

SROTHAS

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**CURRENT
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POLITY & GOVERNANCE

Secondary Evidence Under the Indian Evidence Act, 1872: Principles Relevant For Examining The Admissibility

- The Supreme Court explained the principles relevant for examining the admissibility of secondary evidence under the Indian Evidence Act, 1872.
- It is covered by Section 62 of the Evidence Act and is considered the highest class of evidence.
- Primary evidence, also known as best evidence, refers to the actual documents produced for the court's inspection.
- It is admissible without prior notice and takes precedence over secondary evidence.
- As per Section 62, when the document itself is produced for the inspection of the court, it is called the primary evidence. If the document is in parts, then each part forms the primary evidence.
- Example: Birth Certificate issued by a government authority.
- Secondary Evidence under the Indian Evidence Act, 1872 is defined under Section 63 of the Evidence Act.
- It can only be introduced if primary evidence is not available, and the reason for its absence must be explained.
- It is considered a substitute for the original or primary evidence.
- It is generally considered to be of lower evidentiary value compared to primary evidence.

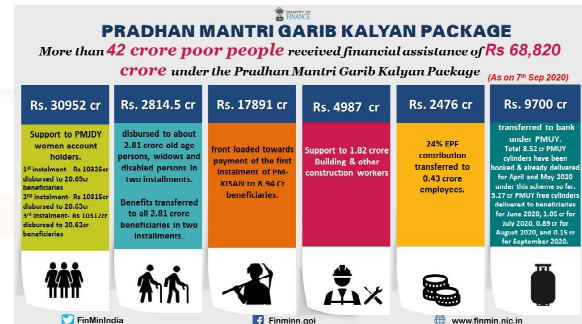
Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan

- The PM-JANMAN (comprising Central Sector and Centrally Sponsored Schemes) to focus on 11 critical interventions through nine ministries, including the Ministry of Tribal Affairs.
- The scheme aims to provide crucial interventions such as permanent housing, road connectivity, piped water supply, mobile medical units, hostel construction, 'Anganwadi' facilities, skill development centres,
- Other than the 11 critical interventions, the following interventions of other Ministries will be part of Mission:
- Ministry of Ayush will set up Ayush Wellness Centre as per existing norms, and Ayush

facilities will be extended to PVTG habitations through Mobile Medical Units.

- The Ministry of Skill Development and Entrepreneurship will facilitate skill and vocational training in PVTG habitations, multipurpose centres and hostels as per the suitable skills of these communities.

Pradhan Mantri Garib Kalyan Anna Yojana



- Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) was launched by the Indian government in April 2020 as a response to the COVID-19 pandemic.
- It is designed to provide financial assistance to economically weaker sections affected by the pandemic.
- The scheme encompasses the distribution of 5 kg of free food grains each month, along with cash transfers to women and elderly individuals.
- It was introduced as part of the broader Pradhan Mantri Garib Kalyan Package, aiming to offer relief to those adversely affected by the pandemic, especially the poor and marginalised.
- As per the scheme, the government offers 5 kg of free food grains each month in addition to the subsidised ration given to families covered by the Public Distribution System under the National Food Security Act.

Fast Track Special Court

- Fast Track Special Court (FTSCs) are specialized courts established in India with the primary aim of expediting the trial process for cases related to sexual offenses, particularly those involving rape and violations under the Protection of Children from Sexual Offences Act (POCSO Act).
- The establishment of FTSCs was prompted by the government's recognition of the alarming frequency of Sexual Offences and the prolonged duration of trials in regular courts, which resulted in delayed justice for victims.

- The Central Government enacted the Criminal Law (Amendment) Act in 2018, which introduced stricter punishments, including the death penalty for rape offenders.
- Subsequently, the FTSCs were set up to ensure the swift dispensation of justice for such cases.
- The scheme to establish FTSCs was formulated in August 2019 as a Centrally Sponsored Scheme following directions from the Supreme Court of India in a suo moto Writ Petition (Criminal).
- Implemented by the Department of Justice, Ministry of Law & Justice.

India Internet Governance Forum

- India Internet Governance Forum (IIGF) is a multi-stakeholder platform bringing together



representatives from various groups to discuss public policy issues related to the Internet.

- Theme: Moving Forward – Calibrating Bharat’s Digital Agenda.
- The event is an effort to discuss issues such as building a secure, trusted and resilient cyberspace for Bharat, Enabling Innovation for India’s Developmental Goals, Bridging Divides and Calibrating Bharat’s Digital Agenda.
- The India Internet Governance Forum is an initiative associated with the UN Internet Governance Forum.

Fourth Phase Of The Global Initiative Of Academic Networks

- After an eight-year journey, including a brief pause during COVID, the Ministry of Education is preparing to resume the fourth phase of the Global Initiative of Academic Networks (GIAN).
- This initiative aims to bring in distinguished scholars worldwide to teach at Indian universities.
- The National Institute of Educational Planning and Administration (NIEPA), after evaluating the scheme, recommended its continuation.
- Global Initiative for Academic Networks (GIAN) Scheme is a flagship initiative by the

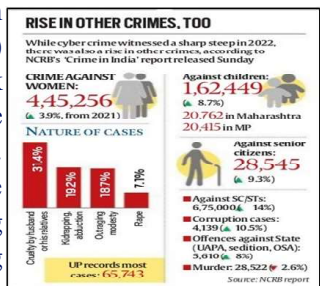


Ministry of Education (MoE), Government of India designed to foster collaboration and enhance the quality of education and research in Indian academic institutions.

- Launched in 2015, the primary objective of the GIAN scheme is to provide an opportunity for students and faculty to interact with the best academic and industry experts from all over the world.
- The eligibility criteria for joining the GIAN scheme are as follows
 - Faculty members of Indian institutions of higher education.
 - Scientists and entrepreneurs from abroad.
 - The courses offered under the GIAN scheme should be relevant to the Indian context.
 - The courses should be designed to provide exposure to the latest developments in the field.
 - The courses should be designed to provide hands-on training to the participants.

National Crime Records Bureau : Data

- National Crime Records Bureau (NCRB) was established in 1986 to act as a repository of information on crime and criminals.
- It comes under the Ministry of Home Affairs(MHA), Government of India.
- It was set up based on the recommendations of the Tandon Committee, the National Police Commission (1977-1981) and the Task Force of the Home Ministry.
- It is responsible for collecting and analysing crime data as well as serving as a repository of such information to aid investigators in tracing crimes and criminals.
- Headquarters: New Delhi
- **Highlights from the 2022 NCRB Report**
 - Overall Crime Statistics: In 2022, India reported a total of 58,24,946 cognizable crimes, comprising 35,61,379 Indian Penal Code (IPC) crimes and 22,63,567 Special & Local Laws (SLL) crimes. This represented a 4.5% decline in the registration of cases compared to 2021.
 - Crime Rate: The crime rate, indicating crimes registered per lakh population, decreased from 445.9 in 2021 to 422.2 in



2022, offering a more nuanced view than absolute numbers.

- Crimes Against Women: There was a 4% increase in crimes against women, with 4,45,256 cases registered. The majority of crimes fell under categories such as 'Cruelty by Husband or His Relatives' (31.4%) and 'Kidnapping & Abduction of Women' (19.2%). Delhi logged the highest rate of FIRs linked to crimes against women in the country in 2022, the National Crime Records Bureau (NCRB) data revealed.
- Cyber Crimes: Reporting of cyber crimes surged by 24.4%, reaching 65,893 cases. Fraud accounted for 64.8% of registered cases, followed by extortion (5.5%) and sexual exploitation (5.2%).
- Suicides: The report noted a 4.2% increase in reported suicides in 2022 (1,70,924 suicides). Family Problems, Marriage Related Problems, and Illness constituted 54.9% of total suicides.
- The states/UTs reporting the highest charge sheeting rates under IPC crimes were Kerala (96.0%), Puducherry (91.3%), and West Bengal (90.6%). However, it's essential to note that chargesheeting rates don't necessarily indicate higher crime prevalence but rather effective legal proceedings.
- Kolkata emerged as the safest city in India for the third consecutive year, recording the least number of cognisable offences per lakh population among metropolises.
- Pune (Maharashtra) and Hyderabad (Telangana) secured the second and third positions, respectively
- Maharashtra reported the highest number of suicides, followed closely by Tamil Nadu, Madhya Pradesh, Karnataka, Kerala, and Telangana.
- Daily wage earners constituted a significant portion, accounting for 26.4% of the total suicides.
- Agricultural workers and farmers were also disproportionately affected, forming a substantial part of the suicide statistics.
- This was followed by unemployed persons, who comprise 9.2% of all suicides reported in India in 2022. Among

all suicides reported in the year, over 12,000 were of students.

Jago Grahak Jago Campaign

- Jago Grahak Jagon campaigns aim to inform consumers about fraudulent practices and common issues while providing guidance on seeking redressal
- The awareness initiatives utilize various media platforms, including print media, TV, radio, cinema theatres, websites, hoardings, and display boards.
- To reach people in rural and backward areas, the Department actively participates in fairs, festivals, and events across different states and union territories.
- To enhance awareness at the grassroots level, the Department releases Grant-in-Aid to States and UTs for conducting consumer awareness activities with a focus on local content.
- The Central Government provides financial assistance under the scheme Strengthening Consumer Commissions to enhance the infrastructure of Consumer Commissions at the District and State levels.

Cyber Surakshit Bharat Initiative

- Cyber Surakshit Bharat Initiative is an initiative of the Ministry of Electronics and Information Technology (MeitY), Government of India.
- It was conceptualised with the mission to spread awareness about cybercrime and build the capacities of Chief Information Security Officers (CISOs) and frontline IT officials across all government departments.
- It is an initiative to fortify the cyber security system in India with regard to the Government's vision of a Digital India.
- It was launched in cooperation with the National e-Governance Division (NeGD) and various industry partners in India.
- It can be entitled as the first public-private enterprise of its kind.



- The partners involved in the origination of this scheme include chief IT companies like Intel, Microsoft, etc.
- It will be operated on three principles: education, awareness, and enablement.
- It will comprise a program of awareness on the importance of cybersecurity.
- The scheme will also include a number of workshops on the best enablement and practices of the officials with cybersecurity health tool kits for the management and mitigation of cyber threats.

Panchayat Development Index

- Panchayat Development Index is a multi-domain and multi-sectoral index that is



intended to be used to assess the overall holistic development, performance & progress of panchayats.

- It takes into account various socio-economic indicators and parameters to gauge the well-being and development status of the local communities within the jurisdiction of a panchayat.
- It play a significant role for performance evaluation and progress assessment in achieving the localization of Sustainable Development Goals in rural area.
- Under this the Local Indicators Framework on nine themes of Localization of Sustainable Development Goals was prepared.
- The nine themes taken into account are poverty free and enhanced livelihood in village, healthy village, child friendly village, water sufficient village, clean and green village, village with self-sufficient infrastructure, socially just and socially secured villages, village with good governance, and women friendly village.
- This Index ranks panchayats on the basis of scores, and categorises them into four grades.
- Those with scores under 40 per cent fall in grade D, 40-60 per cent in grade C, 60-75 per

cent in grade B, 75 to 90 per cent in category A, while those scoring above 90 per cent will be categorised as A+.

Jammu & Kashmir Reservation (Amendment) Bill, 2023

- Aims to amend the Jammu and Kashmir Reservation Act, 2004.
- Provides reservation in jobs and admission in professional institutions to Scheduled Castes (SCs), Scheduled Tribes (STs), and other socially and educationally backward classes.
- The amendment suggests a change in the nomenclature of a section of people previously described as weak and underprivileged classes (social castes) to other backward classes.

Introduces changes to Section 2 of the 2004 Act.

Amendment

- Jammu and Kashmir Reorganisation (Amendment) Bill, 2023 Seeks to amend the Jammu and Kashmir Reorganisation Act, 2019.
- Provides representation in the Legislative Assembly to Kashmiri migrants and displaced persons from Pakistan-occupied Kashmir (PoK).
- Proposes the nomination of two members from the Kashmiri migrant community and one person representing displaced persons from PoK to the Legislative Assembly.

Increase in Assembly Seats:

- Proposes an increase in the number of seats in the Legislative Assembly from 83 to 90.
- Introduces provisions to reserve seats for members of the Scheduled Castes and Scheduled Tribes.
- Inserts new sections 15A and 15B in the Jammu and Kashmir Reorganisation Act, 2019, allowing the Lieutenant Governor to nominate members from the community of Kashmiri Migrants and Displaced Persons from Pakistan-occupied Jammu and Kashmir to the Jammu and Kashmir Assembly.
- Two seats reserved for the Kashmiri Migrant community.
- One seat in the Jammu and Kashmir Assembly reserved for people displaced from Pakistan-occupied Kashmir.
- Nine seats reserved for SC/ST communities for the first time.

Group of Companies Doctrine

- The group of companies doctrine states that a company that is a non-signatory to an arbitration agreement would be bound by the agreement if such a company is a member of the same group of companies that signed the agreement.
- The doctrine deems that the parties to the arbitration agreement mutually intended for such a non-signatory to be bound by it.
- Arbitration is a mechanism to resolve disputes between parties without going to court.
- A neutral person is appointed to adjudicate the dispute, and the judgement of an arbitrator is legally enforceable.
- The group of companies concept, unlike other non-signatory theories that are based on domestic law principles, is based on international arbitration jurisprudence.
- The doctrine was first recognised by the Indian Supreme Court in Chloro Controls India Private Limited v. Severn Trent Water Purification Inc. (2013). Since then, Indian courts have applied the doctrine to bind group companies of signatories to arbitration agreements.
- The main purpose behind bringing the 'group of companies' doctrine in India was to prevent fragmentation of disputes in composite transactionse., disputes consisting of several parties and multiple contracts.

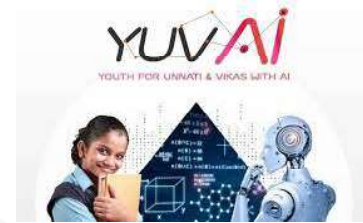
PM Vishwakarma Scheme

- PM Vishwakarma Scheme is a central sector scheme launched by the Ministry of Micro, Small, and Medium Enterprises, which offers services like market linkage support, skill training, and incentives for digital transactions to artisans and craftspeople engaged in specified trades.
- Time period: Five years (FY 2023-24 to FY 2027-28).
- Aim is to strengthen and nurture the Guru-Shishya parampara, or family-based practice of traditional skills by artisans and craftspeople working with their hands and tools.
- The scheme also aims at improving the quality as well as the reach of the products and services of artisans and craftspeople and to ensure that the Vishwakarmas are integrated with the domestic and global value chains.
- It is available for rural and urban artisans and craftsmen across India.

- It covers 18 traditional crafts such as Boat Maker; Armourer; Blacksmith; Hammer and Tool Kit Maker; etc.
- Five lakh families will be covered in the first year and 30 lakh families over five years.

YUVAi Initiative

- YUVAi Initiative is a collaborative initiative of National e-Governance Division (NeGD),



Ministry of Electronics & Information Technology (MeitY), Government of India and Intel India.

- This programme, designed to equip the youth with essential Artificial Intelligence skills, has garnered attention for its innovative approach and commitment to enabling a future-ready workforce.
- It is aimed to foster a deeper understanding of AI, to enable school students from class 8 to 12 across the nation with AI skills and empower them to become human-centric designers and users of AI.

Gram Manchitra

- The Ministry of Panchayati Raj introduced Gram Manchitra, a Geographic Information System (GIS) app.



- Additionally, the Ministry launched mActionSoft, a mobile-based solution for geo-tagging project assets.
- The primary goal of Gram Manchitra is to encourage spatial planning initiatives by Gram Panchayats, leveraging the capabilities of geo-spatial technology.
- The app supports the Gram Panchayat Development Plan (GPDP) by aiding decision-making.
- Unified GeoSpatial Platform: Gram Manchitra provides a single and unified platform,

facilitating the visualisation of developmental projects and activities at the Gram Panchayat level.

- It enables Gram Panchayats to plan and execute developmental works across different sectors, fostering a holistic approach to rural development.
- Tools include project site identification, asset tracking, cost estimation, and project impact assessment.
- mActionSoft is a mobile-based solution, plays a crucial role in capturing geo-tagged photos with GPS coordinates for works with asset outputs.
- Assets undergo geo-tagging at three stages: before the commencement of work, during the work, and upon completion.
- This establishes a comprehensive repository of information on various works related to natural resource management, water harvesting, sanitation, agriculture, and more.
- Geo-Tagging: Panchayats geotag assets created under finance commission funds with photographs, ensuring transparency and accountability.
- The assets geo-tagged using mActionSoft seamlessly integrate with Gram Manchitra, enriching the visualisation of developmental works in Gram Panchayats.

Mera Gaon Meri Dharohar Project

- The Ministry for Culture has decided to map and document all villages under the Mera Gaon, Meri Dharohar (MGMD) Programme.
- This National Mission on Cultural Mapping is conducted in coordination with Indira Gandhi National Centre for the Arts (IGNCA) under the Ministry of Culture.

- A web portal on MGMD has also been launched. The MGMD seeks to compile comprehensive information detailing the life, history, and ethos of Indian villages and to make the same available to virtual and real-time visitors.
- Under the MGMD, information is collected under seven broad categories such as Arts and Crafts Village, Ecologically Oriented Village etc.

New Scheme To Expedite The Exploration Of Critical Minerals

- The Ministry of Mines introduced a new scheme to expedite the exploration of critical and deep-seated minerals.
- Under this initiative, the ministry will directly sanction exploration projects to Notified Private Exploration Agencies (NPEAs).
- Additionally, these NPEAs are now permitted to bid for auctioning mineral blocks they have explored, a privilege previously unavailable to them.
- This decision aims to eliminate delays in project approvals, accelerate project execution, and encourage larger companies and international players to engage in exploration projects with NMET funding.
- Critical minerals such as copper, lithium, nickel, cobalt and rare earth elements are essential components in many of today's rapidly growing clean energy technologies i.e from wind turbines and electricity networks to electric vehicles. Demand for these minerals is growing quickly as clean energy transitions gather pace.

ECONOMY

Purchasing Managers Index

- India's manufacturing sector continued to perform better with S&P Global Purchasing Managers' Index (PMI) rising to 56 in November against 55.5 in October.
- Purchasing Managers Index is an indicator of business activity both in the manufacturing and services sectors.
- It is a survey-based measure that asks the respondents about changes in their perception of some key business variables from the month before.
- It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.
- The index helps in determining whether the market conditions, as seen by purchasing managers, is expanding, contracting or staying the same.
- There are two types of PMI — Manufacturing PMI and Services PMI.

Monetary Policy Committee Meeting

- The Reserve Bank of India (RBI) in its bimonthly Monetary Policy Committee (MPC) Meeting has retained benchmark interest rates unchanged for the 5th time in a row.
- The key repo rate has been paused for five consecutive reviews at 6.5%.
- Repo rate is the rate at which the central bank of a country (RBI) lends money to commercial banks in the event of any shortfall of funds. Here, the central bank purchases the security.
- Standing Deposit Facility (SDF): 6.25 % The SDF is a liquidity window through which the RBI will give banks an option to park excess liquidity with it.
- Marginal Standing Facility Rate: 6.75% MSF is a window for scheduled banks to borrow overnight from the RBI in an emergency situation when interbank liquidity dries up completely.
- Cash Reserve Ratio (CRR): 4.50% ,Under CRR, the commercial banks have to hold a certain minimum amount of deposit (NDTL) as reserves with the central bank.
- Statutory Liquidity Ratio (SLR): 18.00%, SLR is the minimum percentage of deposits that a commercial bank has to maintain in the form of liquid cash, gold or other securities.

- The GDP growth projection for 2023-24 was raised to 7% from earlier 6.5%, buoyed by a robust 7.6% growth in the second quarter of 2023-24 FY.
- The Consumer Price Index (CPI) based inflation forecast for the fiscal year 2023-24 has been retained at 5.4%.

Exchange-Traded Funds

- An Exchange Traded Fund (ETF) is a collection of marketable securities that tracks an index, a commodity, bonds, or a basket of assets.
- In simple terms, ETFs are funds that track indexes such as CNX Nifty, or BSE Sensex, etc.

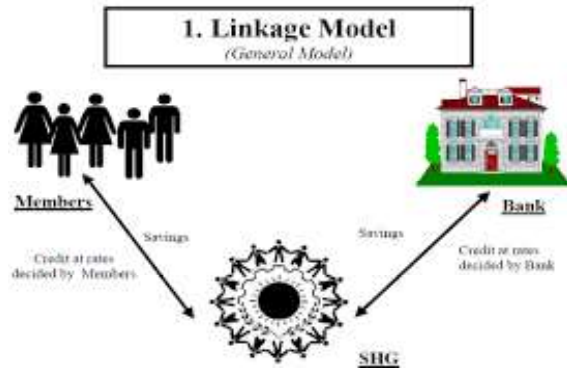


- An ETF can be structured to track anything from the price of an individual commodity to a large and diverse collection of securities. ETFs can even be structured to track specific investment strategies.
- ETF funds are somewhat similar to mutual funds in terms of their structure, regulation, and management.
- Just like mutual funds, they are a pooled investment vehicle that offers diversified investment into various asset classes like stocks, commodities, bonds, currencies, options, or a blend of these.
- Unlike mutual funds, ETFs can be purchased or sold on a stock exchange in the same way that regular stocks can.
- The traded price of an ETF changes throughout the day like any other stock, as it is bought and sold on the stock exchange.
- The trading value of an ETF is based on the net asset value of the underlying stocks that it represents.
- ETFs typically have higher daily liquidity and lower fees than mutual fund schemes, making them an attractive alternative for individual investors.

SHG Bank Linkage Project

- The Union Minister of State for Rural Development, in a written reply in Rajya Sabha has given information about Self Help Group (SHG) Bank linkage (BL).

- In 2019, the International Initiative for Impact Evaluation assessed DAY-NRLM, finding a

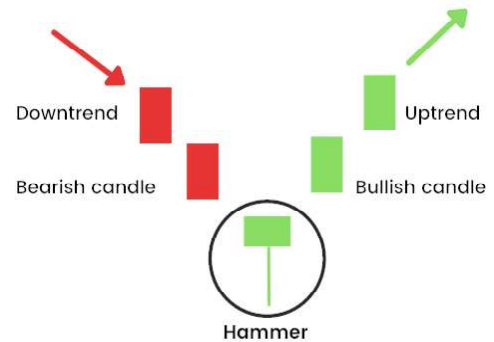


19% income boost and a 28% increase in household savings compared to the baseline.

- The study spanned nine states: Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Uttar Pradesh, and West Bengal.
- Self Help Group (SHG) Bank linkage (BL) Project was launched by NABARD in 1992 and has blossomed into the world's largest microfinance project.
- Under this programme, banks were allowed to open savings accounts for SHGs.
- **Factors for SHG-BL's Success:**
 - Annual issuance of a Master Circular by RBI and NABARD.
 - Specification of minimum loan amounts for each Self-Help Group (SHG) with provisions being modified as needed to meet the scheme's requirements.
 - Regular training of staff and community cadres under State Rural Livelihoods Missions (SRLMs) to enhance their capacity.
 - Financial education for Self Help Group (SHG) members through trained Financial Literacy Community Resource Persons (FLCRPs) at the village level.
 - Bank Sakhis, trained members from SHGs who act as intermediaries, aiding SHG members in transactions and application processes.
 - A web portal was created to overcome information asymmetry in SHG-Bank Linkage, incorporating data directly from Banks' Core Banking Solution (CBS) database.
 - The Bank loans to the tune of Rs. 7.68 lakh Crore have been accessed by SHGs since FY 2013-14.

Hammer Candlesticks In Trading

- Hammer Candlesticks in Trading is one of the



most popular candlestick patterns traders use to gauge the probability of outcomes when looking at price movement.

- A hammer is a price pattern in candlestick charting that occurs when a security trades significantly lower than its opening but rallies within the period to close near the opening price.
- This pattern forms a hammer-shaped candlestick, in which the lower shadow is at least twice the size of the real body.
- The body of the candlestick represents the difference between the opening and closing prices, while the shadow shows the high and low prices for the period.
- The hammer candlestick occurs when sellers enter the market during a price decline. By the time the market closes, buyers absorb selling pressure and push the market price near the opening price.
- The close can be above or below the opening price, although the close should be near the open for the real body of the candlestick to remain small.
- Analysts view it as a potential bullish trend reversal indicator, mainly appearing at the end of a downtrend.
- It could be used as a leading intraday indicator to signal a change in bullish/bearish momentum.

Risk Weight

- Reserve Bank of India has increased the cost of funds for banks and non-bank financial companies by increasing the risk weight of such loans.
- The Reserve Bank of India has raised the risk weight on consumer credit by banks and NBFCs to 125%, compared to 100% earlier.
- Risk weight is every rupee lent by the bank is a cost or has an implication on its capital position.

- These are used to determine the minimum amount of capital a bank must hold in relation to the risk profile of its lending activities and other assets.
- The Reserve Bank of India decided in April 1992 to introduce a risk-asset ratio system for banks (including foreign banks) in India as a capital adequacy measure in line with the Capital Adequacy Norms prescribed by the Basel Committee.
- Lower the risk weight, lower the rate of interest. Therefore, risk weights impact borrowers indirectly and are felt through the pricing of loans.
- The increase in risk weights by the RBI will elevate funding costs for NBFCs and impact capital requirements.

World Bank Released International Debt Report

- India's total debt is around 81%, but most of it is domestic debt. India's external debt is around 18.6% (around USD 624 billion at the end of March 2023), as per the RBI data.
- Public and publicly guaranteed (PPG) debt service payments by Low and Middle-Income Countries (LMICs) reached over US\$443 billion in 2022, posing a risk to their financial sustainability.
- Rising interest rates and unfavourable exchange rate movements could make servicing external debt burdensome.
- India's debt service was 2% of the GNI in 2022.
- The debt servicing may crowd out spending on other development priorities.
- Due to a tighter monetary policy in advanced economies, there was a net outflow of over US\$127 billion from LMICs as investors sought attractive returns in US and European bond
- The report recommends debt buybacks and exchanges, and exploring debt-for-nature swaps to combine debt relief with funding green projects.

- IDR, formerly known as International Debt Statistics (IDS), is an annual publication by the World Bank.
- It focuses on external debt statistics and analysis for 122 low- and middle-income countries participating in the World Bank Debt Reporting System.

Non-Convertible Redeemable Preference Shares (NCRPS)

- The Securities and Exchange Board of India recently proposed to permit companies to issue non-convertible debentures (NCDs) and non-convertible redeemable preference shares (NCRPS) with the face value of Rs. 10,000 as against the current system of Rs one lakh face value.
- Preference shares, more commonly referred to as preferred stock, are shares of a company's stock with dividends that are paid out to shareholders before common stock dividends are issued.
- If the company enters bankruptcy, preferred stockholders are entitled to be paid from company assets before common stockholders.
- Non-Convertible v/s Convertible Preference Shares
 - Preference shares that can be easily converted into equity shares are known as convertible preference shares.
 - Non-Convertible preference shares are those shares that cannot be converted into equity shares.
- Redeemable v/s Non-Redeemable Preference Shares
 - Redeemable preference shares are those shares that can be repurchased or redeemed by the issuing company at a fixed rate and date. These types of shares help the company by providing a cushion during times of inflation.
 - Non-redeemable preference shares are those shares that cannot be redeemed or repurchased by the issuing company at a fixed date. Non-redeemable preference shares help companies by acting as a lifesaver during times of inflation.

INTERNATIONAL RELATIONS

Leadership Group For Industry Transition (LeadIT) 2.0

- India and Sweden launched Leadership Group for Industry Transition (LeadIT) 2.0 during the COP28 World Climate Action Summit, hosted in Dubai.
- The LeadIT initiative, initially centered around pivotal sectors such as iron, steel, cement, and aluminum, focused on industry transition and knowledge sharing.
- LeadIT has played a pivotal role in accelerating the adoption of low-carbon technologies, aligning with global environmental goals.
- **Three core areas of Lead IT 2.0**
 - Inclusive and Just Industry Transition: Ensuring that industry transitions are not only efficient but also equitable, promoting fairness and inclusivity in the process.
 - Low Carbon Technology Development and Transfer: Placing renewed emphasis on the development and seamless transfer of low-carbon technologies, crucial for achieving sustainable practices across industries.
 - Emerging Economy Technology Transfer: Facilitating the expedited transfer of innovative solutions to emerging economies, assisting in their transition to more sustainable practices.
 - It serves as a platform for public-private collaboration, fostering sector-specific and cross-sectoral learning, especially concerning innovation opportunities and new technologies.

Codex Alimentarius Commission

- It is an international food safety and quality standard-setting body.
- It was created by the World Health Organisation and Food and Agriculture Organisation of the United Nations in May 1963.
- Objective is to protect consumer's health and ensuring fair practices in food trade.
- It consists of 189 member countries.
- Membership of the Commission is open to all Member Nations and Associate Members of FAO and WHO which are interested in international food standards.
- The Commission meets in regular sessions once a year, alternating between Geneva and Rome.

- The programme of work of the Commission is funded through the regular budgets of WHO and FAO, with all work subject to the approval of the two governing bodies of the parent organisations.
- The Commission works in the six official languages of the UN.
- Currently, it has standards for sorghum and pearl millet.
- The Codex Alimentarius Commission praised India's Standards on Millets and accepted its proposal for the development of global standards for millets during its 46th session.
- India has framed a comprehensive group standard for 15 types of millets specifying 8 quality parameters, which received resounding applause at the international meet.
- India put forward a proposal for the development of global standards for millets, particularly for Finger millet, Barnyard millet, Kodo millet, Proso millet and Little millet as group standards as in the case of pulses.

International Social Security Association

- International Social Security Association is the principal international institution bringing



together social security agencies and organisations of the world.

- Aim is to promote dynamic social security as the social dimension in a globalising world by supporting excellence in social security administration.
- It was founded in 1927 under the auspices of the International Labour Organization
- It has over 320 member institutions from over 160 countries.
- Headquarters: Geneva (at the International Labour Office)
- It provides access to information, expert advice, business standards, practical guidelines and platforms for members to build and promote dynamic social security systems worldwide.
- The vision of dynamic social security provides a framework for the ISSA's actions.

UN Commission For Social Development

- UN Commission for Social Development (CSocD) formerly known as the Social Commission, is a functional commission of the Economic and Social Council (ECOSOC) of the United Nations.
- It has been in existence since the very inception of the United Nations, advising ECOSOC and governments on a wide range of social policy issues and from the social perspective of development.
- Its primary purpose is to advance social development and formulate policies and recommendations to address global social issues.
- It focuses on topics such as poverty eradication, social inclusion, and the promotion of equitable and sustainable development.
- Since the 1995 World Summit for Social Development in Copenhagen, the CSocD has been the key UN body in charge of the follow-up and implementation of the Copenhagen Declaration and Programme of Action.
- Originally 18, membership has been increased several times, most recently in 1996, and now stands at 46.
- Members are elected by ECOSOC based on equitable geographical distribution for four-year terms.
- The CSocD meets every year at the United Nations Headquarters in New York, typically in February.
- During its meetings, member states, international organisations, and civil society representatives come together to discuss and address various social development issues.

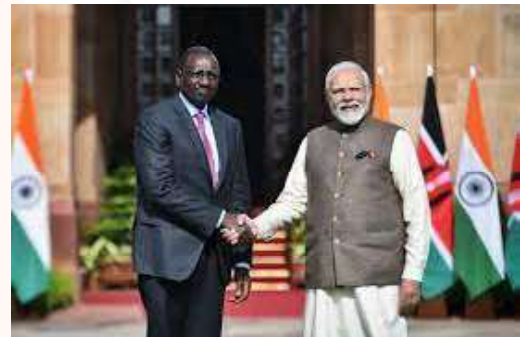
Colombo Security Conclave

- National Security Advisers from India, Mauritius, and Sri Lanka, along with delegates from Seychelles and Bangladesh, participated in the 6th NSA-level meeting of the Colombo Security Conclave (CSC) in Mauritius.
- NSA Ajit Doval underscored the importance of the Colombo Security Conclave in promoting regional security and stability.
- He emphasized the significance of ongoing engagements across various cooperation pillars to address common security challenges.
- During the meeting, participants collectively agreed on a Roadmap of Activities for 2024, outlining strategic initiatives to enhance security collaboration.

- This roadmap signifies the commitment of member countries to strengthen cooperation and address evolving security dynamics.
- It was Originally known as the Trilateral for Maritime Security Cooperation, the Colombo Security Conclave has evolved to include India, Sri Lanka, the Maldives, and Mauritius as its fourth member.
- Bangladesh and Seychelles participate as observers, reflecting the collaborative nature of maritime nations in addressing security challenges.

India-Kenya relation

- India has announced a USD 250 million line of credit to Kenya for modernisation of its agricultural sector during the recent visit of Kenya's President to India.



- A line of credit (LOC) is a predetermined borrowing limit that is accessible whenever necessary. The borrower can withdraw funds as required until reaching the established limit, and once repaid, the funds can be borrowed again in the case of an open line of credit.
- India and Kenya signed five pacts providing for cooperation in a range of areas including sports, education and digital solution, and unveiled a joint vision document to scale up maritime engagement in the Indian Ocean region.
- India also raised the issue of two Indian nationals who went missing in the east African country last year.
- Both sides agreed to strengthen bilateral ties in the field of defense, trade, energy, digital public infrastructure and healthcare.
- Both sides deliberated on defense cooperation and emphasized on military exercises, capacity building as well as linking the defense industries of both the countries .
- Kenya invited Indian companies to take advantage of the conducive and attractive environment to invest in Kenya, especially in agriculture, manufacturing, pharmaceutical, health, green energy and green mobility sectors.

- Terrorism is the most serious challenge and both sides have decided to increase counter-terror cooperation.

Exercise VINBAX-2023

- Exercise VINBAX-2023 is the joint Military exercise of Vietnam and India.



- It was held from December 11th to 21st.
- This exercise aims to strengthen collaborative partnerships, promote interoperability, and share best practices between India and Vietnam.
- The exercise, conducted as a Command Post Exercise cum Field Training Exercise, focuses on the deployment and employment of an Engineer Company and a Medical Team.
- It aims to exchange ideas on modern construction methods for roads, culverts, helipads, ammunition shelters, and observation posts in operational areas.
- The participating contingents jointly rehearse tactics, techniques, and procedures related to combat engineering and combat medical tasks.
- The exercise includes technical military operations scenarios, simulating the worldwide deployment of United Nations contingents.

Pandemic Accord

- The accord aims to strengthen global prevention, preparedness, and response to disease outbreaks.
- The delegates failed to reach a consensus on Intellectual Property Rights and Relaxing Patents.
- The United States did not change its stance on the protection of Intellectual Property Rights (IPR), reiterating that canceling them would not improve access for poor countries during emergencies.
- Developed and developing countries had divergent opinions, with the former focusing on prevention and the latter demanding equitable access to medical products to be a guarantee in the treaty.
- The International Federation of Pharmaceutical Manufacturers and

Associations was also in agreement when it came to retaining patent rights.

Global Partnership On Artificial Intelligence (GPAI) Summit

- The Prime Minister of India inaugurated the Global Partnership on Artificial Intelligence (GPAI) Summit.



- The GPAI is an alliance of 28 countries; the European Union adopted the New Delhi Declaration of the GPAI.
- The Prime Minister of India discussed the national AI portal, highlighting the AIRAWAT initiative and raising concerns over the potential misuse of deep fake technology.
- YUVAi was prominently featured at the GPAI Summit, and the winners of the YUVAi initiative and start-ups showcased their AI models and solutions.
- The Prime Minister suggested using AI to make digital services available in local languages to increase digital inclusion.
- Responsible AI, data governance, future of work, and innovation and commercialization are the four different themes of four sessions organized in the GPAI.
- The summit also included various side events showcasing AI progress and engaging in discussions, such as industry panel discussions, workshops, research symposiums, hackathons, and the Global AI Expo.

Tax Inspectors Without Borders Program

- Tax Inspectors Without Borders (TIWB) program, a collaborative effort between the United Nations Development Programme (UNDP) and the Organisation for Economic Cooperation and Development (OECD), was recently launched in Saint Lucia.
- India has been selected as the Partner Administration and will contribute Tax Experts to the 12-18-month initiative.
- The program's focus is on the effective use of automatic exchange of information under the Common Reporting Standard (CRS) framework.

- TIWA will facilitate the transfer of tax audit knowledge and skills to developing country tax administrations using a practical, learning by doing approach.

ENACT Partnership

- Six new countries and a United Nations agency joined the ENACT Partnership.
- Enhancing Nature-based Solutions for an Accelerated Climate Transformation



(ENACT) was launched by Germany and Egypt along with the International Union for Conservation of Nature.

- It was launched at the Conference of Parties (COP27), which took place at Sharm el-Sheikh, Egypt in 2022.

- Other member countries: Canada, European Union, France, Japan, Malawi, Norway, Republic of Korea, Slovenia, Belgium, Pakistan, Spain, the Netherlands, Switzerland and the United States.

- It is an ambitious global initiative that seeks to coordinate global efforts to address climate change, land and ecosystem degradation, and biodiversity loss through Nature-based Solutions.

- It aims to:
 - Enhance the protection from and resilience to climate impacts of at least 1 billion vulnerable people.
 - Secure up to 2.4 billion hectares of healthy natural and sustainable ecosystems, and significantly increase global mitigation efforts through protecting and restoring carbon-rich ecosystems

SCIENCE AND TECH

X-ray Polarimeter Satellite

- X-ray Polarimeter Satellite (XPoSat) is India's first dedicated polarimetry mission to study various dynamics of bright astronomical X-ray sources in extreme conditions.
- It is aiming to investigate the polarisation of intense X-ray sources.
- The spacecraft will carry two scientific payloads in a low earth orbit.
- POLIX (Polarimeter Instrument in X-rays): It will measure the polarimetry parameters (degree and angle of polarisation) in a medium X-ray energy range of 8-30 keV for photons of astronomical origin.
- XSPECT (X-ray Spectroscopy and Timing) payload: It will give spectroscopic information in the energy range of 0.8-15 keV.
- It is designated for observation from a Low Earth Orbit (non-sun synchronous orbit of ~650 km altitude, low inclination of approximately six degrees).
- The mission life is expected to be approximately five years.
- The payloads onboard XPoSat will observe the X-ray sources during the spacecraft's transit through the Earth's shadow, i.e., during the eclipse period.
- It will be launched by the Polar Satellite Launch Vehicle (PSLV) from the Satish Dhawan Space Centre in Sriharikotta.

Casgevy :Gene Therapy

- The UK Drug Regulator sanctioned a gene therapy called Casgevy heralded as a significant breakthrough for treating sickle cell disease and thalassaemia.
- Notably, this marks the world's inaugural licensed therapy leveraging the CRISPR-Cas9 gene editing technology that earned its innovators a Nobel Prize in Chemistry 2020.
- Both sickle cell disease and thalassaemia are caused by errors in the gene for haemoglobin(Hb), a protein in the red blood cells that carry oxygen to organs and tissues.
- The therapy uses the patient's own blood stem cells, which are precisely edited using CRISPR-Cas9.
- A gene called BCL11A, which is crucial for switching from foetal to adult haemoglobin, is targeted by the therapy.
- Foetal haemoglobin, which is naturally present in everyone at birth, does not carry the same abnormalities as adult haemoglobin.

- The therapy uses the body's own mechanisms to start producing more of this foetal haemoglobin, alleviating the symptoms of the two conditions.
- Casgevy involves a single treatment wherein blood stem cells are extracted via apheresis and then edited over approximately six months before being reintroduced into the patient.
- Apheresis is a medical procedure that involves removing specific components from blood and returning the rest to the body.

Walking Pneumonia

- The pneumonia caused by mycoplasma pneumoniae, often termed walking pneumonia, is a mild form of the infection.
- It is characterized by mild respiratory symptoms, and the bacteria can cause more serious lung infections in some cases.
- Mycoplasma pneumoniae spreads through respiratory droplets when an infected person coughs or sneezes.
- Common symptoms include sneezing, a runny or stuffy nose, sore throat, watery eyes, wheezing, vomiting, and diarrhoea.
- Groups at higher risk of severe infection include children, the elderly, and those with weakened lungs.
- Preventive measures recommended by WHO include vaccination, maintaining distance from ill individuals, staying home when unwell, testing and seeking medical care, wearing masks as appropriate, ensuring good ventilation, and practicing regular hand-washing

INS Kadmatt

- INS Kadmatt is an indigenous stealth anti-submarine warfare corvette.
- It is the second of four anti-submarine warfare corvettes built for the Indian Navy by the Garden Reach Shipbuilders and Engineers of Kolkata under Project 28.
- It was commissioned into the Indian Navy in January 2016.
- The ship was inducted into the Eastern Naval Command of the Indian Navy.
- It has been named after the Kadmat Island of India's Lakshadweep Islands.



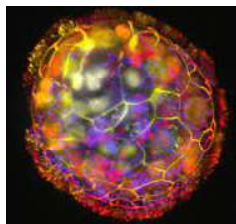
- The primary role of the INS Kadmatt is in anti-submarine warfare is to protect ships in convoys and ports from enemy submarine attacks.
- The ship is fitted with state-of-the-art weapons, sensors, and machinery and is also designed to embark on the Sea king anti-submarine helicopter.
- The ship also has on-board early warning, navigation, and fire control radars, besides underwater sensors and integrated communication and electronic warfare systems.
- It produces low levels of radiated underwater noise, which reduces its chances of detection.
- It is equipped with anti-aircraft guns, torpedoes, and rocket launchers.

Pirola

- Pirola or 2.86 Variant is a new strain of COVID-19 with 35 mutations, causing concerns about immune evasion and vaccine efficacy.
- It demonstrates distinct symptoms like rashes, conjunctivitis, and diarrhoea.
- The Pirola variant has been detected in several countries, including the US, the UK, and others.
- The concern with such mutations is that they could potentially make the virus more transmissible or resistant to immunity gained from previous infections or vaccinations.
- This indicates that the Pirola variant could be more contagious or evade vaccines more than other Omicron subvariants

Anthrobots

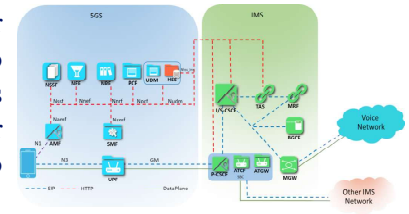
- Anthrobots are constructed from human tracheal cells which are bio-robots that possess self-assembly capabilities.
- These are capable of both movement and healing neurons within a laboratory setting.
- They can spontaneously fuse together to form a larger structure called a superbot, which was able to encourage the growth of neurons.
- They are measuring between the width of a human hair and the tip of a sharpened pencil.
- The anthrobots displayed diversity in structure and behavior. Some took on a spherical shape fully covered in cilia, while others resembled a football shape irregularly adorned with cilia.
- These anthrobots are different from Xenobots, which are created from embryonic stem cells of frog.



- They hold promise for regenerative medicine, wound healing, and disease treatment.

Voice Over 5G

- Voice over 5G is also known as Voice over New Radio (VoNR).
- This standard allows voice calls over 5G networks instead of the current standard that uses 4G.
- Vo5G takes all the improvements of 5G – speed, capacity, responsiveness – and applies them squarely to voice.
- It aims to have all that infrastructure and interoperability ready well in advance.
- VoNR brings clear advances over VoLTE with 5G's substantially higher bandwidth and lower latency compared to 4G LTE.
- It utilizes more advanced audio codecs that provide superior clarity and fidelity based on 5G's increased data capacity.
- It promises faster call connection times, ensuring a seamless and prompt user experience.
- Vo5G aims to eliminate the notorious call drop issues, particularly during transitions between 5G and 4G.
- Lower packet loss contributes to better reliability, minimising the occurrence of voice cutouts during calls.



ASW Shallow Water Craft (CSL) Project

- The first three ships of the ASW Shallow Water Craft (CSL) project for the Indian Navy, named Mahe, Malvan, and Mangrol, were simultaneously launched on November 30, 2023, at Cochin Shipyard Limited (CSL), Kochi.
- Mahe class ships are part of the 08 x ASW Shallow Water Craft project and are equipped with indigenously developed underwater sensors for anti-submarine and maritime operations.
- The project aims for Aatmanirbhar Bharat with over 80% indigenous content.
- The first ship is expected to be delivered in 2024.
- Aim is to undertake anti-submarine operations in coastal waters, Low-Intensity Maritime Operations (LIMO) and Mine Laying Operations.

FjordPhantom

- FjordPhantom is a new malware that employs virtualization to elude detection and target applications.
- It propagates through messaging services and combines app-based malware with social engineering to deceive banking customers.
- It strategically zeroes in on users within Southeast Asia, encompassing countries such as Malaysia, Thailand, Indonesia, Singapore, and Vietnam.
- It utilises email, SMS, and messaging apps to entice users into unwittingly downloading what appears to be a legitimate banking app, which contains FjordPhantom.
- When this app gets installed, the attackers, posing as customer service representatives, guide the users through the steps to run the app.
- The malware uses virtualization to create a virtual container to run this app, and attackers can monitor the user's actions and steal their credentials.
- It facilitates attackers in gaining access to files and memory, conducting debugging, and injecting code into other apps.
- Additionally, the malware logs various actions performed by the targeted applications, signifying active development and suggesting potential targeting of other apps in the future.

White Lung Syndrome

- White Lung Syndrome originates from distinctive white patches on chest X-rays in affected children.
- The term includes various respiratory illnesses like acute respiratory distress syndrome, pulmonary alveolar microlithiasis, and silica-related conditions.
- It is believed to be caused by a combination of bacterial, viral, and environmental factors.
- The patients have symptoms including cough, fever, runny nose, phlegm pileup in sinuses, difficulty breathing and fatigue.
- The treatment is mainly focused on addressing the symptoms of pneumonia and ensuring the respiratory health of the patients.
- Medicines are given to alleviate symptoms like cough and fever.

INS Sandhayak

- INS Sandhayak is the largest survey vessel built in India.
- It is fully designed and built by the Garden Reach Shipbuilders and Engineers (GRSE),

- It is the first in the series of four Survey Vessels (Large), or SVLs, being built by GRSE.

- It is the reincarnation of another ship by that name.



- The previous warship, also a survey vessel, was commissioned into the Navy in 1981 and decommissioned in 2021.
- The new INS Sandhayak and the remaining ships in the series are far more advanced than their predecessors.
- Garden Reach Shipbuilders and Engineers (GRSE) delivered INS Sandhayak to the Indian Navy on the occasion of Navy Day.

Pompe Disease

- Pompe disease is a rare inherited disorder that affects one child per million.
- Causes mutations in the GAA gene cause Pompe disease.
- The GAA gene provides instructions for producing an enzyme called acid alpha-glucosidase (also known as acid maltase).
- This enzyme is active in lysosomes, which are structures that serve as recycling centres within cells.
- The enzyme normally breaks down glycogen into a simpler sugar called glucose, which is the main energy source for most cells.
- Mutations in the GAA gene prevent acid alpha-glucosidase from breaking down glycogen effectively, which allows this sugar to build up to toxic levels in lysosomes.
- This buildup damages organs and tissues throughout the body, particularly the muscles, leading to the progressive signs and symptoms of Pompe disease.
- Some common side effects and symptoms include muscle weakness, respiratory issues, heart problems and difficulty swallowing.
- Symptoms begin in the first few months after birth.
- Late-onset or delayed-onset: symptoms appear later in childhood or in adulthood.
- It affects males and females equally.
- The treatment includes enzyme replacement therapy (ERT)

Elephant Endotheliotropic Herpesvirus

- Elephant Endotheliotropic Herpesvirus is a double-stranded DNA virus that is classified in the family Herpesviridae.
- It causes acute, fatal hemorrhagic disease in wild and captive juvenile Asian and African elephants.

- It is lethal for young elephants between the ages of one and 12.
- The disease is usually fatal, with a short course of 28-35 hours.
- Transmitted by direct contact with body fluids of infected elephants (saliva, shedding from skin lesions, etc.)
- Some elephants show symptoms such as reduced appetite, nasal discharge and swollen glands.
- It includes a combination of antiviral therapy, aggressive fluid therapy (to counter haemorrhaging), immuno-stimulant drugs (selenium and Vitamins C, E), antipyretics and analgesics (to bring down fever).
- There is no true cure for herpesviruses in animals or in humans because herpes viruses go latent.

European Space Agency's Solar Orbiter

- Solar Orbiter is a Sun-observing satellite with 10 science instruments, all designed to provide unprecedented insight into how the sun works.
- It is conceived to perform a close-up study of our Sun and inner heliosphere-the uncharted innermost regions of our Solar System.
- It is a joint mission of the European Space Agency (ESA) and NASA.
- It is the most complex scientific laboratory ever to have been sent to the Sun.
- It will take images of the Sun from closer than any spacecraft before and, for the first time, look at its uncharted polar regions.
- The mission, launched on February 10, 2020, released its first images in June of that year.
- After multiple gravitational assist manoeuvres at Earth and Venus, it started its full science operations in December 2021.
- It follows an elliptical orbit around the sun, with the closest point, the perihelion, at about 25 million miles (40 million kilometres) from the sun, which is closer than the orbit of Mercury.
- It carries six remote-sensing instruments to observe the Sun and the solar corona and four in-situ instruments to measure the solar wind, energetic particles, and electromagnetic fields.
- The mission is scheduled to last until at least 2027.

Gemini AI Model

- Gemini AI model is a new multimodal general AI model, which means it can understand, and work with different formats, including text, code, audio, image, and video, at the same time developed by Google.



- It is now available to users across the world through Bard, some developer platforms and even the new Google Pixel 8 Pro devices.
- It can understand, explain and generate high-quality code in the world's most popular programming languages, like Python, Java, C++ and Go.
- It comes in three sizes — the yet -to-be-launched Ultra, Pro and Nano.
- Gemini Ultra, the largest and most capable model, will be meant for highly complex tasks. It is available now only to select customers, developers, partners and safety and responsibility experts for early experimentation and feedback.
- Gemini Pro will be best at scaling across a wide range of tasks and is now available in Bard for regular users across the world.
- Gemini Nano will manage on-device tasks and is already available on Pixel 8 Pro, powering new features like Summarise in the Recorder app and Smart Reply via Gboard.

Red Sprite

- Red sprite represents an extraordinary meteorological phenomenon categorized as a Transient Luminous Event (TLE).
- Sprite is also an acronym for Stratospheric/mesospheric Perturbations resulting from Intense Thunderstorm Electrification.
- Occasionally dubbed red lightning, it occurs above thunderclouds at altitudes between 40 and 80 kilometres (25 – 50 miles) above the Earth's surface.
- Lightning flashes normally go downward from the clouds to the ground.
- A sprite goes in the other direction, going into the atmosphere, a bit like backwards lightning.
- It happens incredibly quickly in about a millisecond which can make it tricky for scientists to capture and observe them.
- Also, as the red sprites form above thunder clouds, they are not easily studied from Earth and are mostly seen from space.

Radiocarbon Dating

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

- First developed in the late 1940s at the University of Chicago by Willard Libby, the technique is based on the decay of the carbon-14 isotope
- Carbon-14 is a radioactive isotope of carbon.
- It has been used for historical studies and atmospheric science.
- It can be used on any object that used to be alive.
- That includes pieces of animals, people, and plants, but also paper that was made from reeds, leather made from animal hides, logs that were used to build houses, and so forth.
- Carbon 14 is continually being formed in the upper atmosphere by the effect of cosmic ray neutrons on nitrogen 14 atoms. It is rapidly oxidized in air to form carbon dioxide and enters the global carbon cycle.
- Plants and animals assimilate carbon 14 from carbon dioxide throughout their lifetimes into their tissues.
- When they die, the carbon-14 starts to change into other atoms over time.
- Scientists can estimate how long the organism has been dead by counting the remaining carbon-14 atoms.
- Carbon-14 has a half-life of about 5,730 years.
- That means half the atoms in a sample will change into other atoms, a process known as decay, in that amount of time.

Swarm Drones

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



- A Swarm Drone typically consists of multiple drones working in coordination, communicating with one another, and sharing information to achieve a common objective.
- These drones can be of the same or different types, ranging from small quadcopters to larger fixed-wing drones.
- The swarm's strength lies in its ability to function as a collective unit, leveraging swarm intelligence algorithms and advanced software to operate seamlessly and efficiently.
- These drones are equipped with Artificial Intelligence (AI) and can communicate with each other as well as with the control station.

- All the individual drones work in unison to complete tasks using distributed coordination, with each communication sent out by one drone providing the others with up-to-date information about their environment and roles in the mission.
- As their commands are based on real-time data, these swarms react quickly and precisely to changes in their surroundings.
- The swarm as a whole and individual drones can exercise great autonomy in seeking and engaging targets.

Hydrogen Cyanide

- Scientists have found hydrogen cyanide — a key molecule in the creation of life — in the oceans of Saturn's icy moon Enceladus, according to a new study based on data from the National Aeronautics and Space Administration's (NASA) Cassini spacecraft.
- Hydrogen cyanide is a colourless or pale-blue liquid or gas with a bitter, almond-like odour.
- It is also known as hydrocyanic acid or HCN.
- Hydrogen cyanide interferes with the body's use of oxygen and may cause harm to the brain, heart, blood vessels, and lungs.
- It is an excellent solvent for many salts, but it is not widely used as a solvent because of its toxicity.
- It may be used in the workplace for fumigation, electroplating, mining, chemical synthesis, and the production of synthetic fibres, plastics, dyes, and pesticides.

Noma Disease

- The World Health Organization announced the inclusion of it in its official list of neglected tropical diseases (NTDs).
- Noma disease is a rapidly progressing severe gangrenous disease of the mouth and the face.
- The disease, also called cancrum oris or gangrenous stomatitis, is mostly found in sub-Saharan Africa.
- It mostly affects children aged 2–6 years suffering from malnutrition, affected by infectious diseases, living in extreme poverty with poor oral health or with weakened immune systems.
- It can also occur among immunocompromised adults due to HIV, leukaemia and other diseases.
- It starts as a soft tissue lesion (a sore) of the gums.
- It then develops into an acute necrotizing gingivitis that progresses rapidly, destroying

the soft tissues and further progressing to involve the hard tissues and skin of the face.

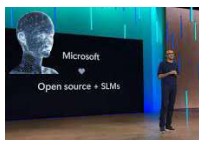
- It is generally considered an opportunistic and non-contagious disease.
- Cases are seen in African countries outside this area as well as in other parts of the world, including Asia and Asia-Pacific, the Americas, the Middle East and Europe.
- Evidence indicates that the causative agents of noma are non-specific polymicrobial organisms.
- There is no documented evidence to support direct transmission from person to person.
- Early detection is essential, as therapy is most effective at the early stages of disease when it appears as aggressively swollen gums (acute necrotizing gingivitis).

Radon

- Radon is a radioactive gas that forms naturally when uranium, thorium, or radium, which are radioactive metals, break down in rocks, soil, and groundwater.
- It is an inert, colourless, and odourless gas.
- Radon gas usually exists at very low levels outdoors, but the gas can accumulate in areas without adequate ventilation, such as underground mines.
- Radon can get into homes and buildings through small cracks or holes and build up in the air.
- Radon levels may be higher in homes that are well insulated, tightly sealed, and/or built on soil rich in the elements uranium, thorium, and radium.
- When we breathe, these particles are deposited on the cells lining the airways, where they can damage DNA and potentially cause lung cancer.
- It is the second-most important cause of lung cancer after smoking and the leading cause of lung cancer among non-smokers.
- According to the WHO, radon is estimated to cause between 3% to 14% of all lung cancers in a country, depending on the national average radon level and smoking prevalence.

Phi-2

- Microsoft released Phi-2, a small language model to mark significant leap in the world of language models.
- Positioned as an upgraded version of Phi-1.5, this model boasts capabilities in generative AI that challenge larger counterparts like Llama-2, Mistral, and Gemini-2.



- The key lies in Phi-2's training on diverse, textbook-quality datasets, empowering it with common sense, language understanding, logical reasoning, and even prowess in solving complex mathematical and physics problems.

Kakrapar-4 Nuclear Reactor

- The fourth unit of the Kakrapar Atomic Power Project (KAPP-4) in Gujarat, with a capacity of 700 MWe, achieved recently, marking the initiation of a controlled fission chain reaction.
- The Kakrapar facility, houses the largest indigenous nuclear power reactors built by the Nuclear Power Corporation of India Limited (NPCIL).
- These pressurized heavy water reactors (PHWRs) utilize natural uranium as fuel and heavy water as coolant and moderator.
- The Kakrapar Atomic Power Station includes two operating PHWRs with a capacity of 220 MWe each, known as KAPS-1 and -2.
- The NPCIL, a public sector undertaking of the Department of Atomic Energy, already operates indigenous PHWRs at other facilities.



TEMPO satellite

- NASA's new satellite TEMPO measures air pollution hourly has shown significant



progress and now the space agency officials are already thinking about ways to extend its life.

- Tropospheric Emissions Monitoring of Pollution (TEMPO) monitors major air pollutants across North America.
- Its monitoring range extends from Canada's oil sands to the Yucatán Peninsula and across the Atlantic to the Pacific Ocean.
- It is part of a virtual constellation with South Korea's Geostationary Environment Monitoring Spectrometer (GEMS) and the

European Space Agency's upcoming satellite, aiming for comprehensive air pollution monitoring over the Northern Hemisphere.

- It will make important scientific observations, including that of ozone, nitrogen oxide, sulphur dioxide and formaldehyde levels.
- It is capable of measuring air quality over North America hourly during the daytime with a resolution of several square miles.
- It monitors the effects of everything from rush-hour traffic to pollution from forest fires and volcanoes.
- The present pollution-monitoring satellites are in low Earth orbit (LEO), but this new monitoring instrument is hosted in geostationary orbit.
- It was designed for a 20-month operation.

Lathyrism

- Lathyrism is a neurological disorder caused by eating too much grass pea (*Lathyrus sativus*).

- It's also known as neurolathyrism
 - Lathyrism is one of the oldest known neurotoxic disorders.
 - It's a skeletal disorder caused by the toxin BAPN, which inhibits the copper-containing enzyme lysyl oxidase.
 - Grass pea, also known as khesari dal, has been historically infamous for causing lathyrism, a neurological disease leading to lower limb paralysis.
 - In the late 19th century, an outbreak of lathyrism linked to grass pea led to its ban in India in 1961 under the Prevention of Food Adulteration Act.
 - Despite the ban, grass pea cultivation continued, and researchers developed low-toxin varieties.
- In 2015, an expert committee recommended lifting the ban, emphasizing its potential for food security amid climate change.

E N V I R O N M E N T

Launch of Loss And Damage Fund

- Loss and Damage Fund was first announced during COP27 in Sharm el-Sheikh, Egypt.
- It is a global financial package to ensure the rescue and rehabilitation of countries facing the cascading effects of climate change.
- The term refers to the compensation that rich nations, whose industrial growth has resulted in global warming and driven the planet into a climate crisis, must pay to poor nations, whose carbon footprint is low but are facing the brunt of rising sea levels, floods, crippling droughts, and intense cyclones, among others.
- The changing climate has impacted lives, livelihoods, biodiversity, cultural traditions, and identities.
- Loss and damage is often categorised as either economic or non-economic.
- Economic loss and damage are negative impacts that one can assign a monetary value to.
- These are things such as the costs of rebuilding infrastructure that has been damaged due to floods or the loss of revenue from crops that were destroyed due to drought.
- Non-economic loss and damage are negative impacts where it is difficult or infeasible to assign a monetary value.
- These are things such as trauma from experiencing a tropical cyclone, loss of community due to displacement of people, or loss of biodiversity.
- The World Bank will oversee the loss and damage fund in the beginning, with the source of funds being rich nations such as the US, the UK, and the EU, as well as some developing countries.

ALTÉRRRA Fund

- UAE President Sheikh Mohammed Bin Zayed Al Nahyan, at the COP28 climate summit in Dubai, announced the creation of a \$30 billion climate fund named ALTÉRRRA.
- The fund aims to attract \$250 billion in investment by the end of the decade, with \$25 billion allocated to climate strategies and \$5 billion to incentivize investment in the Global South.
- The fund seeks to steer private markets towards climate investments, especially in emerging markets and developing economies.



- The term Alterra typically refers to a Latin word that is often used in various contexts to signify alteration, transformation, or variation.

Climate Club

- Climate Club is led by Germany and Chile, the Club has garnered support from 36 member countries including Kenya, the European Union, Switzerland and others was formally launched at the 28th Conference of Parties (COP28) to the United Nations Framework Convention on Climate Change.
- It aims to make decarbonisation of industries successful for climate and businesses, through ambitious policies, alignment of methodologies and standards and improving finance and assistance for emerging and developed economies.
- The activities of the club are divided into three key pillars:
 - Pillar 1: Advancing ambitious and transparent climate change mitigation policies.
 - Pillar 2: Transforming industries
 - Pillar 3: Boosting international cooperation and partnership
- Two co-chairs will be elected for two-year terms for the Club. Currently, Germany and Chile serve as the co-chairs.
- A body of members will determine the scope and approve the work programme, budget and amendments.
- Furthermore, a steering group will be formed to support the body of members when the Club reaches 40 members.
- A secretariat will be formed to implement the work program.
- Currently, Organisation for Economic Co-operation and Development and International Energy Agency are the joint interim heads of secretariat.



Buxa Tiger Reserve

- The National Green Tribunal (NGT) has taken Suo-motu cognisance of a report on the mowing down of three elephants by a goods train at Buxa Tiger Reserve.
- Buxa Tiger Reserve (BTR) lies in the Alipurduar sub-division of the Jalpaiguri district of West Bengal.

- Its northern boundary runs along the international border with Bhutan.
- The Sinchula hill range lies all along the northern side of BTR, and the eastern boundary touches that of Assam State.
- It got its name from Buxa Fort, which is located on the Sinchula Range at an altitude of 867 metres.
- Terai Ecosystem constitutes a part of this reserve.
- It serves as an international corridor for elephant migration between India and Bhutan.
- Two rivers, namely the River Raidak and the River Jayanti, flow through the forest of Buxa.
- The forests of the reserve can be broadly classified as the Moist Tropical Forest of Champion and Seth's (1968) recent classification.
- Some of the important species are Sal, Champa, Gamar, Simul, and Chikrasi.
- The main species include the Tiger, elephant, leopard cat, gaur, wild boar, sambar, hog deer, Chinese pangolin, etc.



Methane Alert And Response System

- Methane Alert and Response System is a data-to-action initiative with the mission to put open, reliable, and actionable data into the hands of individuals who can reduce methane emissions.
- It was announced at the Conference of Parties (COP 27) in November 2022 and began its initial pilot phase in January 2023.
- The pilot phase presented an opportunity for UNEP's International Methane Emissions Observatory (IMEO) to engage with partners, countries, and operators to refine MARS processes and procedures before making data public.
- It uses satellites to scan the globe for major emission sources and alerts countries and companies so that they can take methane action and accelerate progress supporting the Paris Agreement and Global Methane Pledge.
- This initiative works in partnership with the Climate and Clean Air Coalition (CCAC) and the International Energy Agency (IEA).

Global Drought Snapshot

- According to the report, Global Drought Snapshot, launched by the UN Convention to Combat Desertification (UNCCD) at the outset of COP28 climate talks in the UAE,

mentioned that drought causes more economic loss and affects more sectors of societies.

Report:

- 70% cereal crops were damaged by drought in the Mediterranean, 2016–2018.
- 33% loss of grazing land in South Africa due to drought
- Five consecutive rainfall season failures in the Horn of Africa, caused the region's worst drought in 40 years, contributing to reduced agricultural productivity, food insecurity and high food prices.
- Africa's drought-related economic losses in the past 50 years at \$70 billion.
- 75% reduction of cargo capacity of some vessels on the Rhine due to low river levels in 2022, leading to severe delays in shipping arrivals and departures
- 5 million people in southern China affected by record-low water levels in the Yangtze River due to drought and prolonged heat
- 85% of people affected by droughts live in low-or middle-income countries.
- 2 million people in the Central American Dry Corridor needing food aid after five years of drought, heatwaves and unpredictable rainfall.

Global Climate 2011-2020: A Decade Of Acceleration

- World Meteorological Organisation (WMO) has published a report titled- The Global Climate 2011-2020: A Decade of Acceleration, concerning the alarming acceleration of climate change and its multifaceted impacts across the planet.
- **Highlights of the Report:**
 - The decade 2011-2020 emerged as the warmest on record for both land and ocean.
 - Global mean temperature soared to 1.10 ± 0.12 °C above the 1850-1900 average, with each decade since the 1990s surpassing previous ones in warmth.
 - Record high temperatures were reported in numerous countries, with 2016 (due to an El Niño event) and 2020 standing out as the warmest year.
 - Atmospheric concentrations of major greenhouse gases (GHG) continued to rise, especially CO₂, reaching 413.2 ppm in 2020, primarily due to fossil fuel combustion and land-use changes.

- The decade witnessed an increase in average growth rates of CO₂, highlighting the pressing need for sustainable emissions reduction to stabilize the climate.
- Ocean warming rates accelerated significantly, with 90% of accumulated heat stored in the ocean. Warming rates doubled in the upper 2000m depth from 2006-2020, impacting marine ecosystems.
- Ocean acidification due to CO₂ absorption posed challenges for marine organisms, affecting their shell and skeleton formation.
- Marine Heatwaves increased in frequency and intensity, affecting about 60% of the ocean's surface between 2011 and 2020.
- Global mean sea level rise accelerated to 4.5mm/yr from 2011-2020, mainly due to ocean warming and ice mass loss.
- Glaciers globally thinned by about 1 meter/year between 2011 and 2020, with unprecedented mass loss, affecting water supplies.
- Greenland and Antarctic ice sheets lost 38% more ice compared to 2001-2010, contributing significantly to rising sea levels.
- Arctic sea ice continued its decline during the summer melt season, with a mean seasonal minimum extent 30% below the 1981-2010 average.
- The Antarctic ozone hole diminished in the 2011-2020 period, credited to successful international action under the Montreal Protocol.
- Efforts led to reduced chlorine entering the stratosphere from ozone-depleting substances.
- Extreme weather events hindered progress toward SDGs, impacting food security, human mobility, and socioeconomic development.
- Improved early warning systems reduced casualties but economic losses from extreme events escalated.
- The 2011-2020 decade was the first since 1950 when there was not a single short-term event with 10,000 deaths or more.

Painganga River

- Painganga River is the chief river of the Yavatmal district in Maharashtra and flows

along the south-east boundaries of the district in a winding, meandering course.

- It originates in the Ajantha ranges in Aurangabad district in Maharashtra.
- It is a major tributary of the Wardha River, the other major river in the district.
- The Wardha River flows into the Wain Ganga Riverto form the Pranhita River, which finally joins the Godavari River.
- It is acutely deep-rooted and difficult to navigate.
- The total length of the river is 676 km.
- Major Tributaries: Include the Adan, Kas, Arunavati, Kayadhu, and Pus Rivers.
- The Penganga River gets flooded in the rainy and winter seasons and partially flooded in the summer.
- It provides irrigation to the Washim and Yavatmal districts in Maharashtra.
- There are two dams being constructed on the river, namely Upper Painganga and Lower Painganga.
- This dam is also known as Isapur Dam.

Banni Grassland

- Banni Grassland is located along the northern border of Kachchh district.
- It is one of the largest grasslands in the Indian subcontinent with an area of over 2500 sq. km.
- Many factors have served to shape Banni over time, including the damming of rivers, the introduction and spread of the invasive Prosopis juliflora tree, and the continually varying composition and density of livestock that have grazed these grasslands for many centuries.
- The Banni is also home to 22 ethnic groups, the majority of whom are pastoralists, spread across 48 settlements in 19 Panchayats, with a population of close to 40,000 people.
- It is home to great biological diversity, having 37 grass species, 275 bird species, and domesticated animals like Buffalo, Sheep, Goat, Horses and Camel, as well as wildlife.
- The Kutch Desert Wildlife Sanctuary which spans over an area of 380 sq. km and the recently notified 227 Sq. km Chhari Dhand Conservation Reserve are part of the Banni Grasslands.
- The vegetation here mainly comprises Prosopis Juliflora, Cressa critica, Cyperus spp, Sporobolus, Dichanthium, and Aristida.
- It is home to mammals such as the Nilgai, Chinkara, Blackbuck, Wild boar, Golden Jackal, Indian Hare, Indian Wolf, Caracal, Asiatic Wildcat and Desert Fox etc.

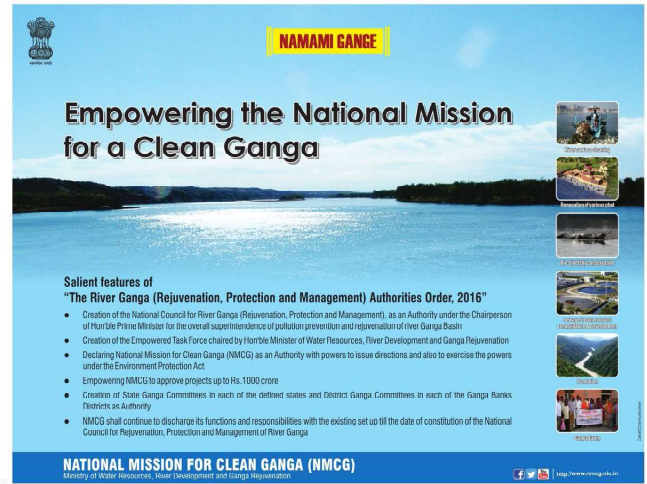
- The region also serves as a breeding ground for the Banni buffalo and the Kankrej cow.

Climate Change Performance Index

- It is an instrument to enable transparency in national and international climate politics.
- It is published by Germanwatch, the New Climate Institute and the Climate Action Network annually.
- It was first time published in 2005.
- The CCPI uses a standardized framework to compare the climate performance of 63 countries and the EU, which together account for over 90% of global greenhouse gas emissions.
- India has ascended to the 7th position in this year's Climate Change Performance Index (CCPI).
- **Key highlights:**
 - Denmark retained the top spot with a score of 75.59 per cent. Estonia and the Philippines occupied the second and third ranks respectively, with 72.07 and 70.70.
 - Saudi Arabia was at the bottom — 67th — in the performance list, while the host country United Arab Emirates occupied the 65th position.
 - India receives a high ranking in the GHG Emissions and Energy Use categories, but a medium in Climate Policy and Renewable Energy, as in the previous year.
 - India is trying to meet its National Determined Contribution (NDC), with clear long-term policies in place that focus on promoting renewable energy and providing financial support for domestic manufacturing of renewable energy components.
 - India has relatively high taxes on petrol and diesel, which are intended to act as carbon taxes.

National Mission for Clean Ganga (NMCG)

- It is a registered society under the Ministry of Jal Shakti, Government of India, to take measures for prevention, control, and abatement of environmental pollution in the river Ganga and to ensure continuous adequate flow of water so as to rejuvenate the river Ganga.
- It acted as the implementation arm of the National Ganga River Basin Authority (NGRBA), which was constituted under the provisions of the Environment (Protection) Act (EPA), 1986.



- NGRBA has since been dissolved with effect from 7th October 2016, consequent to the constitution of the National Council for Rejuvenation, Protection, and Management of River Ganga (referred to as National Ganga Council).
- The aims and objectives of NMCG is to accomplish the mandate of the NGRBA:
 - To ensure effective abatement of pollution and rejuvenation of the river Ganga by adopting a river basin approach to promote inter-sectoral co-ordination for comprehensive planning and management and
 - To maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.
 - NMCG has a two tier management structure that comprises of Governing Council and Executive
 - Committee. Both of them are headed by Director General, NMCG.
 - The Director General (DG) of NMCG is an Additional Secretary in Government of India.

Project ARTHA Ganga

- Arth Ganga is an initiative added to the Namami Ganga Program launched by the Government in 2014.
- It is a sustainable and viable economic development model to strengthen the river-people connection through an economic bridge.
- It was decided that the Namami Gange mission should lead the concept of Arth Ganga with the involvement of all stakeholders.
- It was added as a vertical of the Namami Ganga Program, in addition to 4 verticals: Nirmal Ganga, Aviral Ganga, Jan Ganga and Gyan Ganga.

Indira Gandhi Zoological Park

- Indira Gandhi Zoological Park is located in Visakhapatnam district of Andhra Pradesh.
- The construction for this ex-situ facility started in 1972 when Wildlife Protection Act of this country came into existence.
- It was opened to public on 19th May, 1977.
- It is surrounded by hills of Eastern Ghats on three sides and the Bay of Bengal on the fourth side.
- Being a Large category Zoo recognized by the Central Zoo Authority it houses 843 number of animals like mammals, carnivores, lesser carnivores, canids, ungulates, reptiles, birds and butterflies belonging to 123 species in a natural ambience.
- This place is also home to many free-ranging animals and birds owing to its existence in a forest area close to Kambalakonda Wildlife Sanctuary.

IUCN Red List Update 2023

- The International Union for the Conservation of Nature (IUCN) Red List underwent an update, featuring thousands of new species assessments and reassessments.
- This information was presented at the 28th Conference of Parties, shedding light on the escalating impacts of climate change on a diverse range of species.
- The IUCN Red List now includes 157,190 species, of which 44,016 are threatened with extinction.
- **Key Highlights of the Report:**
 - Species ranging from Atlantic salmon to green turtles face growing threats due to climate change.
 - IUCN Director General, emphasises the urgency of ambitious climate action to combat species decline.
 - The IUCN Red List update underscores the interlinked nature of climate and biodiversity crises, urging joint efforts for sustainable solutions.
 - The first comprehensive assessment of global freshwater fish species is revealed.
 - 25% of assessed freshwater fish species are at risk of extinction.
 - Climate change, pollution, overfishing, and invasive species contribute to the decline.
 - Atlantic salmon (*Salmo salar*) are ray-finned fish that can grow up to a meter long, found in the North Atlantic Ocean basin.

- They are anadromous, meaning they live in both fresh and saltwater.
- Atlantic salmon population declined by 23% (2006-2020), moving them from Least Concern to Near Threatened.
- Central South Pacific and East Pacific green turtle populations are respectively Endangered and Vulnerable.
- Climate change poses threats throughout their life cycle, impacting hatching success and food sources.
- The big-leaf mahogany (*Swietenia macrophylla*), a sought-after timber tree, shifts from Vulnerable to Endangered.
- Unsustainable harvest, urban encroachment, and illegal logging contribute to a 60% reduction over 180 years.
- Scimitar-horned oryx, a desert antelope moves from Extinct in the Wild to Endangered, showcasing successful reintroduction efforts in the Republic of Chad.
- Saiga antelope improves from Critically Endangered to Near Threatened due to conservation measures.

Sultanpur National Park

- Sultanpur National Park, formerly known as Sultanpur Bird Sanctuary, is located in the Gurgaon district in Haryana.



- It comprises mainly wetlands.
- This national park is a major habitat for aquatic birds, including migratory and resident birds.
- It was notified as a Ramsar site, a wetland of international importance, in 2021.
- It also features seasonal aquatic vegetation and is dotted with artificial islands; the Park also includes open grasslands.
- Flora: Grasses, dhok, khair, tendu, ber, jamun, banyan tree and neem etc.
- It is a very important wintering ground for waterfowl.
- Some of the resident and migratory species of birds found in the area are the Common hoopoe, Purple sunbird, Black francolin, Little cormorant, Indian Cormorant, Siberian Crane, Greater Flamingo, Common Teal, Common Greenshank, Ruff, etc.

Kazhuveli Bird Sanctuary

- It is located in the state of Tamil Nadu.
- It lies adjacent to the Bay of Bengal along the east coast.
- It is one of the major wetlands on the Coromandel Coast after Pulicat Lake.
- The lake is connected to the Bay of Bengal by the Uppukalli Creek and the Yedayanthittu estuary and is visited for nesting by migratory birds on the Central Asian flyway.
- The southern part of the wetland has been reserved land since 2001.
- It is listed as one of Tamil Nadu's 141 prioritised wetlands, Kazhuveli is also a wetland of international significance and a potential Ramsar site
- Kazhuveli has varied habitats including sloping wetlands preferred by shore birds, darters and waders, birds on floating vegetation and open grasslands preferred by different species of birds and fauna.
- The lake has a feeding ground for long-distance migrants from the cold subarctic regions of Central Asia and Siberia including Black-tailed Godwits, Eurasian Curlew, White Stork, Ruff and Dunlin.

Chandra River

- It is one of the two rivers (other being the Bhaga River) that merge to form the Chenab River in the Lahaul region of Himachal Pradesh.
- It rises in the snows lying at the base of the main Himalayan range in the Lahaul and Spiti districts, Himachal Pradesh.
- The upper and middle catchments of this river are made up of a topography that has been carved out by glacial action.
- The entire area is a vast, cold desert that receives little or no rain as it lies in the rain shadow of the Pir Panjal range of the Himalayas.
- Throughout its course, the river is fed by a number of glaciers, the biggest being the Shigri on its left bank, and the Samundari on its right.
- Koksar is the important human settlement along this river.



FAME India Phase II

- Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME India Phase II) is a scheme for promotion of electric mobility in the country.

- It has an outlay of Rs. 10,000 Crore for a period of 3 years commencing from 1st April, 2019. The FAME India Phase II has been extended for a period of two years after 31st March, 2022.
- Implementing Agency: Department of Heavy Industry, Ministry of Heavy Industry and Public Enterprises.
- The main objective of the scheme is to encourage faster adoption of electric and hybrid vehicles by offering an upfront incentive on the purchase of electric vehicles and also by establishing a necessary charging infrastructure for electric vehicles.
- The scheme will help address the issue of environmental pollution and fuel security.
- This scheme is the expanded version of the scheme titled 'FAME India I, which was launched on 1st April, 2015, with a total outlay of Rs. 895 crores.
- Features of FAME India Phase II:
 - The emphasis is on the electrification of public transportation, which includes shared transport.
 - Demand incentives on the operational expenditure model for electric buses will be delivered through State/city transport corporation (STUs).
 - In the 3W and 4W segments, incentives will be applicable mainly to vehicles used for public transport or registered for commercial purposes.
 - In the e-2Ws segment, the focus will be on private vehicles.
 - Through the scheme, it is planned to support 10 Lakh e-2W, 5 Lakh e-3W, 55000 4Ws, and 7000 buses.
 - To encourage advanced technologies, the benefits of incentives will be extended to only those vehicles which are fitted with advanced batteries like lithium-ion batteries and other new technology batteries.
 - The scheme proposes the establishment of charging infrastructure, whereby about 2700 charging stations will be established in metros, other million-plus cities, smart cities, and cities of hilly states across the country so that there will be availability of at least one charging station in a grid of 3 km x 3 km.
 - Under the scheme of FAME-II, the demand incentive for e-2W has been increased to Rs. 15,000/KWh from Rs. 10,000/KWh,

with an increase in cap from 20% to almost 40% of the cost of the vehicle to increase the adoption of e-2W.

Hokersar Wetland

- Known as the Queen Wetland of Kashmir.
- Hokersar (also known as Hokera) is a designated Ramsar site is located in Srinagar, Jammu and Kashmir.



- It is spread over an area of 13.75 sq. km (1375 ha) in the northwest Himalayan Biogeographic province of Kashmir, in the backyard the snow draped Pir Panjal range with an altitude of 1584 m.
- It is a natural perennial wetland contiguous to the Jhelum basin.
- It gets water from the Doodhganga River (Tributary of Jhelum)
- It is the only site with remaining reed beds of Jammu and Kashmir.
- It is the abode of 68 waterfowl species like Large Egret, Great Crested Grebe, Little Cormorant, Common Shelduck, Tufted Duck and endangered White-eyed Pochard, coming from Siberia, China, Central Asia, and Northern Europe.

Fimbristylis jaleeliana

- It is a family of graminoid (grass-like) monocotyledonous flowering plants, from the lateritic hillocks of Kannur district.
- It thrives in lateritic grasslands at an elevation of 60 metres above sea level.
- The genus Fimbristylis was one of the largest genera within the family Cyperaceae, represented by 320 species distributed in tropical and subtropical regions.
- In India, the genus was represented by 124 species, of which 97 were found in the Western Ghats and west coast.
- Its existence is under threat due to habitat destruction caused by mining activities, posing a risk to its already fragmented populations on the lateritic plateau.

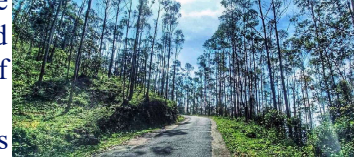


Pappathi Chola

- Pappathi Chola, known for its high butterfly population, derived its name from the Tamil

word Pappathi meaning butterflies and Chola means shola land.

- It is also regarded as a hub of balsams (Impatiens balsamina) and rare varieties of orchids.
- It is located right in the middle of the Chathurangappara hills and Mathiketta shola.
- Last year, the region witnessed the blooming of Neelakurinji.
- This area is covered with eucalyptus trees.
- Many butterflies reach the area during their migratory course from the rain shadow forests of Tamil Nadu back to the higher elevations of Munnar.



Indian Forest and Wood Certification Scheme

- This national forest certification scheme offers voluntary third-party certification designed to promote sustainable forest management and agroforestry in the country.
- The scheme includes forest management certification, tree outside forest management certification, and chain of custody certification.
- It can provide market incentives to various entities that adhere to responsible forest management and agroforestry practices in their operations.
- Parties involved: This includes state forest departments, individual farmers, or Farmer Producer Organizations engaged in agroforestry and farm forestry, as well as other wood-based industries in the value chain.
- The Forest Management certification is based on the Indian Forest Management Standard, consisting of 8 criteria, 69 indicators and 254 verifiers.
- It will be overseen by the Indian Forest and Wood Certification Council, which will act as a multistakeholder advisory body.
- Indian Institute of Forest Management, Bhopal will act as the scheme operating agency and will be responsible for overall management of the scheme.
- The National Accreditation Board for Certification Bodies under the Quality Council of India will accredit the certification bodies which will carry out independent audits and assess adherence of various entities on the standards prescribed under the scheme.

LOCATION IN NEWS

Golan Heights

- Golan Heights is a rocky plateau in south-western Syria, about 60km (40 miles) south-west of the Capital, Damascus.
- It is bounded by the Jordan River and the Sea of Galilee on the west, Mount Hermon on the north, the seasonal Wadi Al-Ruqqād River on the east, and the Yarmūk River on the south.
- The Golan extends about 44 miles (71 km) from north to south and about 27 miles (43 km) from east to west at its widest point.
- It is roughly boat-shaped and has an area of 1,150 square kilometres.
- Israel seized the Golan Heights from Syria in the closing stages of the 1967 Six-Day War.
- Most of the Syrian Arab inhabitants fled the area during the conflict.
- An armistice line was established, and the region came under Israeli military control. Almost immediately, Israel began to settle the Golan.
- Syria tried to retake the Golan Heights during the 1973 Middle East war. Despite inflicting heavy losses on Israeli forces, the surprise assault was thwarted.
- Both countries signed an armistice in 1974, and a UN observer force has been in place on the ceasefire line since 1974.
- There are more than 30 Israeli settlements in the Golan. The settlements are considered illegal under international law, although Israel disputes this.



wooded mountains, the highest point being Mount Gimie.

- Saint Lucia lies in the path of the northeastern trade winds and has a tropical maritime climate. Rainfall and temperature vary with elevation.

Strait of Gibraltar

- It is a narrow waterway separating Europe from Africa and connecting the Mediterranean Sea to the Atlantic Ocean.
- Until the opening of the Suez Canal in 1869, the Strait of Gibraltar served as the only access point to the Mediterranean Sea.
- It is bordered by Spain and the British Overseas Territory of Gibraltar in the north, and by the African country of Morocco and the Spanish exclave of Ceuta in the south.
- It is about 58 km long and has a width of about 13 km at its narrowest point.
- Its depth ranges from 300 to 900 meters, and it forms a significant gap between the high plateau of Spain and the Atlas Mountains of Northern Africa.
- Geological studies have revealed that the strait was formed due to the northward movement of the African Plate towards the European Plate.
- It is one of the busiest waterways in the world. Approximately 300 ships cross the Strait every day, about one ship every 5 minutes.
- An important port located on the strait is the Moroccan port of Tanger-Med, near Tangier.
- The strait's eastern end, located between the Rock of Gibraltar in the north and Mount Hacho or Jebel Moussa in the south, has a width of about 23 km.
- These two land features on the strait's eastern extremity are known as the Pillars of Heracles.



Saint Lucia

- Saint Lucia is an Eastern Caribbean island nation with a pair of dramatically tapered mountains, the Pitons, on its west coast.
- Saint Lucia is one of two sovereign states in the world named after a woman and is the only one named after a human woman.
- The island is of volcanic origin and is bisected from north to south by a central ridge of



Isthmus of Kra

- Isthmus of Kra is a narrow neck of southern Myanmar and Thailand.
- It connects the Malay Peninsula to the Asian mainland.



- It lies between the Gulf of Thailand to the east and the Andaman Sea to the west.
- It is 25-30 miles wide at its narrowest point, between Chumphon and Kra Buri.
- The Kra Canal could benefit India and the region by taking pressure off the overcrowded Malacca Straits.
- The Strait of Malacca is the world's busiest maritime lane.

Transnistria

- Transnistria is a de facto state lies between Moldova to its west and Ukraine towards its east.
- Often described as a remnant of the Soviet Union, Transnistria declared independence like Moldova did soon after the break-up of the Soviet Union.
- When Moldovan troops attempted to take over the territory in 1990-1992, Transnistria was able to resist them because of Russian soldiers based in Transnistria.
- Since then, it has remained free of Moldovan control. However, most countries continue to see Transnistria as part of Moldov

Bab-el-Mandeb Strait

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

- It separates Arabia, in the northeast, from the African continent, in the southwest.
- It further acts as a link between the Indian Ocean and the Mediterranean Sea via the Red Sea and the Suez Canal.



- The name of the strait, Bab el-Mandeb means Gate of Tears in Arabic, referring to the large number of shipwrecks that have occurred in this region.
- The strait is 30 kilometers (KM) wide and is divided into two channels by the Yemeni island of Perim, with the eastern channel being called Alexander's Strait and is around 3 kilometers wide, while the western-lying Dact-el-Mayun Channel is 26 kilometers wide.
- The flow through this strait provides for the circulation between the Red Sea and the Gulf of Aden, since no flow takes place through the Suez Canal.

S P E C I E S I N N E W S

Santjordia Pagesi

- Santjordia Pagesi also called St. George's Cross medusa jellyfish, is a newly discovered species of jellyfish.
- It is considered rare and has been found only in the Sumisu Caldera near the Ogasawara Islands, about 600 miles southeast of Tokyo, Japan.
- Santjordia refers to Saint George in Catalan, representing its cross-shaped stomach.
- It is considered large at 4 inches wide and 3 inches tall.
- It boasts a circular body with around 240 tentacles.
- Its body looks almost like a see-through cushion. It has a thick white ring running along its lower edge.
- Smaller vein-like structures stretch from its prominent central stomach to the outer ring.
- Its most distinctive feature is a bright red, cross-shaped stomach.
- The jellyfish's distinct features suggest it may possess a novel cnidarian venom.
- A jellyfish is a type of marine animal belonging to the phylum Cnidaria, which includes creatures such as sea anemones, sea whips, and corals.
- Like all members of the phylum, the body parts of a jellyfish radiate from a central axis.



Megamouth Shark

- Megamouth Shark is an extremely rare and unusual species of deep-water shark.
- Scientific Name: Megachasma pelagios.
- Their range is believed to span the region between latitudes 40°N and 40°S.
- These sharks inhabit the Atlantic, Indian, and Pacific oceans.
- They are found in deep, warm oceanic water.
- This species has only been observed in the wild a few times, and less than 60 individuals are known by scientists to have ever been captured or observed.
- They are easily recognised by their huge, soft head and large mouth, which is positioned at the anterior margin of the head.
- The colour varies from grey to blueish-black above and is pale grey below.
- They have a series of small, hooked teeth along their top and bottom jaws.
- They are filter feeders, and they swim with their mouths constantly wide open in order to filter out their preferred planktonic prey.
- The inside of their mouths is covered with light-producing organs that may be used to attract pelagic crustaceans and other potential prey.
- Conservation Status
 - IUCN Red List: Least Concern



Abelmoschus Odishae : New Plant Species Of Wild Okra

- Abelmoschus Odishae is a new plant species of wild okra.
- It was discovered in a moist deciduous forest in Banspal block in Keonjhar district, Odisha.
- It can be used for hybridisation to create a better variety with high disease resistance.
- It can also play a vital role in widening the genetic base of okra.
- It is a perennial shrub up to 5 metres high with a densely hispid, prickly stem with retrorse hairs.
- It has large, deep yellow flowers.
- It has sub-reniform seeds with short, stout, and non-spiral trichomes.



Mesechinus orientalis

- Mesechinus orientalis is a new species of Hedgehog.
- It is currently known from southern Anhui and northwestern Zhejiang, both in eastern China.
- It is currently the southeasternmost species of Mesechinus
- Mesechinus is a small genus of mammals in the hedgehog family.

- It can be found in scrubland and subtropical broad-leaf evergreen forests at elevations from 30 to 700 m.
- Hedgehogs are a distinctive group of spiny insectivorous mammals comprising the subfamily Erinaceinae of the Erinaceidae family.
- They are found across Eurasia and Africa but absent from Australia and the Americas.
- Scientists recently identified a new species of hedgehog, *Mesechinus orientalis*, living in the scrubland and subtropical forests of eastern China.

Budgett's frog

- They are highly intelligent and very aggressive.
- When frightened, they inflate themselves, stand up on their short legs and if this doesn't deter the potential predator, they lunge at them



with an open huge mouth followed up by a shrill shriek.

- During the dry season, Budgett's frogs remain in burrows they dig in the bottoms of pools of water.
- While in the burrow, they will shed several layers of skin from which to form a waterproof cocoon that will keep the frog moist.
- They use their exceptional night vision and their sensitivity to movement when hunting food.
- They are found near or in permanent or seasonal bodies of water in Paraguay, Argentina and Bolivia.
- Conservation Status
 - IUCN Red List: Least Concern

Indian Mouse Deer or Spotted Chevrotain

- The Indian Mouse Deer or Spotted Chevrotain is the smallest deer in India and is highly nocturnal.
- Scientific Name: *Moschiola indica*
- It is endemic to the Indian Subcontinent.
- It is mainly found in peninsular India, with some old records from Nepal.



- Sri Lanka has a separate species called the spotted chevrotain (*Moschiola meminna*).
- Within India, it is commonly encountered in a number of forest areas along the Western Ghats, in the Eastern Ghats up to Orissa, and in the forests of central India.
- It is small, 25-30 cm at shoulder height, and weighs from two to four kg.
- The fur colour of the Indian spotted chevrotain is dark brown with white underparts.
- There are four or five light rows of white spots on the back. Males of this species have tusk-like upper canines.
- A unique feature of this group is that instead of a four-chambered stomach like in other ruminants, they have a three-chambered stomach.
- It forages on the forest floor for fruits, roots, leaves, and herbs.
- It has occasionally been observed eating insects, crustaceans, and even small mammals.
- Conservation Status
 - IUCN: Least Concern

European Wood Bison

- European wood bison is also known as wisent.
- European bison are the largest and heaviest land mammal in Europe.
- There were formerly three subspecies, although only one (*Bison bonasus bonasus*) remains – the other two are now extinct.
- It serves an important role as an ecosystem engineer, restoring grassland habitat.
- Conservation status
 - IUCN: Near Threatened



Chum Salmon

- Chum salmon is a species of anadromous salmonid fish, which means they hatch in freshwater streams and rivers and then migrate



out to the saltwater environment of the ocean to feed and grow.

- They do not reside in fresh water for an extended period.
- They are also known as dog salmon.
- They are the most widely distributed of all the Pacific salmon.
- They are found throughout the North Pacific Ocean and range from the Arctic coast of

Canada and throughout the northern coastal regions of North America and Asia.

- They spend their early life growing and feeding in freshwater streams, estuaries, and associated wetlands.
- They spend the remainder of their life foraging in the ocean before returning to the streams and tributaries where they were born to spawn.

Blue Dragons

- The blue dragon (*Glaucus atlanticus*) is a type of mollusc known as a nudibranch.
- They also are known as blue sea slugs, blue angels, and sea swallows.
- It rarely grows larger than three centimetres long.



- An air bubble stored in its stomach keeps the blue dragon afloat.
- It can be found drifting on the surface of the Atlantic, Pacific and Indian oceans in temperate and tropical waters.
- They feed on venomous siphonophores such as the Portuguese man-o-war and bluebottle, which also occur in ocean surface waters.
- The dragons appear immune to the nematocysts stinging cells of these jellyfish-like creatures.
- They incorporate these cells into multiple finger-like structures protruding from their body which provides them with a potent form of protection from predators.
- The slug isn't venomous all on its own, however, it stores the stinging nematocysts created by the creatures on which it feeds.
- Its sting can cause problems, especially to children and elderly.
- One sting from creature can lead to nausea, pain, vomiting, acute allergic contact dermatitis, and post-inflammatory hyperpigmentation.

Cinereous Vulture

- Cinereous Vulture is also known as the Eurasian Black Vulture or monk vulture.

- It is one of the heaviest and largest raptors in the world.
- It is one of the two largest Old-World vultures.
- It is an altitudinal migrant which means it migrates from a higher to a lower altitude.
- This vulture is a bird of hilly, mountainous areas, especially favouring dry semi-open habitats such as meadows at high altitudes over much of the range.
- It is a Eurasian species.
- It is mainly found in Spain and inland Portugal, South France, central Asia, northern India, northern Manchuria, Mongolia and Korea.
- Conservation status
 - IUCN: Near threatened

Turquet's octopus

- Turquet's octopus is a species of benthicoctopus with a circumpolar Antarctic distribution.
- The species has a wide depth range, occurring from shallow waters to 4,000 m deep.
- It is characterised by the absence of a skin ridge around the body, and its nearly smooth skin, which is covered with low granular bumps.
- In the wild it is known to be preyed upon by Patagonian toothfish off South Georgia and Weddell seals off the South Shetland Islands.
- These cephalopods, inhabitants of the Southern Ocean, navigated the region when the ice sheet melted approximately 125,000 years ago.
- Conservation Status
 - IUCN: Least concern (LC)



Limnonectes phyllofolia



- *Limnonectes phyllofolia* is the smallest species of fanged frog.
 - It was found on the mountainous island of Sulawesi in Indonesia.
 - They've been given the nickname leaf-nester because, unlike most frogs, they don't lay their eggs in water.
 - Fanged Frogs refer to a group of 75 species of frogs belonging to the genus *Limnonectes*.
 - These frogs are known for their distinctive fang-like structures, which are actually projections of their jaw bone.
- They are found throughout East and Southeast Asia.
 - Unlike many snakes, these frogs don't use their fangs to bite humans or inject venom into a person's body.
 - They use these fangs to battle with each other over territory and mates, and sometimes even to hunt tough-shelled prey like giant centipedes and crabs.
 - Many frogs in this genus are giants, weighing up to two pounds.



M I S C E L L A N E O U S

Angkor Wat Temple



- Angkor Wat temple, located in Cambodia, has defeated Pompeii in Italy to become the eighth Wonder of the World.
- The unofficial title Eighth Wonder of the World is sometimes given to buildings, structures, projects, designs, or even people who are thought to be comparable to the Seven Wonders of the World.
- Angkor Wat is the largest religious monument in the world.
- It was built by the Khmer King Suryavarman II in the first half of the 12th century.
- It was originally dedicated to the Hindu god Vishnu before becoming a Buddhist temple by the end of the 12th century.
- In 1992, the temple complex was named a UNESCO World Heritage Site.
- Sandstone blocks were used to build the structure.
- It is protected by a 15-foot-high wall and a wide moat.
- It covers an area of 200 acres.
- The temple has five major towers symbolising the peaks of Mount Meru, believed to be the abode of the gods in Hindu and Buddhist mythology.
- Thousands of reliefs depicting important deities and figures in Hindu and Buddhist religions, as well as key events in their narrative traditions, adorn the temple walls.

Sindhudurg Fort

- Sindhudurg Fort is a historical fort that occupies an islet in the Arabian Sea, just off the coast of Maharashtra in western India.
- The fortress lies on Kurte Island, very near the coast of Malvan town in Sindhudurg District in the Konkan region of Maharashtra, 450 kilometres south of Mumbai.



- The fort was built by Chhatrapati Shivaji Maharaj of the Maratha Empire.
- The construction of the fort began in 1664 and took three years to complete.
- The main objective was to counter the rising influence of foreign colonisers (English, Dutch, French, and Portuguese merchants) and to curb the rise of the Siddis of Janjira.
- It is spread over 48 acres with fortified walls that are 29 feet high and 12 feet thick and stretch for two miles.
- As many as 52 bastions with embrasures for cannons guard its walls.
- One can enter the fort through the Dilli Darwaja, the main gate. Because of its architectural design, the gate is visible only from close quarters and seems to be part of the walls.
- It is surrounded by several smaller forts, such as Padmagad, Rajkot, and Sarjekot Forts.
- A handprint and footprint of the Maratha King are embedded on a slab within the fort.
- A small temple dedicated to the Chhatrapati also finds a place within the bounds of the fort.

Rat Hole Mining

- Rat-hole mining, a method of manual drilling common in Meghalaya, involves skilled workers digging narrow pits just wide enough for one person.
- The term rat hole refers to these pits used to extract coal. This method is hazardous, illegal in many countries due to safety concerns, and has faced criticism for its environmental impact.
- Rat-hole mining has faced criticism for its hazardous conditions, environmental damage, and accidents leading to injuries and fatalities.
- The National Green Tribunal (NGT) banned the practice in 2014 and retained the ban in 2015 due to safety concerns and environmental impact.

World AIDS Day 2023

- World AIDS Day is observed every year on December 1 to spread awareness about HIV/AIDS.
- The day is an opportunity to end stigmas associated with this disease, and this day also honours people who lost their precious lives and engage in lives that support HIV/AIDS research and advanced treatment.
- It was first observed in 1988, when the World Health Organisation (WHO) recognised the day.
- The theme of World AIDS Day 2023 is Let Communities Lead
- Acquired immunodeficiency syndrome (AIDS) is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV).
- HIV attacks the body's immune system, making a person more vulnerable to other infections and diseases.
- If HIV is not treated, it can lead to AIDS.
- It is a sexually transmitted infection (STI).
- It can also be spread by contact with infected blood, from illicit injection drug use, or by sharing needles.
- It can also be spread from mother to child during pregnancy, childbirth, or breastfeeding.



Aarogya Maitri Aid Cube

- Aarogya Maitri Aid Cube is the world's first portable hospital, was unveiled in Gurugram.
- Designed indigenously under Project BHISHM (Bharat Health Initiative for Sahyog Hita and Maitri), the modular trauma management and aid system is made up of 72 detachable mini-cubes, each being a specialized station for emergency response and humanitarian efforts.
- It contains medical equipment and supplies such as a mini-ICU, an operation theatre, cooking station, food, water, a power generator, blood test equipment, an X-ray machine, and more.
- The cubes are capable of handling patients with severe injuries up to 25 major burns, long



limb fractures, chest injuries, spinal injuries and approximately 10 head injuries.

- It can treat as many as 200 patients.
- These cubes are light and portable, and can be rapidly deployed anywhere, from airdrops to ground transportation.

Mount Marapi

- Indonesia's Mount Marapi in West Sumatra province erupted, spewing white-and-grey ash plumes for more than 3,000 metres (about 9,800 feet) into the air.



- Mount Marapi is located in West Sumatra.
- Its name means Mountain of Fire.
- Marapi claims the title of the most active volcano in Sumatra.
- Pacific Ring of Fire also known as the Circum-Pacific Belt, is a path along the Pacific Ocean characterised by active volcanoes and frequent earthquakes.
- Its length is approximately 40,000 kilometres (24,900 miles).
- It traces boundaries between several tectonic plates including the Pacific, Juan de Fuca, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates.

2023 World Malaria Report

- The 2023 World Malaria Report, recently released by the World Health Organization (WHO), sheds light on the alarming malaria situation in India and globally.
- **Key Highlights of the Report**
 - The 2023 World Malaria Report reveals a global surge with an estimated 249 million cases in 2022, surpassing pre-pandemic levels.
 - Covid-19 disruptions, drug resistance, humanitarian crises, and climate change pose threats to the global malaria response.
 - Twenty-nine countries accounted for 95% of malaria cases globally.

- Four countries, Nigeria (27%), the Democratic Republic of the Congo (12%), Uganda (5%), and Mozambique (4%), accounted for almost half of all malaria cases globally.
- In 2022, India accounted for a staggering 66% of malaria cases in the WHO South-East Asia Region.
- Plasmodium vivax, a protozoal parasite, contributed to almost 46% of cases in the region.
- Despite a 55% reduction in cases since 2015, India remains a significant contributor to the global malaria burden.
- India faces challenges, including a surge in cases in 2023 linked to unseasonal rainfall.
- India and Indonesia accounted for about 94% of all malaria deaths in the WHO South-East Asia Region.
- Africa bears the highest malaria burden, accounting for 94% of cases and 95% of global malaria deaths in 2022.
- The WHO South-East Asia Region, including India, managed to contain malaria over the last two decades, with a 77% reduction in cases and deaths since 2000.

Cyclone Michaung

- Michaung is named after a suggestion provided by Myanmar.
- It means strength and resilience.



- Cyclone Michaung made landfall on 5th December in Bapatla between Nellore and Machilipatnam in Andhra Pradesh as a super cyclonic storm.
- The tropical cyclone had formed over the Bay of Bengal off the southeast coast of India.
- A day before it made landfall, it had caused intense rainfall in northern Tamil Nadu leading to flooding and water-logging in Chennai and rain-related incidents.

- Transport was also affected owing to the cancellations of trains and the closure of the airport on the 4th.
- Heavy rainfall was also experienced in parts of Andhra Pradesh, Odisha and Chhattisgarh.
- By 6th December, Michaung had weakened into a deep depression over central coastal Andhra Pradesh.
- National Crisis Management Committee (NCCM) is a committee set up to coordinate and implement relief measures and operations in the wake of a natural calamity.
- The NCCM coordinates and oversees the response to major crises, emergencies, and disasters that may affect India.
- NCCM is headed by the Cabinet Secretary.

Auction of 20 Critical Mineral Blocks

- India has initiated the auction of 20 blocks containing critical minerals, including lithium, essential for batteries and electric vehicles.
- The auction began on November 29, involves lithium-rich blocks and other critical minerals like nickel, copper, and rare earth elements.
- The estimated total value of these blocks is Rs 45,000 crore, marking the first time rights for mining lithium ore are auctioned to private parties.
- The 20 blocks are distributed across eight states: Tamil Nadu, Odisha, Bihar, Uttar Pradesh, Gujarat, Jharkhand, Chhattisgarh, and Jammu & Kashmir. Understanding where these mineral-rich blocks are located is crucial for comprehending the scope of India's mineral exploration.
- Out of the 20 blocks, only four are auctioned for a Mining License (ML), allowing immediate mining operations after obtaining necessary clearances.
- The remaining 16 blocks are auctioned for a Composite License (CL), permitting geological exploration before converting to an ML.
- The auction includes two lithium blocks in Jammu & Kashmir and Chhattisgarh, each holding substantial inferred reserves. Nickel, copper, molybdenum, and rare earth elements are also found in these blocks, contributing to India's strategic reserves.

Garba Of Gujarat

- The vibrant and culturally rich dance form, Garba of Gujarat, has earned a place in the Representative List of Intangible Cultural Heritage (ICH) of Humanity by UNESCO.



- The dance form's significant role as a unifying force, promoting social and gender inclusivity. Rooted in ritualistic and devotional traditions, Garba brings together individuals from diverse backgrounds, thriving as a vibrant living tradition that fosters community cohesion.
- The UNESCO 2003 Convention's Listing mechanism aims to enhance the visibility of intangible cultural heritage, raise awareness of its significance, and promote dialogue that respects cultural diversity.
- Garba is a dance form native to the Indian state of Gujarat, performed in October to honour the Hindu Deity of Divinity, Goddess Durga
- It is a joyful style of dance, based on a circular pattern and characterized by a sweeping action from side to side.
- Garba performances often include singing and a musical accompaniment traditionally provided by dhol (double-headed drum) and the similar but smaller dholak; hand clapping; and assorted metallic idiophones, such as cymbals.
- Garba dances celebrate fertility, honour womanhood, and pay respect to any of an array of mother goddesses.
- In Gujarat the dances customarily mark a girl's first menstrual cycle and, later, her imminent marriage. Garba dancing also takes place during the nine-day Navratri festival.

Snakebite Envenoming

- A team of experts from a United Kingdom university have set up a pilot study in Burujhari village in Odisha, India to help it reduce the number of fatalities from Snakebite Envenoming (SE) and will look into solutions like an Early Warning System for snakes.
- India has the biggest burden of deaths due to Snake Bites in the world, with most of the cases in rural India.
- WHO (World Health Organization) formally listed Snakebite Envenoming as a highest-priority Neglected Tropical Disease (NTD) in June 2017.

- Snakebites Envenoming is a potentially life-threatening disease that typically results from the injection of a mixture of different toxins (venom) following the bite of a Venomous Snake and can also be caused by having venom sprayed into the eyes by certain species of snakes that have the ability to spit venom as a defence measure.
- Snakebite poses a significant daily health risk in rural tropical and subtropical regions of Africa, the Middle East, Asia, Oceania, and Latin America, particularly for the hundreds of millions of people in rural and peri-urban communities reliant on agriculture and subsistence activities for survival
- Many snakebite victims, mostly in developing countries, suffer from long-term complications such as deformities, contractures, amputations, visual impairment, renal complications and psychological distress.
- According to the World Health Organization (WHO), around 81,410 to 137,880 people around the world die each year because of snakebites.
- WHO launched its roadmap in 2019 with an aim to halve death and disability from snakebite by 2030.
- In order to create a sustainable market for antivenoms there is a need for a 25% increase in the number of competent manufacturers by 2030.
- WHO has planned a pilot project to create a global antivenom stockpile.
- Integrating snakebite treatment and response into national health plans in affected countries, including better training of health personnel and educating communities.

Lakadong Turmeric

- Meghalaya's Lakadong turmeric has been awarded the Geographical Indication (GI) tag.



- Lakadong turmeric is considered to be one of the world's best varieties of turmeric, with a curcumin content of around 6.8 to 7.5 per cent.
- It is darker in colour and is grown organically without the use of fertilisers.

- It is found in Lakadong area of Jaintia Hills, has high curcumin content.
- Curcumin is a polyphenol which has been shown to target multiple signalling molecules while also demonstrating activity at the cellular level.
- It has been shown to benefit inflammatory conditions, metabolic syndrome, pain, and to help in the management of inflammatory and degenerative eye conditions.

World's Largest Nuclear Fusion Reactor

- The world's largest nuclear fusion reactor, the JT-60SA in Japan's Ibaraki Prefecture, has commenced operations, marking a significant step toward achieving clean energy.
- The joint project between the European Union and Japan aims to explore the viability of nuclear fusion as a sustainable and virtually limitless power source.
- The achievement follows recent breakthroughs in nuclear fusion, including a net energy gain by scientists at the Lawrence Livermore National Laboratory in California.
- Another, even larger fusion reactor is currently under construction in France and is set to begin operations in 2025.



India Infrastructure Report 2023

- The India Infrastructure Report 2023 on Urban Planning and Development was recently released virtually.
- The report is a collaborative effort by the IDFC Foundation, Infrastructure Development Corporation (Karnataka) Ltd. (iDeCK), and the National Institute of Urban Affairs (NIUA).
- The report, part of the India Infrastructure Report series, covers various complex issues related to urban planning and development.
- The report includes Planning and Governance, Smart Initiatives, PPPs and Financing, Housing and Migration, Public Service Delivery, Integrating Infrastructure, and Urban Redevelopment.
- **Highlights of the Report 2023**
 - Spotlight on the transformative potential of digital technology in shaping the urban landscape of India.

- Focus areas include the concept of smart cities and the significance of performance ranking criteria.
- Examination of financial dimensions of urban development, with a special emphasis on public-private partnerships (PPPs), the financial sustainability of urban local bodies, and the efficacy of municipal bonds as potent financing instruments.
- Urban transportation planning and urban redevelopment as pivotal components of effective urban governance through transit-oriented development, efficient urban goods movement, and floor space and land price regulation in India.

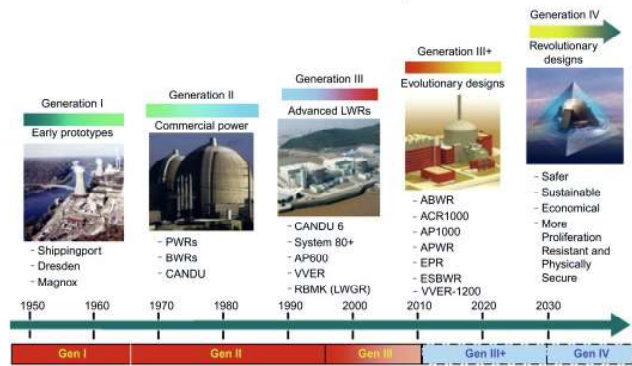
Urban Flood Mitigation Project

- PM approves the first urban flood mitigation project for the Integrated Urban Flood Management Activities for Chennai Basin Project (IUFM)
- This initiative, under the National Disaster Mitigation Fund (NDMF), includes Central assistance of Rs. 500 crore and aims to make Chennai flood-resilient.
- Chennai, once again, finds itself grappling with the devastating effects of floods, marking the third such calamity to besiege the metropolis in less than a decade.
- The city's struggle with extreme weather events has brought to light the increasing vulnerability of India's urban landscape to sudden and severe flooding due to excessive rainfall.
- IUFM is a holistic approach that stresses the interrelationship between socioeconomic development, environmental sustainability, and flood-risk management.
- The Integrated Urban Flood Management activities for Chennai Basin Project represents a proactive measure to address the challenges posed by urban flooding.
- It is designed to enhance Chennai's resilience to such natural disasters by implementing comprehensive flood management strategies.

Fourth-Generation Nuclear Plant

- China has launched the world's first commercial operations of a fourth-generation gas-cooled nuclear reactor power plant, the Shidao Bay plant in eastern Shandong province.
- This plant utilizes small modular reactors (SMRs), which are high-temperature reactors cooled by gas instead of pressurized water.

Evolution of nuclear power



- SMRs are considered more efficient and cost-effective and can be employed for various applications such as heating, desalination, or steam for industrial purposes.
- SMRs are advanced nuclear reactors with a capacity of up to 300 MW per unit, offering advantages such as simplicity, safety, and cost-effectiveness.
- SMRs can be factory-made and transported to a site for installation.
- SMRs are economical and time-efficient, and unlike traditional reactors that require refuelling every 1-2 years, SMRs only need refuelling every 3-7 years.

Ban On Using Sugarcane Juice And Sugar Syrup For Ethanol Production

- The government has temporarily banned the use of sugarcane juice and sugar syrup for ethanol production due to uncertainties in cane output for the current season as per the Sugar (Control) Order 1966.
- The Indian Sugar Mills Association (ISMA) forecasts a 9% reduction in gross sugar production for the 2023-24 marketing year, further complicating the situation.
- India has emerged as the world's largest producer and consumer of sugar as well as the world's 2nd largest exporter of sugar after Brazil, in Sugar Season (Oct-Sep) 2021-22.
- Government intends to maintain adequate domestic sugar availability and price stability, due to an estimated fall in sugar production in the current season. Sugar mills find it more profitable to sell sugarcane and syrup to Oil marketing companies for ethanol blending. However, this may create a shortage of sugar in the Indian market.
- The government ban would not impact India's goal of achieving its 20% ethanol blending target by 2025-26.
- The government plans to promote ethanol production using alternative feedstocks such

as B and C-heavy molasses, damaged rice, and maize.

- The government is also exploring the use of maize as a feedstock for ethanol production, with plans to procure maize directly from farmers at a minimum support price.

Operation Storm Makers II

- Interpol's Operation Storm Makers II has exposed a growing trend where human trafficking victims are forced to commit cyber fraud.
- The operation, involving Indian enforcement agencies, led to the arrest of 281 individuals across different countries on charges including human trafficking, passport forgery, corruption, telecommunications fraud, and sexual exploitation.
- The trend of trafficking victims being coerced into cyber fraud was first highlighted by Interpol in June, revealing a global issue with billions of dollars in annual revenue generated by scam syndicates.
- The operation targeted human trafficking and cyber scams, it resulted in: Rescue of 149 human trafficking victims
Hundreds of arrests, More than 270,000 inspections and police checks

E-Cigarettes

- World Health Organization (WHO) states that e-cigarettes, as consumer products, have not



been proven effective for quitting tobacco use at the population level.

- E-cigarettes are battery-powered devices that heat a liquid into an inhalable aerosol.
- The liquid typically contains nicotine, propylene glycol, glycerin, flavourings, and other chemicals.
- Alternative Names E-cigarettes are also known as vape pens, vapes, electronic nicotine delivery systems (ENDS), electronic non-nicotine delivery systems (ENNDS), etc.
- Concerns E-cigarettes contain nicotine, causing addiction.
- E-cigarettes are highly addictive and harmful, with potential long-term health effects,

including the generation of toxic substances linked to cancer and increased risks of heart and lung disorders

- Aerosols may contain metals (lead, chromium, nickel) and chemicals (formaldehyde)
- Children aged 13–15 are using e-cigarettes at rates higher than adults.
- Rates among 16–19-year-olds have doubled from 2017 to 2022.
- Nicotine A plant alkaloid found in tobacco and synthesized. It acts as a sedative and stimulant.
- The Prohibition of Electronic Cigarette Act (PECA) 2019 in India prohibits the production, manufacture, import, export, transport, sale, distribution, storage, and advertisement of e-cigarettes.

Surat Diamond Bourse

- Surat Diamond Bourse is located in Khajod village, near Surat.
- It is the world's largest corporate office hub.



- It will also be a global centre for trading both rough and polished diamonds as well as jewellery.
- Buyers from all corners of the world will get a global platform to trade at the Surat Diamond Bourse.
- It is the world's largest interconnected building, as it houses over 4,500 interconnected offices.
- It is the country's largest customs clearance house.
- The building showcases a cutting-edge rooftop solar energy project, ensuring sustainability in common areas and employing a radiant cooling system.

Bharat New Car Assessment Programme

- The first round of crash testing of the cars under the Bharat New Car Assessment Programme (Bharat NCAP) has been successfully completed recently.
- It is an indigenous star-rating system for crash testing cars, under which vehicles will be

assigned between one to five stars, indicating their safety in a collision.

- Bharat NCAP is an ambitious joint project between the Government of India (GoI) and Global NCAP, the regulatory body behind the safety crash test ratings.
- Objective is to help consumers make an informed decision before purchasing a car, thereby spurring demand for safer cars.
- Under the Bharat NCAP, cars voluntarily nominated by automobile manufacturers will be crash tested as per protocols laid down in the Automotive Industry Standard (AIS) 197.
- Each car will go through five key tests: frontal impact, side impact, side pole impact, electronic stability control, and pedestrian-compliant front design.
- The tests will be performed with crash dummies and will also rate the safety features of cars.
- Following these tests, cars receive a rating of one to five stars, reflecting their safety performance.
- In contrast to Global NCAP's separate Adult Occupant Protection (AOP) and Child Occupant Protection (COP) ratings, Bharat NCAP will offer a unified rating.

The International Year Of Camelids

- The United Nations declared 2024 the International Year of Camelids.
- A Camelid refers to any of the even-toed ungulates of the family Camelidae. eg. camels, llamas, alpacas, guanacos, and vicuñas.
- They are known for their remarkable adaptations to arid and high-altitude environments.
- These ungulates can be classified into two major groups: the Old World and the New World.



- The Old-World Camelids, found in northern Africa and central Asia are the true camels, such as the dromedary camels (one-humped camel) and the Bactrian camels (two-humped camel), characterised by their humps on their backs and the dulla, which is an organ found

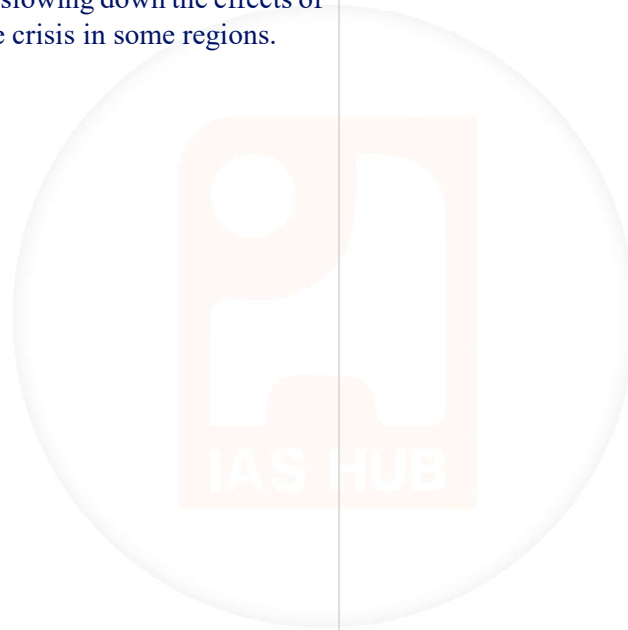
on the throat of male camels and is believed to be associated with the display of dominance among males and for attracting females.

- The South American Camelids include the modern llamas, alpacas, guanacos, and vicuñas. Wild populations of South American Camelids, such as vicuñas, inhabit the high-altitude regions of the Andes Mountains.

Katabatic Winds

- Katabatic winds are downslope winds created when the mountain surface is colder than the surrounding air and create a downslope wind.
- This leads to cold air blowing to lower-altitude areas, potentially slowing down the effects of the global climate crisis in some regions.

- A surprising phenomenon has been observed in the Himalayas, where katabatic winds are triggered when high temperatures affect high-altitude ice masses.
- The study reveals that a temperature gap between air above the mountains and cooler air in contact with ice masses causes increased turbulent heat exchange, leading to stronger cooling of the surface air mass.
- Anabatic Winds are upslope winds driven by warmer surface temperatures on a mountain slope than the surrounding air column.



PRACTICE QUESTIONS

1. Mera Gaon Mert Dharohar Project recently seen in news is launched by?
(a) Ministry of rural affairs
(b) Ministry of culture
(c) Prime Ministers office
(d) NITI Aayog
2. Which of the following art form has been recently added to List of Intangible Cultural Heritage (ICH) of Humanity by UNESCO?
(a) Ramman
(b) Moodiyettu
(c) Kathakali
(d) Garba
3. Lakadong turmeric has received GI tag recognition of which of the following place?
(a) Tripura
(b) Meghalaya
(c) Assam
(d) Manipur
4. Transnistria is a region located between:
(a) Moldova and Ukraine
(b) Russia and Moldova
(c) Russia and Ukraine
(d) Poland and Ukraine
5. Which of the following is known as Queen wetland of Kashmir?
(a) Wular
(b) Shallbagh
(c) Hygam
(d) Hokersar wetland
6. FjordPhantom recently seen in news is a type of:
(a) Malware
(b) Virus
(c) Spyware
(d) Ransomware
7. JT-60SA ,worlds largest NuclearFusion Reactor is located in
(a) India
(b) Russia
(c) Japan
(d) USA
8. UN proposed 2024 as the year of
(a) Millets
(b) Pulses
(c) Camelids
(d) Tigers
9. Saiga antelope falls under which Category of IUCN red list?
(a) Near threatened
(b) Vulnerable
(c) Endangered
(d) Least concerned
10. Buxa Tiger Reserve recently seen in news is located in
(a) Bihar
(b) West Bengal
(c) Madhya Pradesh
(d) Karnataka

ANSWER KEY

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

TOPIC FOR THE MONTH

DETAILED REVIEW ON CONFERENCE OF PARTIES (COP)-28

UN Climate Change conferences (or COPs) take place every year, and are the world's only multilateral decision-making forum on climate change with almost complete membership of every country in the world. The major outcome from COP 28 included the decision on Outcome of the First Global Stocktake, ratcheting up global climate ambition before the end of the decade. Another major outcome of COP 28 is the agreement on the operationalization of the Loss and Damage Fund and its funding arrangements.

KEY HIGHLIGHTS OF THE COP28

1. Loss and Damage (L&D) Fund

- COP28, member countries reached an agreement to operationalize the Loss and Damage (L&D) fund aimed at compensating countries grappling with climate change impacts.
- The World Bank will act as the interim host of the fund for four years, aligning with UNFCCC and the Paris Agreement.
- All developing countries are eligible to apply, and every country is invited to contribute voluntarily.
- A specific percentage is earmarked for Least Developed Countries and Small Island Developing States.

2. Global Stocktake Text

- The Global Stocktake (GST) is a periodic review mechanism established under the Paris Agreement in 2015.
- The text proposes eight steps to keep the global temperature rise within the ambit of 1.5 degrees Celsius
 - Tripling renewable energy capacity globally and doubling the global average annual rate of energy efficiency improvements by 2030;
 - Accelerating efforts towards the phase-down of unabated coal power;
 - Accelerating efforts globally towards net zero emissions energy systems, utilizing zero and low carbon fuels well before or by around mid-century;
 - Accelerating zero and low emissions technologies, including, inter alia, renewables, nuclear, abatement and removal technologies, including such as carbon capture and utilization and storage, and low carbon hydrogen production, to enhance efforts towards substitution of unabated fossil fuels in energy systems.
 - Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science;
 - Accelerating and substantially reducing non-CO2 emissions, including, in particular, methane emissions globally by 2030;
 - Accelerating emissions reductions from road transport through a range of pathways, including development of infrastructure and rapid deployment of zero and low emission vehicles;

- Phasing out of inefficient fossil fuel subsidies that encourage wasteful consumption and do not address energy poverty or just transitions, as soon as possible.

3. Global Renewables and Energy Efficiency Pledge

- The Pledge stipulates that signatories commit to work together to triple the world's installed renewable energy generation capacity to at least 11,000 GW by 2030 and to collectively double the global average annual rate of energy efficiency improvements from around 2% to over 4% every year until 2030.
- The pledge, which aims to triple global renewable energy capacity and double the rate of energy efficiency by 2030, was joined by 118 countries, excluding India, China, and Russia.

4. Global Cooling Pledge

- It includes 66 national government signatories committed to working together to reduce cooling-related emissions across all sectors by at least 68% globally relative to 2022 levels by 2050.

5. Climate Finance

- The United Nations Conference on Trade and Development (UNCTAD) estimates that wealthy nations owe developing countries USD 500 billion in 2025 under the New Collective Quantified Goal (NCQG) for climate finance.
- The NCQG was confirmed by developed countries under the Paris Agreement in 2015.
- The goal is to set a new collective quantified goal before 2025. The goal will start from a floor of USD 100 billion per year.
- Experts call for reform of the global financial architecture to address structural issues and promote sustainable development.
 - UAE President Sheikh Mohammed Bin Zayed Al Nahyan, at the COP28 climate summit in Dubai, announced the creation of a \$30 billion climate fund named ALTÉRRRA.
 - The fund aims to attract \$250 billion in investment by the end of the decade, with \$25 billion allocated to climate strategies and \$5 billion to incentivize investment in the Global South.
 - The fund seeks to steer private markets towards climate investments, especially in emerging markets and developing economies.

6. Global Goal on Adaptation (GGA)

- The draft text on the Global Goal on Adaptation (GGA) was introduced.
- It was established under the Paris Agreement to enhance climate change adaptation by increasing awareness of and funding towards countries' adaptation needs in the context of the 1.5/2°C goal of the Paris Agreement.
 - The draft text addresses critical issues
 - Climate-Induced Water Scarcity Reduction.
 - Climate-resilient food and Agriculture Production.
 - Strengthening Resilience Against Climate-Related Health Impacts.

7. Declaration to Triple Nuclear Energy

- The declaration launched at COP28 aims to triple global nuclear energy capacity by 2050.
- Endorsed by 22 national governments, the declaration calls for support from shareholders of international financial institutions.
- It encourages shareholders to advocate for the incorporation of nuclear energy in energy lending policies.

8. Powering Past Coal Alliance (PPCA)

- PPCA is a coalition of national and sub-national governments, businesses and organizations working to advance the transition from unabated coal power generation to clean energy.
- PPCA at COP28 welcomed new national and subnational governments, and called for cleaner energy alternatives.

9. Coal Transition Accelerator

- France, in collaboration with various countries and organizations, introduced the Coal Transition Accelerator.
- The initiative aims to leverage best practices and lessons learned for effective coal transition policies.

10. Coalition for High Ambition Multilevel Partnership (CHAMP) for Climate Action

- A total of 65 national governments signed CHAMP commitments to enhance cooperation, where applicable and appropriate, with subnational governments in the planning, financing, implementation, and monitoring of climate strategies.

INDIA'S STANCE AT COP 28

Initiatives India opposes for climate action

1. **Coal phase-out:** Despite commitments to expand non-fossil fuel and renewable energy, India stands firm on not phasing out coal-generated electricity in the near term.
2. **Global Methane Pledge:** Because of worries about the potential effects on agriculture and the supply of electricity, the nation has continuously opposed international initiatives of the Global Methane Pledge.
3. **Global Renewables and Energy Efficiency Pledge:** India did not join the Global Renewables and Energy Efficiency Pledge at COP28, emphasizing its own climate equity concept that addresses unequal burdens on nations.
4. **Loss and Damage Fund:** Citing historical responsibility and objecting to the World Bank's temporary management of the fund, China and India both refuse to contribute to the Loss and Damage Fund

INDIA LED INITIATIVES AT COP 28

1. Global River Cities Alliance (GRCA)

- led by the National Mission for Clean Ganga (NMCG) under the **Ministry of Jal Shakti**, was launched at COP28.
- It is a unique alliance covering 275+ global river cities in 11 countries, international funding agencies and knowledge management partners and is the first of its kind in the world.

- The launch of GRCA signifies a momentous step in global efforts toward river conservation and sustainable water management.

2. Green Credit Initiative

- The Initiative aims to create a global trade forum facilitating the exchange of innovative environmental programmes and instruments.
- The Green Credit Initiative, launched at COP28, aligns with Mission LiFE which aims to minimise per capita carbon footprint by promoting mindful utilisation instead of wasteful consumption.

3. LeadIT 2.0

- Launched at COP 28, focuses on co-development and transfer of low-carbon technology and financial assistance to emerging economies.

4. Green Development Pact

- It provides pathways for nations in their journey towards achieving energy, climate, environment and disaster resilience-related objectives.
- Green Development Pact includes key ambitions such as tripling of global renewable capacity by 2030.

OUTCOMES OF COP 28

Positive Outcomes

1. Global Climate Stocktake

- Based on the global stocktake review at COP28, countries would be required to submit raised emissions reduction targets by mid-2025 for finalisation at COP30. This stocktake can guide our future climate action.

2. Operationalisation of Loss and Damage Fund

- The operationalisation of the fund will help in ensuring climate justice to the developing and underdeveloped countries which have suffered tremendous loss and damage due to climate change.

3. Fossil fuel role in Climate Change

- In COP-28, the role of fossil fuels in causing global warming has been formally acknowledged for the first time. Fossil fuels which contribute to 75% of all greenhouse gases and about 90% of global carbon dioxide (CO₂) emissions, took centre stage at COP28. This marks the beginning of the end of fossil fuel usage in the world.

4. Increased Focus on Adaptation

- COP 28 resulted in the identification of some common adaptation goals, which are important for the entire world.
- Before COP 28, adaptation measures had largely been a local endeavour.

5. Diverse participation

- The COP 28 saw the participation of activist groups, indigenous groups, big and small business, consultancies, traders and media.
- These diverse groups enhance the transparency of the Climate change negotiations.

Shortcomings

1. Lack of Ambitious Climate Action

- Despite the various pledges, no binding ambitious climate action was launched.

2. Issues with the Fossil Fuel Pledge

- No time schedules and targets have been fixed for the phase out of fossil fuel.

3. Issues with the Renewable Energy Pledge

- Under the pledge, tripling of global renewable energy has been made a global target.
- However, there is no clarity as to how this would be achieved as no binding individual targets were made.

4. Impasse over Methane Emission Cuts

- Several countries, including India, are extremely opposed to any binding commitment to cut methane emissions.
- Cutting methane emissions could involve tweaking agricultural patterns, which could pose concerns for food security in developing countries like India.

5. Lack of Financing Mechanism

- COP 28 has failed to set up a financial mechanism to finance the Global Goal on Adaptation.
- The Draft of COP 28, did not express any concern over the failure of commitment on developed nations to provide \$100 bn climate finance per year by 2020. The loss and Damage funding has been made voluntary.

6. Misuse of the loose definitions in the COP 28 Draft

- The inclusion of the terms like low-carbon fuels, low-emission technologies, low-carbon hydrogen, and transitional fuels, can be misused by the EU and US as they use these terms to describe natural gas.
- Natural gas is a major fossil fuel and contributes to global warming and climate change.

7. No mention of CBDR

- The term Common But Differentiated Responsibilities (CBDR) and Polluter's pay principle have been missing from the draft of the COP 28.

WAY FORWARD

1. Introduction of New Indicator: New tangible indicators need to be identified to measure progress on each of the global goals established at COP 28

2. Establishment of Financial Mechanism Financial mechanism to raise \$500 bn as estimated by the UNCTAD must be established at the earliest. Developed nations must not be given leeway to cut down on their financial obligation.

3. Binding commitments: Efforts must be taken to make the renewable energy pledges binding on all the member countries.

4. Clarity on phase down of Fossil Fuel: Clarity on the timeline and targets for fossil fuel phase down must be on the highest agenda of the future COPs.

5. **Climate Justice:** Common but Differentiated Responsibility (CBDR) must remain the guiding light in upcoming climate negotiations.

MAINS PRACTICE

*Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC)? What are the commitments made by India in this conference?
(PVQ 2021)*





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