension of the Treaty on Conventional Armed Forces in Europe (CFE), a key Cold War-Era Security Treaty in response to Russia's pullout from the deal.
- CFE Treaty was signed in 1990 and fully ratified in 1992, aimed to prevent massing of conventional armed forces by NATO and Warsaw Pact countries near mutual borders during the Cold War.
- It placed limits on the deployment of conventional military forces in Europe and played a significant role in reducing tensions and arms build-up in the region.
- This treaty was one of several Cold War-era agreements involving Russia and the United States.

Asia-Pacific Economic Cooperation Leaders Summit

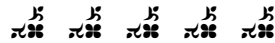
- The APEC is a regional economic forum established in 1989 to leverage the growing interdependence of the Asia-Pacific.
- APEC aims to create greater prosperity for the people of the region by promoting balanced, inclusive, sustainable, innovative and secure growth and by accelerating regional economic integration.
- The APEC process is supported by a permanent secretariat based in Singapore.
- Members: Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Chinese Taipei, Thailand, Vietnam and the United States.
- India currently has the observer status.
- Key Highlights of the APEC Leaders Summit 2023:



- The APEC 2023 summit's theme is Creating a Resilient and Sustainable Future for All.
- APEC reaffirmed their commitment to free, fair, and open trade and investment, and to advancing inclusive and sustainable growth in the region.
- The summit concluded with the adoption of the Golden Gate Declaration.
- The declaration underscores the commitment to creating a resilient and sustainable future for all member economies.
- The APEC leaders endorsed the APEC Action Agenda on Climate Change and Energy Security, which outlined a set of concrete actions and targets to enhance cooperation and coordination on addressing the climate crisis and ensuring energy security.

2nd Voice Of Global South Summit

- 2nd Voice of Global South Summit, hosted by India, focused on condemning the Hamas attacks of October 7 and called for restraint, dialogue, and diplomacy to resolve the Israel-Hamas conflict.
- Voice of Global South Summit is a platform where countries from the Global South, often described as developing or less developed, come together to share perspectives and priorities.
- The summit focuses on sustaining momentum toward a more inclusive, representative, and progressive world order.
- Indian PM unveils DAKSHIN (Global South Centre of Excellence) and calls for 5 'Cs' for the Global South: Consultation, Cooperation, Communication, Creativity, and Capacity building.
- The concept of the Global South can be traced to the Brandt report of 1980.



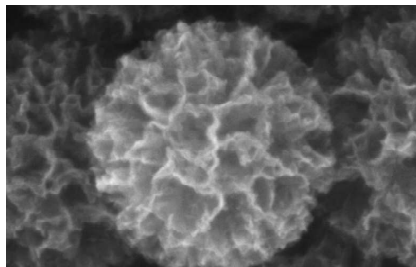
SCIENCE & TECH

Small Modular Reactors

- Small modular reactors (SMRs) are advanced nuclear reactors with a power capacity of up to 300 MW(e) per unit.
- This is about one-third of the generating capacity of traditional nuclear power reactors.
- SMRs are smaller than conventional nuclear reactors and can be built in one location, such as a factory, then shipped, commissioned, and operated at a separate site.
- This offers significant savings in cost and construction time.
- SMRs can produce a large amount of low-carbon electricity.
- The Indian Government is considering offering incentives, similar to a production-linked incentive (PLI) scheme, to encourage the manufacturing of small modular reactors (SMRs) with the goal of increasing nuclear power's share in India's energy production.
- The government aims to attract private investments and scale up SMR production to reduce costs.
- PLI schemes, introduced in 2020, provide financial incentives based on a share of the sales value and have been implemented in various sectors.

Carbon Nanoflorets

- Carbon nanoflorets are like tiny marigold flowers made only of carbon, which are called as the material carbon nanoflorets.
- Researchers heated a special form of silicon dust called DFNS (for dendritic fibrous nanosilica) in a furnace.



- Once heated, it introduced acetylene gas into the chamber.
- The white powder turned black, a sign that carbon had been deposited on the DFNS.
- Then they collected the black powder and treated it with a strong chemical that dissolved the DFNS away, leaving carbon particles behind.

- The structure of the silicon particles – 50-1,200 nanometers in size—resembled spikes arranged around a sphere.
- They reported that these nanoflorets could absorb sunlight at many frequencies and convert it to heat with unprecedented efficiency.
- The nanoflorets also didn't easily dissipate the heat generated into the environment, making the material a good candidate for heat.
- The nanoflorets converted the light energy they absorbed into thermal energy with a remarkable efficiency of 87%.
- The carbon nanoflorets high efficiency comes from three properties.
- The nanoflorets absorb three frequencies in sunlight specially infrared, visible light, and ultraviolet, while other common materials absorb only visible and ultraviolet light.

Lucy Mission

- NASA's Lucy spacecraft successfully completed its first flyby of an asteroid named Dinkinesh.

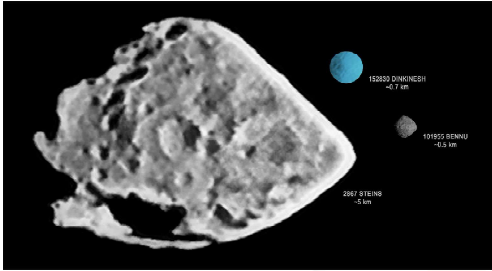


- Lucy Mission is a first-of-its-kind mission of NASA that explore Jupiter's elusive Trojan asteroids.
- Trojan Asteroids occupy a stable Lagrangian point in a planet's orbit around the Sun.
- They are some of the oldest remnants from the formation of our solar system 5 billion years ago.
- It was successfully launched on October 16, 2021, from the Kennedy Space Centre in Florida, US.
- Over its 12-year mission, Lucy will explore a record-breaking number of asteroids: it will fly by two in the belt of asteroids that circle the Sun between the orbits of Mars and Jupiter, and then 10 Trojans, which includes five asteroid targets and the satellites of three of those..

- Lucy will also fly by Earth three times to get a push from its gravity, making it the first spacecraft to return to the vicinity of Earth from the outer solar system.
- The spacecraft carries two infrared spectrometers and four cameras.

Asteroid Dinkinesh

- It found that the asteroid Dinkinesh, which it was set to fly by, is actually a binary system of two asteroids bound together during Lucy mission.



- Preliminary analysis suggests that the larger asteroid is about 790 meters wide, while the smaller one is approximately 220 meters in size.
- An asteroid is a rocky, metallic, or icy minor planet that orbits within the inner Solar System.
- Asteroids are smaller than planets but larger than meteoroids. They can range in size from 1-meter rocks to a dwarf planet almost 1000 km in diameter.
- Asteroids are remnants left over from the early formation of our solar system about 4.6 billion years ago.
- Most of them can be found orbiting our Sun between Mars and Jupiter within the main asteroid belt.
- Asteroids are also known as minor planets or planetoids.
- The larger forms of asteroids are also known as planetoids.

INFUSE Mission : NASA



- National Aeronautics and Space Administration (NASA) launched a sounding rocket as part of its INFUSE mission.
- The Integral Field Ultraviolet Spectroscopy Experiment (INFUSE) was launched from the White Sands Missile Range in New Mexico.

- It was launched to study the Cygnus Loop, a supernova remnant.
- The INFUSE mission is expected to collect information about the remnant for a few minutes from a height of 150 miles (240 km).
- Specifically, the instrument will gather light streaming from the Cygnus Loop in far-ultraviolet wavelengths.
- It will observe how the supernova dumps energy into the Milky Way by catching light given off just as the blast wave crashes into pockets of cold gas floating around the galaxy.
- It will study the Cygnus Loop and try to understand the life cycle of stars.

Apache Attack Helicopter

- The Indian Army is to induct six Apache attack helicopters armed with Stinger air-to-air missiles, Hellfire Longbow air-to-ground missiles, guns, and rockets.
- Apache Attack Helicopter is the world's most advanced multi-role combat helicopter.
- United States is its country of origin and is manufactured by Boeing.
- It is also known as the Apache Guardian.
- The AH-64E attack helicopter is the latest version of the Apache used by the US Army.
- Other purchasers are India, Egypt, Greece, Indonesia, Israel, Japan, South Korea, Kuwait, Netherlands, Qatar, Saudi Arabia, Singapore, UAE, and the UK.
- AH-64E Apache is designed and equipped with open systems architecture to incorporate the latest communications, navigation, sensor, and weapon systems.
- It has greater thrust and lift, joint digital operability, improved survivability, and cognitive decision-aiding.
- The AH-64E includes a new integrated infrared laser that allows for easier target designation and enhanced infrared imagery that blends infrared and night vision capabilities.

Bulava Ballistic Missile

- Russia recently carried out a successful test launch of the Bulava ballistic missile, designed to carry nuclear warheads.
- Bulava Ballistic Missile is a new Russian submarine-launched Intercontinental Ballistic Missile (ICBM).

- Development of this missile commenced in 1998.



- The first powered flight test of the Bulava missile occurred in September 2005. Its first submerged test launch followed in December.
- It was designed to be deployed onto Russia's Borey-class ballistic missile submarines (SSBNs).
- It was designed to be the backbone of Moscow's nuclear triad and has a range of over 8,000 kilometres (close to 5,000 miles).
- It is 12-13.5 m in length and has a diameter of approximately 2.0 m.
- It is a three-stage solid-fuel missile.
- It is designed to carry multiple warheads. Each warhead will strike a different target.
- It can carry six Multiple Independent Re-entry Vehicles (MIRVs).
- These MIRVs are capable of manoeuvring in-flight and re-targeting, in order to outmanoeuvre hostile air defences.
- It is stated that this missile has an accuracy of 350 m.

Olympus

- Amazon is investing heavily in an advanced large language model (LLM) called Olympus.
- This model is reported to have 2 trillion parameters, potentially outstripping OpenAI's GPT-4, which has one trillion.
- Details of the project have been kept under wraps, with sources discussing it under anonymity.
- Amazon has developed smaller models such as Titan and has collaborations with AI startups like Anthropic and AI21 Labs.
- These partnerships extend the reach of Amazon's AI capabilities to AWS users.
- By developing in-house LLMs, Amazon aims to enhance AWS offerings.
- The move could attract enterprise clients seeking access to top-tier AI models on AWS.
- LLMs are designed to process vast datasets and generate responses akin to human interaction.

Radiative Cooling Paint

- Radiative Cooling Paint is developed from a novel MgO-PVDF polymer nanocomposite.
- They used ultra-white and ultra-emissive magnesium oxide (MgO)-polyvinylidene fluoride (PVDF) nano-composite prepared from materials that are earth abundant, cheap, non-toxic and non-harmful.
- The optimized MgO-PVDF with a dielectric nanoparticles resulted in large solar reflectance of 96.3% and a record high thermal emission of 98.5%.
- The researchers developed polymer nanocomposite paint by using a simple solution-processed technique.
- By measuring the temperature of the paint using a thermocouple, excellent cooling performance was demonstrated under hot sunlight.
- The nanocomposite paint exhibited water-resistant hydrophobic properties and can be easily coated on pavers, wood sticks and so on with high uniformity and good adhesion.
- The surface temperature of a treated paver decreases by approximately 10°C under intense sunlight– almost double of the reduction that conventional white paints give.
- This low-cost, solution-processed paint demonstrates significant cooling capabilities with a high solar reflectivity and infrared thermal emissivity.

Vampire Viruses

- Vampire Viruses are pathogens that latch onto other viruses in order to replicate themselves.
- They emerge when a bacteriophage attaches to a soil-based virus, utilising its life for independent survival.
- This viral relationship between two pathogens is called a satellite and a helper.
- The satellite is the infectious strand that relies on the helper for support through its life cycle.
- Satellites depend on both their host organism and helper virus to complete its life cycle.
- The satellite virus depends on the helper virus to build the protective shell that covers its genetic material, called a capsid or to help it replicate its DNA.
- Most satellite viruses contain a gene that allows them to integrate into the host cell's genetic material after they enter the cell.

- This enables the satellite to reproduce whenever a helper enters the cell from then on.
- The host cell also copies the satellite's DNA and its own when it divides.

Arrow-3 Missile Defence System

- Arrow-3 Missile Defence System is an exo-atmospheric anti-ballistic missile defence system for long-range threat engagement.
- The missile was jointly developed by Israel Aerospace Industries and the Missile Defence Agency in the US.
- Initially deployed in 2017, Arrow-3 is the top layer of Israel's sophisticated air-defense network.



- It is designed to take out ballistic missiles while they are still outside of the atmosphere.
- It uses two-stage solid-fueled interceptors to engage short- and medium-range ballistic missiles and consists of a launcher, radar, and battle management system.
- It provides a range of 2,400km and can intercept threats at an altitude of 100km.
- It has early warning and fire control radar. It provides extended-range acquisition as well as multi-target acquisition and tracking capabilities.
- It uses hit-to-kill technology to destroy incoming missiles.
- The missile is launched vertically, and then the direction is changed towards the estimated interception point.
- The high-resolution electro-optical sensor acquires the target for the kill vehicle to hit the target and destroy the warhead.

Helicobacter pylori : Study

- The National Institute of Cholera and Enteric Diseases has made quick detection of drug-resistant Helicobacter pylori possible recently.
- A two-step PCR-based assay of a small region of the Helicobacter pylori (H. pylori) bacteria

can help detect H. pylori infection and also identify clarithromycin-resistant bacteria and those that are drug-sensitive in six-seven hours has been developed by a team of researchers from the National Institute of Cholera and Enteric Diseases (ICMR-NICED), Kolkata.

- Helicobacter pylori
 - It is a bacterium that infects the stomach lining.
 - It is linked to gastrointestinal issues like peptic ulcers and stomach cancer.
 - An ache or burning pain in abdomen and stomach pain that may be worse when stomach is empty are its major symptoms.
- Treatment
 - Clarithromycin is an antibiotic commonly used to treat H. pylori infections, but drug-resistant strains in India have raised concerns about its effectiveness.

Global Positioning System Tracker Anklet

- GPS anklets are small, wearable devices that are attached to the ankles of individuals who are under some form of legal supervision, such as parole, probation, house arrest, or bail.
- The tracker can be put on the ankle or arm of a person.
- GPS anklets are tamper-proof, and any attempt to remove or damage them triggers an alarm.
- They also have a battery life of several days and can be recharged by the wearer.
- GPS anklets can also be used to enforce curfews, travel restrictions, or other conditions



imposed by the court or the supervising agency.

- GPS anklets use the GPS technology to provide the exact location of the wearer at all times, and allow law enforcement and security agencies to monitor their movements in real-time.
- They balance public safety and rehabilitation by deterring crime, ensuring law compliance, and fostering offender well-being through family ties, education, and support services.

- GPS trackers are a precondition for bail in several countries including the United States, the United Kingdom, and Malaysia.

Igla-S: Hand-Held Anti-Aircraft Missiles

- Igla-S is a man-portable air defence system MANPADS developed by Russia.
- It is known in the West as SA-24 Grinch.
- It entered service with the Russian Army in 2004.



- It can be fired by an individual or crew to bring down an enemy aircraft.
- It has the capability of bringing down low-flying aircraft. It can also identify and neutralise air targets, such as cruise missiles and drones.
- The Igla-S system comprises of combat equipment, including the 9M342 missile and the 9P522 launching mechanism, along with maintenance equipment, including the 9V866-2 mobile test station and the 9F719-2 test set.
- It has an effective range upto 6 km.
- Russia recently signed a contract to supply Igla-S hand-held anti-aircraft missiles to India and has allowed the production of the Igla under license.

MQ-4C Triton: Uncrewed Aircraft

- MQ-4C Triton built for both the U.S. Navy and the Royal Australian Air Force, the MQ-4C Triton stands as the sole uncrewed, high-altitude, long-endurance aircraft designed for persistent maritime intelligence, surveillance, reconnaissance, and targeting.
- It was developed by the Northrop Grumman Corporation, an American multinational aerospace and defense technology company.
- Its autonomous operations are supported by land-based command and control mission planners and sensor operators.
- The aircraft can fly over 24 hours at a time, at altitudes higher than 10 miles, with an operational range of 8,200 nautical miles.

- It has a length of 14.5m, a height of 4.7m, and a wingspan of 39.9m.
- It can hold a maximum internal payload of 1,452kg and an external payload of 1,089kg.
- It has a maximum speed of 600 km/hr.

Crab Nebula : New Image

- NASA released a new image of the Crab Nebula, clearly showing a small white dot at its centre.
- Crab Nebula is a supernova remnant located 6,500 light-years away.
- It is located in the constellation Taurus.
- A nebula is a formation in space which is constituted mostly of helium, dust, and other gases in various concentrations.
- The shape and size of a nebula vary, and as such there can be various types of formations having different sizes.
- The Crab Nebula has continued to draw attention and additional study as scientists seek to understand the conditions, behaviour, and after-effects of supernovae through a thorough study of the Crab, a relatively nearby example.
- The discovery of the object as a nebula is attributed to the English physician and amateur astronomer John Bevis in about 1731.
- It is one of the few astronomical objects from which radiation has been detected over the entire measurable spectrum, from radio waves through infrared and visible wavelengths to ultraviolet, X-rays, and gamma rays.



Kavro Doma 360

- Kavro Doma 360 is the world-first rifle-rated ballistic helmet.
- It was indigenously developed by Kanpur-based MKU Limited.
- The world's first uniform rifle protection helmet: It offers uniform protection in all 5 zones of the head i.e. from front, back, left, right, and crown against threats like the AK-47 MSC, M80 NATO BALL, and M193 rifle bullets.



- It's the first anti-rifle helmet in the world that does not have bolts or any metal parts.
- It has a boltless shell, which means it provides 40% more protection area against even AK-47 assault rifles than standard helmets.

Nirbhay Cruise Missile

- Nirbhay Cruise Missile is a long-range sub-sonic cruise missile.
- It is India's first indigenously-produced cruise missile.
- The missile was developed by the Bengaluru-based Aeronautical Development Establishment, a lab under India's Defence Research and Development Organisation (DRDO).
- It is capable of deep penetration into adversary territory to strike high-value targets with precision.
- The Nirbhay measures 6.0 m in length, 0.5 m in body diameter, and weighs 1,500-1,600 kg at launch.
- It can strike land targets at a distance of up to 1,000 kilometres.
- It uses a solid propellant booster motor that is jettisoned shortly after launch, switching over to a turbojet engine.
- It is capable of loitering and cruising at Mach 0.7 (sub-sonic) at altitudes as low as 100 metres.
- It can be armed with a 200-300 kilogram warhead. It can carry both conventional and nuclear warheads.
- It can be launched from multiple platforms.
- It is guided by INS/GPS with an active-radar terminal seeker.

Kill Switch : Triggers The Death Of Cancer Cells

- Scientists from the UC Davis Comprehensive Cancer Center in California, have made a significant breakthrough by discovering a kill switch that triggers the death of cancer cells.
- The researchers identified a protein on a receptor, known as CD95 receptors or Fas, which can be designed to induce self-destruction in cancer cells when activated.
- The discovery is part of CAR T-cell therapy, involving the collection of T cells from the patient's blood, genetic modification in a lab to produce chimeric antigen receptors (CARs), and then injecting the modified cells back into the patient's body.

- The therapy has shown promising efficacy against liquid cancers like leukaemia but has demonstrated limited success against solid tumours such as breast, lung, and bowel cancer.
- Despite this limitation, the research team is hopeful that the therapy can evolve to target solid cancers in the future.
- The identified epitope on CD95 receptors offers a potential therapeutic path to target Fas in tumours.

Cosmic Vine : Extensive Galaxy Structure

- Cosmic Vine is a massive vine-like structure that encompasses 20 galaxies and stretches for over 13 light years.
- It's also very ancient.
- The researchers pegged it at redshift 3.44, meaning it's situated in the early universe.
- A redshift of 3.44 would mean light from the Cosmic Vine has been traveling for between 11 and 12 billion years before reaching JWST.
- It harbours two of the most massive galaxies ever discovered at such a high redshift—Galaxy A and Galaxy E, both in a quiescent state, indicating a reduced rate of star formation.
- Researchers believe that the Vine might serve as the precursor to a galaxy cluster, providing insights into the formation of such clusters and the emergence of massive galaxies within them.

Scattered Spiders : Hacking Group

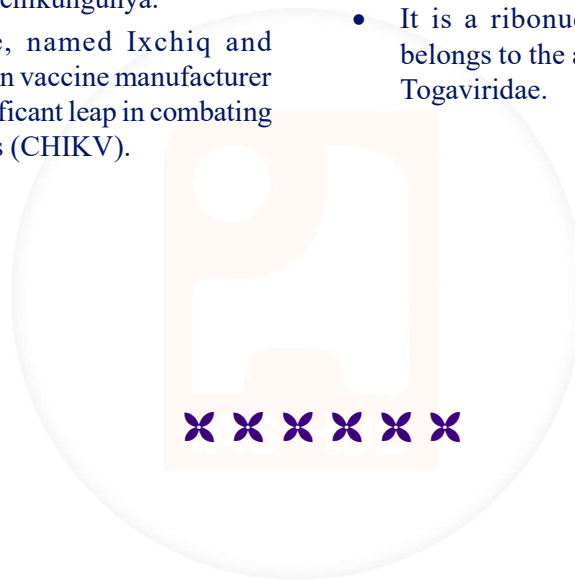
- Scattered Spiders is a hacking group notorious for invading various organisations across the world.
- This hacker group is known by other aliases as well, including Starfraud, UNC3944, Scatter Swine, and Muddled Libra.
- The members are as young as 16 years old and primary English speakers.
- They break into the IT environments of victims, exfiltrate as much valuable data as possible, and then demand payment to keep a lid on that information and not leak or sell it.
- They use fake profiles and impersonations to trick a victim organisation's help desk into giving them access.
- After gaining access to an organisation's systems, hackers keep an eye on internal communication channels.

- They also keep a tab on emails or conversations that might show if their breach has been discovered.
- The criminals frequently join incident remediation and response calls and teleconferences, likely to identify how security teams are hunting them and proactively develop new avenues of intrusion in response to victim defenses.

Ixchiq Vaccine For Chikungunya

- The Food and Drug Administration (FDA) in the United States approved the world's inaugural vaccine for chikungunya.
- This novel vaccine, named Ixchiq and developed by European vaccine manufacturer Valneva, marks a significant leap in combating the chikungunya virus (CHIKV).

- Ixchiq Vaccine is administered as a single dose via injection into the muscle.
- It contains a live, weakened version of the chikungunya virus, potentially causing symptoms akin to the disease in vaccine recipients.
- The vaccine has been approved for administration in people who are 18 years or older and are at increased risk of exposure to the virus.
- Chikungunya is a mosquito-borne viral disease. It was first recognized in 1952 during an outbreak in southern Tanzania.
- It is a ribonucleic acid (RNA) virus that belongs to the alphavirus genus of the family Togaviridae.



ENVIRONMENT

Myristica Swamps : Live Fossils

- The Myristica swamps, which are endemic to many species, are critically in need of conservation; currently, there is no consistent monitoring system in place to detect changes.
- Myristica swamps are called live fossils, a biodiversity hotspot dominated by evergreen



trees belonging to the Myristicaceae family, one of the oldest flowering plants on earth.

- These are freshwater swamps.
- These forests are characterised by trees with large, protruding roots jutting out of waterlogged soil, which remains inundated throughout the year.
- They have evolved over millions of years and are comprised of old-growth trees.
- In India, these unique habitats occur in the Western Ghats and a smaller distribution exists in the Andaman and Nicobar Islands.
- The formation of these swamps is dependent on abiotic conditions like the shape of the valley between the forested hills, the amount of rainfall a place receives (with an average of 3000 mm), and water availability throughout the year.
- Myristica swamps are seen next to rivers and help in retaining water and act as a sponge, ensuring perennial water availability.
- These swamps are home to many vertebrate and invertebrate faunal species. This is due to stable macroecological conditions like high humidity, moderate temperature, and macrohabitat availability.

Panna Tiger Reserve

- Panna Tiger Reserve is a critical tiger habitat located in the Vindhyan mountain range in the northern part of Madhya Pradesh.
- It was declared a Project Tiger Reserve by the Government of India in 1994.

- It is characterised by a Table Top topography.



- It consists of extensive plateaus and gorges.
- Ken River flows from south to north through the reserve.
- The dominant vegetation type is dry deciduous forest interspersed with grassland areas.
- It supports a sizable population of Sloth Bear, Leopard, and Striped Hyena.
- Other prominent carnivores are Jackal, Wolf, Wild Dog, Jungle Cat, and Rusty Spotted Cat.



Rajaji Tiger Reserve

- Rajaji Tiger Reserve (earlier Rajaji National Park) is located in the Shivalik range of the Himalayas and spread over 820 kms.
- It covers a part of over three districts of Uttarakhand namely Haridwar, Dehradun, and Pauri Garhwal.
- It was named after the famous freedom fighter Rajgopalachari, popularly known as Rajaji.
- The park was created in 1983 by the amalgamation of three sanctuaries:
 - Rajaji Sanctuary and National park (estd. 1948),
 - Motichur Sanctuary (estd. 1964), and
 - Chilla sanctuary (estd. 1977).
- On 20 April 2015, its name was changed to Rajaji Tiger Reserve.
- It is famous as an elephant habitat, as there are around 600 elephants in Rajaji.
- It's location in a transition zone between temperate western Himalaya and central Himalaya enhances the species diversity

- The area is covered with diverse forest types ranging from semi-evergreen to deciduous and from mixed broad-leaved to Terai grassland and has been classified as Indus-Ganges Monsoon Forest type.

Pavana River Foam



- Citizens and environmental activists have expressed concern over the thick layer of toxic foam seen on the Pavana River recently.
- Pavana River is situated in the west of Maharashtra state, in the Pune District.
- The river is a notable river that crosses Pune City and divides Pune City and the Pimpri-Chinchwad area.
- It originates from the Western Ghats, about 6 km south of Lonavala.
- It is a tributary of the Bhima River and merges with the Mula River in Pune city.
- Flowing eastward initially, it becomes southbound and passes through the suburbs of Dehu, Chinchwad, Pimpri, and Dapodi before its confluence with the Mula River.
- A dam is built on this river at Pavana Nagar, called the Pavana Nagar Dam.

Cloud Seeding : Study

- A cloud seeding experiment was carried out in Solapur city, which falls on the leeward side of the Western Ghats.
- Cloud seeding is a kind of weather modification technology to create artificial rainfall.
- The goal of this work is to change the amount of precipitation that falls from the sky or to alter the type that would reach the ground.
- It is a way of changing the amount or type of precipitation that falls from clouds, by dispersing substances into the air that serve as cloud condensation.
- Drones are charged into the clouds and cause an electric shock due to which they clump together and cause rainfall.

- Silver iodide, dry ice, and potassium iodide are the most common items used to initiate the cloud-seeding process.
- There are three cloud seeding methods: static, dynamic and hygroscopic.
- Static cloud seeding involves spreading a chemical like silver iodide into clouds.
- Dynamic cloud seeding aims to boost vertical air currents, which encourages more water to pass through the clouds, translating into more rain.
- Hygroscopic cloud seeding disperses salts through flares or explosives in the lower portions of clouds
- Cloud seeding can help to produce more precipitation. (Cloudbursts)
- It can make the land more suitable for living.
- It helps to regulate weather patterns in specific locations.

Climate Services Report For 2023

- The World Meteorological Organization (WMO) report Climate Services report for 2023 reveals that the health sector is ill-equipped to address heat and extreme weather impacts.
- Major findings of the report:
 - Climate change threatens to undo decades of health progress, with less than 25% of global health ministries using climate information to monitor climate-related health risks.
 - Despite air pollution being the fourth-largest health risk factor, only 2% of international climate finance is allocated to address it.
 - However, climate finance has doubled, averaging \$1.3 trillion annually in 2021 and 2022.

Stage-IV Of The Graded Response Action Plan

- Commission for Air Quality Management in National Capital Region(NCR) and Adjoining Areas has invoked an eight-point action plan aligning with Stage-IV of the Graded Response Action Plan (GRAP), aiming to avert any additional decline in the region's air quality.
- Eight Point Action Plan as per Stage-IV of GRAP:
 - Prohibiting the entry of truck traffic into Delhi, except for those transporting essential goods and services, along with LNG/CNG/electric trucks.

- Restricting non-Delhi-registered Light Commercial Vehicles (LCVs) to enter Delhi, unless they are EVs/CNG/BS-VI diesel, except for essential service carriers.
- Banning the operation of Delhi-registered diesel Medium Goods Vehicles (MGVs) and Heavy Goods Vehicles (HGVs), except for those transporting essential items.
- Imposing a prohibition on construction and demolition (C&D) activities in linear public projects like highways, roads, flyovers, power transmission, and pipelines.
- Advising NCR State Governments and GNCTD to transition physical classes for grades VI to IX, XI to online mode.
- Directing NCR State Governments/ GNCTD to consider allowing 50% capacity in public, municipal, and private offices, with the remainder working remotely.
- Empowering the Central Government to decide on work-from-home protocols for employees in Central Government offices.
- Encouraging State Governments to contemplate additional emergency measures such as the closure of educational institutions, non-essential commercial activities, and implementing an odd-even vehicle registration number scheme.

2023 Production Gap Report

- The 2023 Production Gap Report, authored by Stockholm Environment Institute, Climate Analytics, E3G, IISD, and UNEP, reveals a concerning trend where governments intend to produce approximately 110% more fossil fuels by 2030 than is consistent with limiting global warming to 1.5°C.
- Production Gap quantifies the difference between the projected extraction of coal, oil, and gas by governments and the global production levels required to meet climate goals, particularly those outlined in the Paris Agreement (warming to 1.5°C or 2°C).
- Major countries, including Australia, Brazil, Canada, China, India, and the UAE, are projected to increase global coal production by 2030 and oil and gas production until at least 2050.

Bioeconomy Report 2022

- India aims to increase the Bioeconomy's contribution to GDP) from 2.6% to 5% by 2030, as outlined in the Bioeconomy Report 2022 by the Department of Biotechnology (DBT).
- Biotechnology funding in India remains stagnant, with only a 0.0001% allocation of the GDP.
- The Guidelines for Genetically Engineered (GE) Insects, issued by the DBT in April 2023, provide procedural roadmaps for those interested in creating GE insects but have issues.
- Highlights of the Bioeconomy Report 2022:
 - India's bioeconomy is on a robust growth trajectory, projected to reach USD 150 billion by 2025 and surpass USD 300 billion by 2030.
 - The sector experienced a remarkable 14.1% increase, reaching USD 80 billion in 2021 compared to USD 70.2 billion in 2020.
 - In 2021, the sector witnessed the establishment of three biotech startups daily, totaling 1,128 for the year.
 - With over USD 1 billion invested in research and development, the industry is demonstrating a commitment to innovation and advancement.
 - Amidst the global pandemic, India administered 4 million Covid-19 vaccine doses and conducted 3 million tests daily, showcasing its resilience and capacity.
 - Over the past decade, the number of biotech startups has soared from 50 to over 5,300, with expectations of doubling by 2025.
 - The Biotechnology Industry Research Assistance Council (BIRAC) has played a pivotal role by establishing 74 bio-incubation centers across 21 states/UTs, fostering a supportive environment for bio-entrepreneurs.
 - India boasts the second-highest number United States Food and Drug Administration approved manufacturing plants outside the US, underscoring its global standing in the biotech industry.

Global Tiger Recovery Program 2.0 : Report

- As per the report submitted under the Global Tiger Recovery Program (GTRP) 2.0 overall tiger population increased 60%.
- Global Tiger Recovery Program (GTRP) was launched in 2010 under the Global Tiger Initiative (GTI) by the World Bank to save wild tigers.

- This initiative set up the ambitious target of reversing the rapid decline of wild tigers across their range and doubling their population numbers by 2022.
- Alongside these top-level targets, the GTRP set out urgent thematic actions at a national level to strengthen wild tiger conservation in sync with this global goal.
- The first GTRP helped to pull focus to wild tiger conservation and secure a collective commitment from TRCs.
- It was endorsed in the St Petersburg Declaration in 2010 which saw 13 tiger range countries committing to reverse the decline of the species population.
- GTRP 2.0 emphasizes on strengthening tiger governance, enhancing resources and protection, while addressing contemporary challenges like Human-Wildlife Conflict.
- It aims to pave the way for tiger conservation from 2023-2034.
- The 13 tiger range countries are Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao PDR Malaysia, Myanmar, Nepal, Russia, Thailand, and Vietnam.

Tadoba-Andhari Tiger Reserve

- Tadoba-Andhari Tiger Reserve is located in the Chandrapur district in of Maharashtra.
- The total area of the reserve is 625.4 sq. km. This includes Tadoba National Park, covering 116.55 sq. km and Andhari Wildlife Sanctuary, covering 508.85 sq. KM.
- The reserve has corridor linkages with Nagzira-Navegaon and Pench Tiger Reserves within the State.
- Biogeographically, the reserve falls in the Central plateau province of the Deccan Peninsula.
- The habitat has undulating topography in the north and is rich in biodiversity.
- There are two lakes and one waterway in the reserve, Tadoba Lake, Kolsa Lake, and the Tadoba River.
- The notable faunal species include the tiger, leopard, sloth bear, wild dog, gaur, chital, and sambar.

- As many as 280 species of birds are found, apart from reptiles (54 species), amphibians (11 species), and fishes (84 species).

NEST Initiative

- The Indian Green Building Council (IGBC) launched a rating and certification initiative called Nest.
- NEST initiative is to promote sustainable and eco-friendly construction in the domestic housing sector.
- It would pave the way for individual house owners and the residential sector to adopt green building features in a big way to help bring down electricity consumption and water usage and create a healthy living space.

Greenwashing

- Greenwashing is the process of conveying a false impression or misleading information about how a company's products are environmentally sound.
- Greenwashing involves making an unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly or have a greater positive environmental impact than they actually do.
- Greenwashing may occur when a company attempts to emphasize sustainable aspects of a product to overshadow its involvement in environmentally damaging practices.
- Companies can also greenwash initiatives with vague claims that don't provide real data or scientific validation for the claims.

Kadalundi Mudflat : Shrinking

- The mudflat ecosystem in Kadalundi, located on the southwest coast of India, is shrinking rapidly due to natural and anthropogenic factors, with sand sedimentation covering the once-abundant inter-tidal mudflats.
- In the early 2000s, Kadalundi had approximately 8 hectares of nutrient-rich mudflats, but now it has dwindled to just about 1 hectare.
- The mudflats provide essential prey, such as polychaetes and crustaceans, attracting a diverse range of migratory birds from places like Siberia, Ladakh, Mongolia, and Scotland.

Narmada River : New Guideline

- A division bench of MP High Court recently granted time to the state government to present in the court the guidelines for urban and rural areas through which river Narmada flows in the state as regards construction in the vicinity of the river.
- Narmada River is the largest west-flowing river in peninsular India.
- The origin of the river is a tiny reservoir named Narmada Kund, which is situated on the Amarkantak Hill in the Anuppur District of East Madhya Pradesh at an elevation of 1,057 m (3,467.8 ft).
- The river flows through Madhya Pradesh, Maharashtra, and Gujarat between Vindhya and Satpura hill ranges before falling into the Gulf of Cambay in the Arabian Sea about 10 km north of Bharuch, Gujarat.
- The total length of the river from source to sea is 1312 kilometres (815 miles).
- It is one of the rivers that flow in a rift valley and acts as a divider between North India and South India.
- The river has numerous waterfalls, notably the Dhuandhar Falls, southwest of Jabalpur.
- The Narmada has several tributaries, with the most significant ones being the Tawa, Barna, Hiran, and Orsang rivers.

Axolotl : Campaign To Support Conservation

- Mexican ecologists from the National Autonomous University have relaunched the “Adoptaxolotl” fundraising campaign to support the conservation of axolotls, an endangered fish-like salamander.
- Axolotl is a species of salamander. The name axolotl is derived from the Latin words atl (water) and xolotl (monster).
- Salamanders are a group of amphibians that includes frogs and toads.
- Found in Mexico City’s Lake Xochimilco
- IUCN Status: Critically Endangered
- They have the ability to regenerate lost or damaged limbs, hearts, spinal cords, and even parts of their brains without permanent scarring.
- They remain underwater throughout their life
- Axolotls are a cultural icon in Mexico for their unique slimy appearance and limb-regenerating ability.
- Scientists believe that the regrowing power of Axolotls could hold the secret to tissue repair and even cancer recovery in the future.

- The Mexican Axolotl population has drastically declined by more than 99% in less than two decades.
- The primary contributors include Water pollution, the spread of Chytrid Fungus (a skin-eating disease), habitat loss, droughts, wastewater disposal, and the impacts of climate change.

Global Biodiversity Framework Fund

- Experts said that the world’s new biodiversity framework fund lacks any real financial commitment to meet conservation targets.
- Global Biodiversity Framework Fund was created to ramp up investment in nature restoration and renewal.
- It has been designed to mobilise and accelerate investment in the conservation and sustainability of wild species and ecosystems, whose health is under threat from wildfires, flooding, extreme weather, and human activity, including urban sprawl.
- The fund was established at the 7th Assembly of the Global Environment Facility in Vancouver, Canada.
- It will help countries achieve the 23 targets set under the Kunming-Montreal Global Biodiversity Framework (KMGBF).
- The framework was adopted at the 15th Conference of the Parties (COP15) to the UN Convention on Biological Diversity last December.
- It will be managed by the Global Environment Facility (GEF) and raise funds through private, philanthropic, and government investments.
- This is a departure from GEF, which relied on just 40 donors for finance.
- It will also have access to funds earmarked for biodiversity conservation under GEF.
- The facility has a cumulative budget of \$5.25 billion for 2022-26, of which 36 percent is earmarked for biodiversity.
- The remaining budget is for projects on climate change, pollution, land and ocean health.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

- It is an international agreement between governments that aims to ensure that international trade in wild animals and plants does not threaten their survival.
- CITES was adopted in 1973 and entered into force in 1975.
- There are 184 member parties, and trade is regulated in more than 38,000 species.

- Although CITES is legally binding on the Parties – in other words, they have to implement the Convention—it does not take the place of national laws.
- The CITES Secretariat is administered by the United Nations Environment Programme (UNEP) and is located in Geneva, Switzerland.
- Representatives of CITES nations meet every two to three years at a Conference of the Parties (or COP) to review progress and adjust the lists of protected species, which are grouped into three categories with different levels of protection:
- Appendix I:
 - It includes species threatened with extinction and provides the greatest level of protection, including a prohibition on commercial trade.
- Appendix II:
 - It includes species that are not currently threatened with extinction but may become so without trade controls.
 - Regulated trade is allowed if the exporting country issues a permit based on findings that the specimens were legally acquired and the trade will not be detrimental to the survival of the species or its role in the ecosystem.
- Appendix III:
 - It includes species for which a country has asked other CITES parties to help control international trade.
 - Trade in Appendix III species is regulated using CITES export permits (issued by the country that listed the species in Appendix III) and certificates of origin (issued by all other countries).
 - Countries may list species for which they have domestic regulations in Appendix III at any time.
- CITES also brings together law enforcement officers from wildlife authorities, national parks, customs, and police agencies to collaborate on efforts to combat wildlife crime targeted at animals such as elephants and rhinos.

Indian Green Building Council

- Indian Green Building Council is part of the Confederation of Indian Industry (CII) and was formed in the year 2001.
- It is India's Premier certification body.
- The council offers a wide array of services, which include developing new green building

rating programmes, certification services and green building training programmes.

- The council also organises the Green Building Congress, its annual flagship event on green buildings.
- It is also among the 5 countries that are on the board of the World Green Building Council, discussing global issues at COP and similar global platforms.
- The rating is based on six environmental categories, which include sustainable station facility, health, hygiene and sanitation, energy efficiency, water efficiency, smart and green initiatives and innovation and development.
- Headquarter: Hyderabad.

Onattukara sesame

- It is cultivated in the state of Kerala.
- Onattukara Ellu and its oil are famous for its unique health benefits.
- Relatively higher antioxidant content in Onattukara Ellu helps in fighting the free radicals, which destroy the body cells.
- It has a high content of unsaturated fat which makes it beneficial for heart patients.
- This sesame grown in the region contains high levels of Vitamin E and antioxidants.
- It also contains oleic acid, linoleic acid, palmitoleic acid and so on which help maintain good health.

Gajraj Suraksha

- It uses an AI-based algorithm and a network of sensitive optical fibre cables to detect elephants getting close to railway tracks.
- It aims to address the issue of elephant fatalities resulting from train accidents.
- Gajraj Suraksha senses pressure waves generated by the movement of elephants along the tracks.
- As elephants move, the optical fibres detect vibrations caused by their footsteps.
- The network is designed in such a way that it can track the movement of the elephant with great accuracy and report it to nearby station masters.
- This allows them to promptly inform locomotive drivers in the affected areas.
- This quick communication ensures that trains can be slowed down or stopped, preventing potential collisions with elephants.
- Indian railway is planning to introduce this system in West Bengal, Odisha, Jharkhand, Assam, Kerala, certain parts of Chhattisgarh, and Tamil Nadu.

Press mud

- It is often known as filter cake or press cake,
- It is the agricultural waste obtained when cane juice is repeatedly filtered before being sent for extraction of sugar.
- The filters are cleaned periodically, and the waste is deposited into the yard of the mill.
- Nearly 3 to 4 percent of press mud is obtained when per tonne of cane is crushed.
- At present, mills recycle this agriculture waste as manure by composting the same and supply it to the farmers in the area.

• Benefits

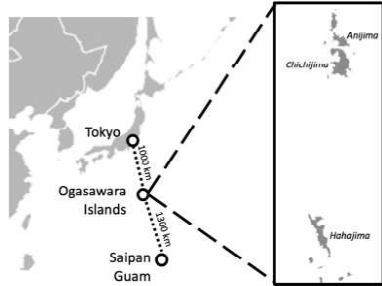
- It can be utilised as a feedstock for biogas production through anaerobic digestion and subsequent purification to create compressed biogas (CBG).
- It is very useful for agricultural crops and horticulture because of its richness in various micronutrients.
- It has been acknowledged as a valuable resource for green energy production.
- Issue with press mud: Storing pressmud proves challenging as it undergoes gradual decomposition, resulting in the breakdown of organic compounds.



LOCATION IN NEWS

Ogasawara Islands

- The Ogasawara Islands are located in the North-Western Pacific Ocean.
- It is also known as Bonin Islands.



- It is a volcanic arc comprising more than 30 islands and islets.
- The landscape is dominated by subtropical forest types and sclerophyllous shrublands surrounded by steep cliffs.
- It is one of the famous UNESCO World Heritage sites of Japan.

Dnieper River

- Dnieper River is the fourth-longest river in Europe after the Volga, the Danube, and the Ural.
- In Russian, the river's name is Dnepr. In Ukrainian, it is Dnipro, and in Belarusian, it is Dnyapro.
- Located in Eastern Europe, the Dnieper River and its tributaries drain much of Belarus and Ukraine.
- It originates in Russia, in the low Valdai Hills west of Moscow.
- It runs a total length of 1,368 miles through western Russia, Belarus, and Ukraine before emptying into the Black Sea.
- It passes through numerous urban centers such as the Russian cities of Smolensk and Dorogobuzh, as well as Mogilev in Belarus and Kiev, Cherkasy, Dnipro, and Zaporizhia in Ukraine.
- It has as many tributaries, including the Sozh, Desna, Trubizh, Bilozerka, Drut, Berezina, and Prypiat Rivers.

Shan State

- It is a state in Myanmar.

- It borders China to the north, Laos to the east, Thailand to the south, and five administrative divisions of Myanmar in the west.



- The largest of the 14 administrative divisions by land area, Shan State covers 155,800 km², almost a quarter of the total area of Myanmar.
- The state gets its name from the Burmese name for the Tai people: “Shan people”.
- The Shan constitute the majority among several ethnic groups that inhabit the area. The Shan are Theravada Buddhists and have their own written language and literature.
- The Thanlwin River (also known as the Salween/Namkhong) cuts across the state, which is also home to Inle Lake, the second-largest natural expanse of water in Myanmar.
- Shan is largely rural, with only three cities of significant size: Lashio, Kengtung, and the capital, Taunggyi.
- Shan State, with its many ethnic groups, is home to several armed ethnic armies.
- While the military government has signed ceasefire agreements with most groups, vast areas of the state, especially those east of the Thanlwin River, remain outside the central government's control and in recent years have come under heavy ethnic-Han-Chinese economic and political influence. Other areas are under the control of military groups, such as the Shan State Army.

Ben Gurion Canal

- The Ben Gurion Canal Project or Israeli Canal is a proposed canal project through the state of Israel.
- It would connect the Gulf of Aqaba to the Mediterranean Sea.
- David Ben Gurion, for whom it would be named, is considered the Founding Father of Israel and was the first Prime Minister of Israel.

- The canal would rival the Suez Canal. The Suez Canal which runs through Egypt and has had many disturbances in its history, such as the Israeli blockage through the Suez Canal and Straits of Tiran, the Closure of the Suez Canal (1956–1957), Closure of the Suez Canal (1967–1975), and the 2021 Suez Canal obstruction.



- It would be almost one-third longer than the 193.3 km Suez Canal, at around 292.9 km.

Rafah Crossing

- The Rafah Crossing is a border crossing point between the Gaza Strip and Egypt, located in the southern Gaza Strip.
- It serves as one of the few access points for people and goods to enter or exit the Gaza Strip, which is a Palestinian territory along the eastern coast of the Mediterranean Sea.
- Egypt has maintained strict movement restrictions at the Rafah crossing for years, raising concerns that it indirectly supports

Israel's Gaza blockade, which began in 2007 after Hamas took control.

- It is the only exit that does not lead to Israeli territory.
- The crossing is at the south of the Gaza Strip and wedged between Israel, Egypt and the Mediterranean Sea.
- The crossing is controlled by Egypt.

Kenya

- Kenya is a country in Eastern Africa.
- Kenya's capital and largest city is Nairobi, while its oldest city and first capital is the coastal city of Mombasa.
- Kenya is located in East Africa between the Indian Ocean and Lake Victoria.
- Kenya is bordered by South Sudan to the northwest, Ethiopia to the north, Somalia to the east, Uganda to the west, Tanzania to the south, and the Indian Ocean to the southeast.
- Kenya has a large minority of Indians and Persons of Indian Origin living there who are descendants of labourers who were brought in by the British to construct the Uganda Railway

SPECIES IN NEWS

Alycaeus himalayae : New Snail Species

- A new snail species named *Alycaeus himalayae* was discovered from a cave in Arunachal Pradesh.



- *Alycaeus himalayae* is a new snail species belonging to the genus *Alycaeus*.
- *Alycaeus* is a genus of small land snails.
- The genus is the first to be reported in India, as this genus is restricted to Southeast Asia and not known in the Indian region.
- This new species differs from all other Himalayan alycaeid species due to its yellowish, conical shell.
- The most similar shell in the vicinity is *Stomacosmethis spratti* from the Shan States, Myanmar.
- It differs from all other *Alycaeus* species by the characteristic trumpet-like projection on the outer side of the operculum.
- It is, so far, the only *Alycaeus* species inhabiting the Himalayas.
- All other known *Alycaeus* species are reported from Laos, Vietnam, southern Thailand, and Peninsular Malaysia.

Cnemaspis Rashidi : A New Species Of Gecko



- A new species of gecko has been discovered in the Western Ghats near Rajapalayam in Tamil Nadu.
- *Cnemaspis Rashidi* is a new species of gecko.
- So far, 93 species of gecko have been documented, and this is the 94th species.
- The new species is also called Rashid's dwarf gecko, as it is the smallest among the genus.

- It is approximately two inches long from its snout.
- It was found at an altitude of 1,245 metres at the Kottamalai estate near Rajapalayam.
- It displayed a combination of colour patterns of yellow, white and black adorning its back, making it stand out among its gecko relatives.
- It is endemic to the Western Ghats.

Crab plover



- Crab-plover is a long-legged, black and white bird of Indian Ocean coasts, related to plovers and allied species of shorebirds.
- This is the only shorebird that lays white eggs, and chicks remain inside the burrows until the fledging stage.
- The chicks are semi-nidifugous, unlike chicks of other shorebirds that leave the nests shortly after hatching.
- They are residents of the coasts and islands of the Indian Ocean.
- They breed around the Arabian Sea of Pakistan, the Gulf of Oman and the Persian Gulf, Red Sea, Somalia, the Andaman Islands, Sri Lanka, Tanzania, and Madagascar.



- These birds inhabit sandy coastlines, mudflats, estuaries, lagoons, exposed coral reefs, and rocky shorelines.
- During the breeding season, they can also be found in sand dunes.
- Conservation Status
 - IUCN: Least Concern

Candolleomyces albosquamosus

- *Candolleomyces albosquamosus* is a new species mushroom belonging to the genus *Candolleomyces*, which is relatively small genus with just 35 species recognised worldwide.

- It has white woolly scale-like structures on its pileus or cap.
- It grows to a height of just about 58 mm.
- The ‘cap,’ or pileus, of a mature *Candolleomyces albosquamosus* is 12 mm to 38.5 mm in diameter and bell-shaped.
- The honey-yellow coloured pileus turns brownish-gray or brownish-beige with age.
- The stipe the stem or stalk of the mushroom is white in colour and cylindrical.
- Habitats of *Candolleomyces albosquamosus* include dead logs or bamboo culms in the natural forest.

Awaous Motla

- A group of scientists discovered an edible freshwater fish available in the markets of western Odisha.
- Awaous Motla is a fish with a vibrant yellow-coloured body and a fleshy upper lip.
- It was collected from the Mahanadi River.
- The discovery was made during the ongoing research project funded by the Department of Science and Technology of the Odisha government.
- The species belongs to the family ‘Awaous’ (*Oxudercidae*) and is thus named Awaous motla.



Taeniogonalos dhritiae

- *Taeniogonalos dhritiae* is a new species of wasp discovered in the Ranipuram Hills area in the Western Ghats of Kerala.
- It is named after Dr. Dhriti Banerjee, a noted entomologist.
- It is a species in the family Trigonalalyidae.
- While there are about 122 described species of Trigonalalyidae in 16 genes worldwide, the knowledge of Indian Trigonalalyidae is scanty, with only eight described species till date.



- These insects are hyperparasitoids (parasites of parasites) where females lay eggs on other parasitic wasps.
- The Trigonalalyidae family is found in abundance in parts of Europe, Northern Africa, and Asia.

Zaglossus attenboroughi : Echidna

- *Zaglossus attenboroughi* known as Attenborough’s long-beaked echidna (*Zaglossus attenboroughi*) or Sir David’s Long-beaked Echidna, the animal belongs to a small, unique group of egg-laying mammals called monotremes, which also includes the platypus.
- It is the smallest known species of long-beaked echidna, weighing between 5 and 10 kilograms.



- They have five claws on each foot, and adult males have a small, non-venomous spur on the inside of each ankle. Adult females lack these spurs.
- The fur is distinctive, short, fine, and dense, unlike other echidnas, and raw umber brown in color.
- There is short fur that covers the few spines on the middle back of this species.
- Adults have no teeth, but the tongue is covered in tooth-like spikes.
- Conservation Status:
 - IUCN Red List: Critically Endangered

Picocystis Salinarum

- *Picocystis Salinarum* is a globally widespread picoplanktonic green algae of saline lakes.
- It is one of the smallest green algae.
- It is found in hypersaline soda lake Sambhar, Rajasthan, to survive extreme environments.
- Though the algae had been widely found in saline-soda lakes around the world, it was spotted for the first time in India only in the Sambhar Lake.
- The unique organism apparently enhances



Saurauia Punduana : Recorded For The First Time In Manipur

- The Saurauia Punduana plant was recorded for the first time in Manipur's Tamenglong district.
- Saurauia Punduana is a plant species that belongs to the Actinidiaceae family.
- The flowers of Saurauia Punduana turn white to pink on maturity. Petals are pink, ovate to obovate, curled at the tip.
- Its fruits are spherical, shining white, and are used in veterinary medicine.
- Its flowers are complete, bisexual, i.e., with functional male (androecium) and female (gynoecium),
- It is a critically endangered species as per the International Union for Conservation of Nature (IUCN) Red List.
- Global Distribution: Bangladesh, Bhutan, China, India, and Myanmar.
- In India, it is found in Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura.
- Threats: Saurauia species are susceptible to various insect pests, virus and fungi, affecting leaves, fruits and roots.

Sangai

- It is subspecies of Eld's deer endemic to Manipur.
- It also has immense cultural relevance to Manipur.
- Distribution: It is found only in Keibul Lamjao National Park – the largest single mass of phumdi is in the Loktak Lake – in Manipur's Bishnupur district.
- It is a medium-sized deer, with uniquely distinctive antlers, with extremely long brow tine, which form the main beam.
- The forward protruding beam appears to come out from the eyebrow, hence called the brow-antlered deer.
- It has a dark reddish-brown winter coat, which turns paler in summer.
- The deer walks on the hind surface of its pasterns with mincing hops over floating foliage, and is hence also called the Dancing Deer.

- Conservation status
 - IUCN: Critically Endangered
 - The Wildlife (Protection) Act, 1972: Schedule-1

Rhododendron

- It is a genus of flowering plants that includes over a thousand species, including trees, shrubs, and creepers.
- These are a diverse genus of about 1,000 species of woody flowering plants in the heath family (Ericaceae), notable for their attractive flowers and handsome foliage.
- Habitat: They occur in a variety of habitats, including alpine regions, coniferous and broadleaved woodlands, temperate rain forests, and even tropical jungle
- Distribution: They are native to the temperate regions of Asia, North America, and Europe, as well as to the tropical regions of Southeast Asia and northern Australia.
- They also require a slightly acid soil to grow well.
- They exhibit an enormous diversity of size and shape, from prostrate ground covers growing no more than a few inches high to trees more than 100 feet tall.
- There are 132 taxa (80 species, 25 subspecies and 27 varieties) of rhododendrons found in India.
- They are also known as Lali Guras in local language, and are the national flower of Nepal and the state tree of the state of Uttarakhand in India.

Sea buckthorn

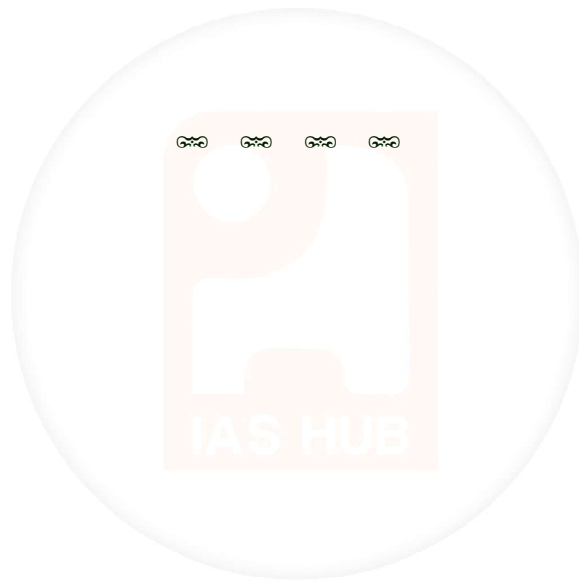
- Sea buckthorn (*Hippophae rhamnoides*) is a plant found throughout Europe and Asia.
- In India, it is found above the tree line in the Himalayan region, generally in dry areas such as the cold deserts of Ladakh and Spiti.
- It is naturally distributed over 11,500 hectares in the Ladakh region.
- It produces small orange or yellow-coloured berries that are sour in taste but rich in vitamins, especially vitamin C.
- The shrub can withstand extreme temperatures ranging from minus 43 degrees Celsius to 40 degrees Celsius and is considered drought-

resistant. These two characteristics make the shrub an ideal plant species to establish in cold deserts.

- Sea Buckthorn berries have a unique characteristic of remaining intact on the shrub throughout the winter months despite the subzero temperature.
- Uses
 - It has been used traditionally for a variety of purposes.
 - Every part of the plant—fruit, leaf, twig, root, and thorns has been traditionally

used as medicine, nutritional supplement, fuel, and fence.

- Many bird species feed on the berries when other sources of food are limited in the region.
- The leaves serve as protein-rich fodder for cold desert animals like sheep, goats, donkeys, cattle, and double-humped camels.
- Therefore, it is popularly known as the Wonder Plant, Ladakh Gold, Golden Bush, or Gold Mine of cold deserts.



MISCELLANEOUS

Hostile Activity Watch Kernel System (HAWK)

- The Karnataka Forest Department, along with the Wildlife Trust of India, launched the



Hostile Activity Watch Kernel (HAWK) system.

- Hostile Activity Watch Kernel (HAWK) system is Cloud Based Information Management System designed to manage interlinked databases of wildlife crime, wildlife criminals, and wildlife mortality.
- It will help officials analyse the information and develop actionable intelligence to prevent wildlife crimes and curb Illegal Wildlife Trade (IWT).
- The system connects the entire state forest department in real-time and the access is restricted through access levels.
- All the data managed by the HAWK system is secured with the government and industry standard security measures are applied to ensure data security.
- The development of HAWK started in 2017 in the state of Kerala by a joint team of Kerala Forest Department & Wildlife Trust of India.
- The system was officially launched in 2019 in Kerala, and since then it has been the official system of the state forest department.
- The implementation of a customised version of HAWK was initiated in 2022 in Karnataka in partnership with the ICT cell of Karnataka forest department, and the system is being implemented across the state.

Bru Refugees

- Bru, also known as Reang, is a community indigenous to the Northeast, living mostly in Tripura, Mizoram, and Assam.
- In Tripura, they are recognised as a Particularly Vulnerable Tribal Group.
- They belong to Indo-Mongoloid racial stock. Their languages have an affinity with Austro-Asiatic groups under the Tibeto-Burman family.

- Ethnically, they are divided into two major clans, namely Meska and Molsoi.
- They speak a language known as Kaubru, which has a tonal effect on the Kuki language, though broadly, it is the Kok-Borok dialect.
- They are still a nomadic tribe, and a large number among them maintain their livelihood involving Hilltop Jhum Cultivation and other food gathering activities.
- They believe in spirits and the existence of a soul.
- By religion, they are Hindus, and most of their deities are akin to gods and goddesses of the Hindu faith.
- They are traditionally endogamous and do not marry outside their community.
- In their tradition, the village council chief, known as RAI, permits Divorce and Widow marriage.



Bletchley Declaration : For AI Safety



- Bletchley Park, the historic site known for its crucial role in World War II, is hosting the world's first global summit on artificial intelligence (AI) safety in 2023.
- Britain, along with 28 other countries and the European Union, published the "Bletchley Declaration" at Bletchley Park, England.
- Bletchley Declaration aims to enhance global collaboration on artificial intelligence (AI) safety.
- It has a two-fold focus: identifying shared AI-related risks and enhancing scientific understanding of these risks, as well as creating cross-country policies to address them

Pichwai Painting

- Pichwai art originated in Nathdwara, near Udaipur, and is traditionally created on cloth, typically khadi.
- The paintings use stone pigments for gold and silver tones and vegetable dyes for vibrant

colours like orange, red, chrome yellow, and kesari.

- The detailed work is meticulous and time-consuming, taking several months to complete a single piece.
- The art form has evolved over time, with modern themes and influences incorporated by artist.
- In recent years, there has been a resurgence in Pichwai art, attracting younger buyers and encouraging artists to return to their hometowns in Rajasthan to learn and continue the traditional techniques.



Klyuchevskoy Volcano

- The Klyuchevskoy volcano erupted on Russia's Kamchatka Peninsula.
- Klyuchevskoy volcano is one of the most famous volcanoes in
- It is one of the highest active volcanoes in the world, with a height of 4,750 metres.
- The volcano consists of a truncated cone with a central crater.
- It is a stratovolcano.
- It has erupted more than 50 times since 1700.
- Kamchatka Peninsula lies in far eastern Russia, between the Sea of Okhotsk on the west and the Pacific Ocean and Bering Sea on the east.
- It is one of the world's most concentrated areas of geothermal activity, with about 30 active volcanoes.



Geoglyph

- A geoglyph in the form of a circle said to be 3,000 years old has been recently unearthed on the outskirts of Mudichu Thalapalli in the Medchal-Malkajgiri district of Telangana.
- Geoglyph is a large design or motif (generally longer than 4 metres) produced on the ground and typically formed by clastic rocks or similarly durable elements of the landscape, such as stones, stone fragments, gravel, or earth.
- A geoglyph is created by arranging or moving objects within a landscape.
- There are two types of geoglyphs, namely positive and negative geoglyphs.

- It is formed by the arrangement and alignment of materials on the ground in a manner akin to petroglyphs (which are simply outlines created using boulders).



- It is formed by removing part of the natural ground surface to create differently coloured or textured ground in a manner akin to petroglyphs.
- There is another variation of a geoglyph that involves seeding plants in a special design. The design usually takes years to see since it depends on the plants growing. This type of geoglyph is called an arbour glyph.
- Another type of geoglyph often referred to as chalk giants are those carved into hillsides, exposing the bedrock beneath.

Stable Auroral Arc



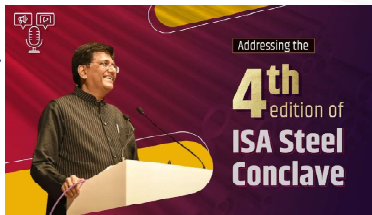
- The Indian Astronomical Observatory (IAO) in Ladakh captured images of a rare red-colored aurora known as a Stable Auroral Arc.
- Stable Auroral Arc is a rare atmospheric phenomenon which was observed during a strong G3-class geomagnetic storm.
- Unlike auroras, which occur when charged particles from space hit the atmosphere causing it to glow, SAR arcs form differently.
- They are an indication of heat energy leaking into the upper atmosphere from Earth's ring current system, a donut-shaped circuit carrying millions of amps around our planet.
- During the recent geomagnetic storm, the ring current was energised by hours of intense geomagnetic activity, with energy dissipating into these SAR arcs.
- Aurora form is formed when the sun is ejecting charged particles from its corona, creating solar wind.
- When that wind slams into Earth's ionosphere, the aurora is born.

Global TB Report 2023

- The World Health Organization has released the Global Tuberculosis report 2023, highlighting the high burden of TB worldwide in 2022.
- India accounted for the highest number of TB cases in the world in 2022, with 2.8 million TB cases, representing 27% of the global burden.
- It was the world's second leading cause of death from a single infectious agent in 2022, following Covid-19.
- TB caused almost twice as many deaths as Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome stage (AIDS).
- Among the top eight high burden countries, in addition to India, are Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh, and the Democratic Republic of Congo.
- Without treatment, the death rate from TB disease is high, at about 50%.
- However, with treatments currently recommended by WHO (a 4–6 months course of anti-TB drugs), about 85% of people with TB can be cured.
- Countries like India, Indonesia, and the Philippines, accounted for over 60% of the global reductions.

4th Edition Of ISA Steel Conclave 2023

- The 4th edition of ISA Steel Conclave 2023 was held, nudging Steel Firms to ramp up their capacities so that India's output of the critical infrastructure input doubles to 300 million tonnes a year by 2030.
- The event was marked by discussions on the theme, Steel Shaping The Sustainable Future, underscoring the multifaceted role of the steel industry in India's growth and development.
- India is the world's second-largest producer of crude steel, with an output of 125.32 million tonnes (MT) of crude steel and 121.29 MT of finished steel production in FY23.
- The steel industry in India has experienced substantial growth in the past decade, with a 75% increase in production since 2008.



- The per-capita consumption of steel in India stood at 86.7 kilograms in FY23.
- The Indian steel industry has been driven by the availability of raw materials, such as iron ore, and cost-effective labor.
- As per the National Steel policy, launched in 2017, India projects crude steel capacity of 300 million tonnes (MT), production of 255 MT and a robust finished steel per capita consumption of 158 Kgs by 2030-31

Phreatomagmatic Eruption

- It is an eruption that involves both magma and water. It typically interacts explosively leading to concurrent ejection of steam and pyroclastic fragments.
- Phreatomagmatic ash is formed by the same mechanism over a wide range of basic and acidic compositions. A blocky and uniform crust with low vesicle content is formed.
- Deposits from phreatomagmatic eruptions are thought to be better classified and finer-grained than those from magmatic eruptions.
- This is the result of higher fragmentation of phreatomagmatic eruptions.



Devil Comet

- Devil Comet is scientifically named Comet 12P/Pons-Brooks.
- It is larger than typical comets and has been dubbed the Devil Comet for appearing to have horns.
- Its horns are tails of gas and dust formed by an odd series of explosive outbursts that scientists still do not understand.
- An outburst, is where comets suddenly get much more active, throwing off tons of gas and dust in a short period of time.
- When this happens, the comet brightens really rapidly and then sort of fades back to the brightness it had before.



Kangri : Traditional Fire Pot Of Kashmir

- The Kangri, also known as Kanger or Kangid, is earthenware filled with glowing embers and encased in pretty handmade wicker baskets.

- It is a portable and moving heater that Kashmiris keep in their pheran, a long woollen cloak reaching down to the knees worn by people during the frosty winters.
- A pot can hold about 250 grams of charcoal, and the fire, lasts for hours, under a pheran.
- It keeps people warm during the harsh winter months, when temperatures can drop below minus 20 degrees.
- It is known for its outer shell made of willow wicker reeds that grow abundantly in the wetlands of north Kashmir's Ganderbal district.
- These reeds can reach eight feet in height and are harvested during autumn, just before demand for the fire pots swells.
- These then go through a multi-layered process of scraping and peeling to get rid of the bark, soaking, boiling, and drying before they are ready to be woven around a bowl-shaped clay pot.

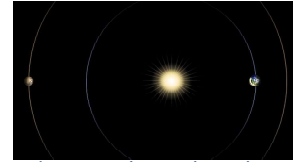


Organization of the Petroleum Exporting Countries (OPEC)



- The OPEC is a permanent, intergovernmental Organization, created at the Baghdad Conference in 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela.
- It is headquartered in Vienna, Austria.
- OPEC's objective is to coordinate and unify petroleum policies among Member Countries, to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry.
- Members: Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates and Venezuela.

Mars Solar Conjunction



- Mars solar conjunction is a phenomenon which occurs when the Sun is between Earth and Mars.
- It happens once every two years.
- During this time, Sun expels hot, ionised gas from its corona.
- It could corrupt radio signals sent from Earth to Mars.
- Also, this could cause unexpected behaviour from the spacecraft on Mars.
- This year, it is occurring between November 11 and November 25
- Mars is the fourth planet in the solar system in order of distance from the Sun and seventh in size and mass.
- It is a periodically conspicuous reddish object in the night sky.
- Phobos and Deimos are the planet's two moons.

Cambridge's Word Of The Year : Hallucinate

- The word of the year, hallucinate, chosen by the Cambridge Dictionary, sheds light on the complexities of Artificial Intelligence (AI) and its potential dangers.
- The original definition of hallucinate is to seem to sense something that doesn't exist, usually because of a health condition or drugs.
- Cambridge Dictionary's expanded definition of "hallucinate" includes the production of false information by AI.
- The intelligentization of AI poses real dangers, particularly in politics and public life, where disinformation and misinformation can have far-reaching consequences.
- The expanding reach of Open AI and its tools like Chat GPT, Google Bard, and Microsoft's Copilot have been widely discussed throughout the year.

New Pamban Bridge

- New Pamban Bridge is India's first vertical-lift railway sea bridge.
- It connects Rameswaram on Pamban Island to Mandapam on the mainland in Tamil Nadu.
- The total length of the bridge is 078 km.

- It will have 99 spans with 18.3-meter-long girders. The navigational span will be 63 metres.
- It will replace the iconic Pamban Bridge, India's first sea bridge, which opened in 1914.
- The new bridge is being built parallel to the old Pamban Bridge by Rail Vikas Nigam Limited.
- The most unique feature of the new Pamban Bridge is its vertical lift facility. It will help boats pass under the bridge smoothly.

E Prime Layer : Outermost Part Of Earth's Core

- A study by an international team of researchers revealed the formation of a new enigmatic layer – E prime layer at the outermost part of Earth's core.
- E prime layer was believed that a material exchange between the core and mantle is small.
- But the experiments revealed that when water reaches the core-mantle boundary, it reacts with silicon in the core, forming silica.
- This latest research suggests that tectonic plates carrying surface water have transported it deep into the Earth over billions of years.

- Upon reaching the core-mantle boundary about 1,800 miles below the surface, this water initiates significant chemical changes, influencing the core's structure.
- Scientists have observed that subducted water reacts chemically with core materials under high pressure.
- This reaction leads to the formation of a hydrogen-rich, silicon-depleted layer at the outer core, resembling a film-like structure.
- Silica crystals generated by this process ascend and blend into the mantle, impacting the overall composition.
- These modifications in the liquid metallic layer could potentially result in reduced density and altered seismic characteristics, aligning with anomalies detected by seismologists.
- This discovery enhances researchers' comprehension of Earth's internal mechanisms, indicating a broader and more intricate global water cycle than previously acknowledged.



PRACTICE QUESTIONS

1. INFUSE Mission recently seen in news associated with which of the following Space Agency?
(a) NASA
(b) SRO
(c) ESA
(d) JAXA
2. Composite Water Management Index is released by
(a) National Water Development Agency
(b) NITI Aayog
(c) Indian Metrological development
(d) Ministry of Jal shakthi
3. One station One product scheme is launched by
(a) NITI Aayog
(b) North Eastern Council
(c) Ministry of Consumer Affairs
(d) Indian Railways
4. Ogasawara island recently seen in news is also known as
(a) Bonin island
(b) Easter island
(c) akhalin island
(d) Bora Bora
5. Kavro Dome 360 recently seen in news is
(a) Israel's special army
(b) world-first rifle-rated ballistic helmet
(c) Special weapon by NATO
(d) New missile developed by iran
6. Global Tiger recovery programme 2.0 was launched by
(a) CITES
(b) UNEP
(c) WWF
(d) World Bank
7. Bletchley declaration recently seen in news is for
(a) AI Safety
(b) River foaming
(c) Pesticide reduction
(d) Ozone depletion
8. Kangri is a traditional fire pot of
(a) Himachal Pradesh
(b) Uttar Pradesh
(c) Kashmir
(d) Uttarakhand
9. Klyuchevskoy volcano is a type of
(a) Shield volcano
(b) Cinder Cone
(c) Strato Volcano
(d) Dormat Volcano
10. Ixchiq vaccine recently seen in news is developed against the disease
(a) Measles
(b) Chikungunya
(c) H1NI
(d) Covid 19

ANSWER KEY

1	2	3	4	5
(a)	(b)	(d)	(a)	(b)
6	7	8	9	10
(d)	(a)	(c)	(c)	(b)

TOPIC FOR THE MONTH - ELECTION COMMISSION OF INDIA

DETAILED REVIEW OF ELECTION COMMISSION

Election Commission of India (ECI) is an autonomous constitutional authority responsible for administering election processes in India. The body administers elections to the Lok Sabha, Rajya Sabha, State Legislative Assemblies in India, and the offices of the President and Vice President in the country.

HISTORICAL BACKGROUND

- **Pre-Independence:** The concept of an Election Commission can be traced back to the Government of India Act, 1858, which introduced elections to the British Indian Legislative Council.
- **During Independence:** Modern Election Commission of India was established in 1950 under the provisions of the Indian Constitution, following India's independence in 1947.
- General elections were held in India between 25 October 1951 and 21 February 1952. They were the first elections to the Lok Sabha after independence in August 1947.

SIGNIFICANCE

- **Guardian of Democracy:** The ECI is often referred to as the guardian of democracy in India as it ensures the conduct of **free and fair elections** at all levels of government, from the village panchayat to the national parliament.
- **Independence:** The ECI upholds its impartiality and independence. It upholds the values enshrined in the Constitution viz, **equality, equity, impartiality, independence** and rule of law in superintendence, direction, and control over the electoral governance.
- **Electoral Integrity:** The ECI's commitment to electoral integrity ensures that the electoral process is **transparent, inclusive, and credible**. It oversees voter registration, candidate nominations, polling, and the counting of votes.

IMPORTANT JUDGMENT

- **Mohinder Singh Gill vs. Chief Election Commissioner (1978):** In the landmark case, the Supreme Court held that the Election Commission's decisions could be challenged in court on grounds of malafide, bias, or violation of the principles of natural justice.

POWERS AND FUNCTIONS OF ECI

1. Administrative Powers

- ECI determine the territorial areas of the electoral constituencies throughout the country on the basis of the Delimitation Commission Act of Parliament.
- It prepare and periodically revise electoral rolls and to register all eligible voters.
- It grant recognition to political parties and allot election symbols to them.
- Election Commission ensures a level playing field for the political parties in election, through strict observance by them of a Model Code of Conduct evolved with the consensus of political parties.
- It decides the election schedules for the conduct of elections, whether general elections or bye-elections.

2. Advisory Jurisdiction

- Commission has advisory jurisdiction in the matter of post-election disqualification of sitting members of Parliament and State Legislatures which is binding on president or governor to whom such opinion is tendered.
- Cases of persons found guilty of corrupt practices at elections that come before the SC and High Courts are also referred to the Commission for its opinion on the question as to whether such person shall be disqualified and, if so, for what period.

3. Quasi-Judicial Functions

- The Commission is vested with quasi-judicial power to settle disputes relating to splits mergers of recognised political parties.
- The Commission has the power to disqualify a candidate who has failed to lodge an account of his election expenses within the time and in the manner prescribed by law.

FEATURES

- **Three-Member Commission**
 - The ECI consists of a Chief Election Commissioner and two Election Commissioners, all of whom are appointed by the President of India.
- **Model Code of Conduct**
 - The ECI enforces a Model Code of Conduct during elections to ensure fair campaigning and prevent the use of government resources for political gain

ELECTORAL REFORMS

Electoral reforms before 2010

- **Lowering of the Voting Age**
 - The Lok Sabha and assembly election's voting age was lowered from 21 to 18 years old by the 61st Constitutional Amendment Act of 1988.
- **Deputation to Election Commission**
 - In 1988, a rule was established that stated that officials and personnel working on the creation, revision, and correction of electoral rolls for elections would be deemed to be on deputation to the Election Commission for the duration of their employment.
- **Increase in Proposers**
 - In 1988, there was a rise in the number of candidates running for election to the Rajya Sabha and Legislative Councils.
- **Introduction of Electronic Voting Machines (EVM)**
 - In the 1999 for the Goa legislative Assembly, EVMs were utilised for the first time.
- **Booth Capturing**
 - In 1989, a provision was introduced for the postponement of elections or their countermanding in the event of booth capturing.
- **Introduction Elector's Photo Identity Card (EPIC)**
 - The Election Commission decided to provide photo identification cards to voters nationwide in 1993 to prevent fraudulent voting and voter impersonation during elections.
- **Prohibition of Liquor Sales**
 - During the 48 hours leading up to the hour set for the poll's conclusion, no liquor or other intoxicants may be sold, given or distributed in any store, restaurant or other location, whether private or public.
- **Disqualification**
 - A conviction for violating the National Honours Act of 1971 disqualifies a person from running for office in the Parliament or state legislatures for a period of six years

Electoral Reforms in India After 2010

- **Electoral Finances**
 - The Commission has set a limit on the amount of money that can be spent in elections.
 - It ranges from Rs. 50 to 70 lakh for the Lok Sabha elections (based on the state from which they are running), and from Rs. 20 to 28 lakh for an assembly election.
- **Voting by postal ballot**
 - Across 2013 EC started to broaden the scope of voting by postal ballot across the nation.
- **Creation of NOTA**
 - None of the above (NOTA) is a ballot choice that enables voters to express their dislike of each and every candidate in a voting
- **Introduction Voter verifiable paper audit trail (VVPAT)**
 - A VVPAT enables voters to check that their vote was cast accurately and to audit the results that have been electronically stored
- **Introduction of Electoral bonds**
 - An electoral bond is intended to be a bearer document, much like a promissory note; in essence, it will resemble a bank note that is interest-free and payable to the bearer immediately.
 - Any Indian citizen or organisation with an Indian incorporation may purchase it

Major Committee Recommendation On Electoral Reforms

Tarkunde / J.P. Committee (1975)

- The minimum age of voting should be 18 years.
- The TV and radio should be placed under the control of autonomous statutory corporation.
- A voter's council should be formed in as many constituencies as possible which can help in free and fair election.

Goswami committee (1990)

- Time limit for bye-elections.
- Increase in deposits from independents.

- A check on advertisements on new papers and strengthening of the election commission.
- A series of legislative measures should be set up to eradicate booth-capturing rigging and intimidating.
- Need for amendment of Anti-defection law to restrict disqualification where elected member voluntarily gives up his membership.
- Changes in voting pattern
- Not more than 2 constituencies for one candidate.

Indrajit Gupta committee (1998)

- It suggested that only recognised national and state parties receive funding from the government.
- ECI grants recognised national and state parties airtime for political advertising on state media.
- It had recommended that funding should be given in the form of free facilities provided to these parties and their candidates.

.CHALLENGES

1. Independence

- The ECI's independence is often challenged by political interference and the appointment process of commissioners..

2. Electoral Funding

- Political funding, especially from unaccounted sources, remains a challenge. Electoral reforms are needed to enhance transparency in campaign financing.

3. No Legal Backing of Model Code of Conduct(MCC):

- MCC is framed on the basis of a consensus among political parties, it has not been given any legal backing.

4. Lack of Enforceability

- The EC does not have the power to disqualify candidates who commit electoral malpractices

5. Electoral Violence

- Ensuring violence-free elections, particularly in regions with a history of violence, is a persistent challenge for the ECI.

WAY FORWARD

1. Electoral Reforms

- Continuous efforts are needed to enact electoral reforms to enhance transparency, reduce political corruption, and ensure the representation of marginalized communities.

2. Enhanced Technology

- Embracing new technologies, such as blockchain for secure voting and digital voter registration, can help improve the efficiency and transparency of elections.

3. Voter Awareness

- Increasing voter education and awareness campaigns can help boost voter turnout and participation.

4. Need for legislation

- There is a need for debate and discussions in the Parliament on the issue of independence of ECI and consequently passing of required legislation.

5. Ensuring Independence

- Efforts are needed to ensure commissioners are appointed through a transparent, non-partisan process

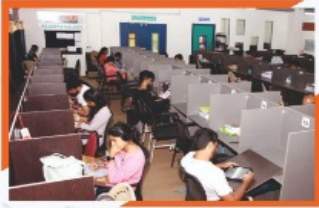
6. 2nd ARC report Recommendation

It recommended that collegium headed by the Prime Minister with the Speaker of the Lok Sabha, the Leader of Opposition in the Lok Sabha, the Law Minister and the Deputy Chairman of the Rajya Sabha as members should make recommendations for the consideration of the President for appointment of the Chief Election Commissioner and the Election Commissioners

MAINS PRACTICE

Q. To enhance the quality of democracy in India the Election Commission of India has proposed electoral reforms in 2016. What are the suggested reforms and how far are they significant to make democracy successful?

(PYQ 2017)



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