

Adda247
मराठी

मासिक आवृत्ती | मार्च 2024

ज्ञानकोश

मासिक चालू घडामोडी
(महाराष्ट्र राज्य)

MPSC, आणि सरळ सेवा भरतीसाठी
ZP, आदिवासी विभाग, पोलीस भरती आणि इतर स्पर्धा परीक्षांसाठी
उपयुक्त



डिजिटल इंटेलिजन्स प्लॅटफॉर्म

राष्ट्रीय युवा संसद महोत्सव (NYPF)

नागरिकत्व दुरुस्ती कायदा (CAA)

किसान क्रेडिट कार्ड (KCC)

मत्स्यपालन योजना

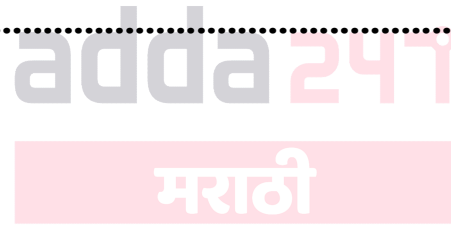
ऑपरेशन इंद्रावती

नौदलाने INS जटायू, MH-60R हेलिकॉप्टर
स्क्वाड्रन तैनात केले



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National News

Cabinet Approval for Semiconductor Plants

The Union Cabinet approved three semiconductor plant proposals to strengthen India's semiconductor manufacturing ecosystem.

Semiconductor Fab with 50,000 wfsm Capacity:

- **Location:** Dholera, Gujarat
- **Investment:** Rs. 91,000 crore
- **Partnership:** Tata Electronics Private Limited ("TEPL") and Powerchip Semiconductor Manufacturing Corp (PSMC), Taiwan
- **Technology Partner:** PSMC, known for expertise in logic and memory foundry segments
- **Capacity:** 50,000 wafer starts per month (WSPM)

Segments:

- High performance compute chips with 28 nm technology
- Power management chips for EVs, telecom, defense, automotive, consumer electronics, display, power electronics, etc.

Semiconductor ATMP Unit in Assam:

- **Location:** Morigaon, Assam
- **Investment:** Rs. 27,000 crore
- **Company:** Tata Semiconductor Assembly and Test Pvt Ltd ("TSAT")
- **Technology:** Developing indigenous advanced semiconductor packaging technologies including flip chip and ISIP
- **Capacity:** 48 million per day
- **Segments:** Automotive, EVs, consumer electronics, telecom, mobile phones, etc.

Semiconductor ATMP Unit for Specialized Chips:

- **Location:** Sanand, Gujarat
- **Investment:** Rs. 7,600 crore
- **Partnership:** CG Power, Renesas Electronics Corporation (Japan), and Stars Microelectronics (Thailand)
- **Technology Partner:** Renesas, a leading semiconductor company in specialized chips
- **Capacity:** 15 million per day
- **Segments:** Consumer, industrial, automotive, and power applications.

Potential in India:

- In 2019, India's semiconductor consumption hit US\$21 billion, showing a growth rate of 15.1%.
- The country is expected to surpass USD 80 billion in semiconductor consumption by 2026 and USD 110 billion by 2030.
- Leading semiconductor manufacturing nations are the USA, Taiwan, South Korea, Japan, the Netherlands, and emerging producers like Germany.

India's 1st Green Hydrogen Plant in Stainless steel sector

- **Union Minister for Steel and Civil Aviation, Sh. Jyotiraditya M. Scindia**, inaugurated India's 1st Green Hydrogen Plant in Stainless Steel Sector virtually.
- The plant, located at **Jindal Stainless Limited, Hisar, Haryana** is a global milestone, being the **world's first off-grid Green Hydrogen plant for the stainless steel industry**.
- It is also the **world's first Green Hydrogen plant with rooftop & floating solar**.
- The project targets a significant **reduction in carbon emissions**, contributing to a sustainable future.
- This project is also a **state-of-the-art green hydrogen facility** with a target to reduce carbon emissions considerably by around 2,700 Metric Tonnes per annum and 54,000 tons of CO2 emissions over next two decades.
- The government encourages **"green growth" and "green jobs" to achieve net zero carbon emissions by 2070**.

SC: No Immunity for MPs & MLAs Who Accept Bribe for Vote or Speech in the House

- The Supreme Court overturned the **1998 PV Narasimha Rao judgment**, which granted **immunity to MPs and MLAs under Articles 105(2) and 194(2)** of the Constitution for accepting bribes related to voting or speeches in the legislature.

Key points:

- Articles 105 and 194 of the Constitution grant powers and privileges to MPs and MLAs in the Parliament and legislative assemblies.
- These articles **provide legal protection to lawmakers, ensuring their freedom of speech and protecting them from prosecution for their remarks or votes in the House.**

1998 Judgment Overturned:

- The recent verdict overturns the 1998 judgment in the PV Narasimha Rao case.
- This case involved allegations that legislators of Jharkhand Mukti Morcha accepted bribes during a no-confidence motion in 1993.
- The Supreme Court, **in a 3:2 majority ruling, had granted immunity to MPs and MLAs** from prosecution in bribery cases if they fulfilled their end of the bargain. However, the recent decision nullifies this immunity.

Significance of the Verdict:

- This decision is **crucial in combating cash-for-votes practices and preserving the integrity of electoral processes.**
- Previously, MPs and MLAs could not be prosecuted for accepting bribes related to voting or speeches.
- Now, they can be prosecuted as soon as they accept a bribe, with no immunity provided by the House in such cases.

International Centre for Audit of Local Governance (iCAL)

- The Comptroller and Auditor General of India (CAG), Girish Chandra Murmu, has announced the establishment of the Supreme Audit Institution India's **International Centre for Audit of Local Governance (iCAL) in Rajkot, Gujarat.**

Significance:

- To enhance **auditing of local governments**, capacity building of auditors and local government employees is crucial to improve financial management practices and internal controls.
- Open communication with local government officials** can facilitate the audit process, **improve data accessibility, and**

foster cooperation in addressing audit findings.

- The establishment of iCAL aims to achieve these objectives.

The Comptroller and Auditor General (CAG):

- The CAG is India's supreme audit institution, established in 1858 under Article 148 of the Constitution of India.
- It is known as the "Guardian of the Public Purse" and operates independently.
- The duties and powers of the CAG are outlined in Article 149 and 150 of the Constitution.

Appointment:

The Comptroller and Auditor-General of India is appointed by the President of India.

Removal:

The CAG can only be removed by an address from both houses of parliament on the ground of proved misbehavior or incapacity.

Digital Intelligence Platform

- Recently, Minister Chauhan launched the Department of Telecommunications (DoT)'s **'Digital Intelligence Platform (DIP)' and 'Chakshu facility on Sanchar Saathi portal.**

About Digital Intelligence Platform (DIP):

- Developed by DoT, it's a **secure platform for real-time intelligence sharing among stakeholders like Telecom Service Providers (TSPs), law enforcement agencies (LEAs), banks, social media platforms, etc.**
- Contains information on detected misuse of telecom resources.
- Provides useful information to stakeholders.
- Acts as a **repository for citizen-initiated requests on the Sanchar Saathi portal.**

Chakshu - Citizen Centric Facility:

- Newest addition to **Sanchar Saathi portal.**
- Allows reporting of suspected fraud communications.**
- Reports can include KYC expiry, updates to bank accounts/payment wallets/SIM cards/gas/electricity connections, sextortion,

impersonation scams, disconnection of mobile numbers by DoT, etc.

- Victims of cyber-crime or financial fraud should report to the cyber-crime helpline 1930 or the Government of India's cybercrime website.

National Youth Parliament Festival (NYPF)

- On 6th March 2024, the Ministry of Youth Affairs and Sports hosted the finals of the National Youth Parliament Festival (NYPF).
- The festival, inspired by the Prime Minister's Mann Ki Baat Address on 31 December 2017, aims to fortify democratic principles, foster discipline and tolerance, and acquaint young people with parliamentary practices.

About:

- The NYPF held at various levels, is organized by the Ministry of Youth Affairs and Sports in **collaboration with Nehru Yuva Kendra Sangathan (NYKS) and National Service Scheme (NSS)**.
- It includes **District Youth Parliament, State Youth Parliament, and National Youth Parliament**, all geared towards raising awareness about active citizenship, encouraging youth engagement, and nurturing leadership qualities among the participants.

Objectives:

- One of the **festival's key objectives is to amplify the voices of youth aged 18-25** through deliberations at District, State, and National levels.
- It aims to **stimulate young people to engage with public issues, form articulate opinions, and develop their decision-making abilities**.
- Moreover, it seeks to cultivate respect for differing views, underscore the importance of rules in discussions, and document youth opinions on the Vision of New India, making them accessible to policymakers.

2024 Theme:

- **Young Voices: Engage and Empower for Nation's Transformation**

Centre Implements Citizenship Amendment Act (CAA)

The Citizenship Amendment Act (CAA), **passed in 2019, aims to expedite Indian citizenship for Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians who migrated to India due to religious persecution in Pakistan, Afghanistan, and Bangladesh.**

Key points:

- On Monday, the Centre notified the CAA rules just before the Lok Sabha election schedule announcement and the Model Code of Conduct enforcement.
- The Ministry of Home Affairs has launched an **online portal for applicants' convenience**.
- The Act excludes Muslims from its purview, and applicants must declare their entry year into India without travel documents.
- The delay in implementing the Act was due to protests, including in BJP-ruled states like Assam and Tripura, where Hindu communities opposed it for potentially legitimizing the influx of Bangladeshi migrants.

Panel recommends simultaneous polls

- The **high-level committee headed by former President Ram Nath Kovind has recommended simultaneous elections**.
- The recommendation involves a **phased approach: Lok Sabha and State Assemblies first, followed by municipal and panchayat polls within 100 days of general elections**.

Key points:

- The committee submitted an **extensive report, spanning 18,000 pages**, to President Droupadi Murmu, but a concise 321-page version is available to the public.
- The **22nd Law Commission** is also examining the issue and likely to recommend the same from the **2029 general election cycle**.
- The suggested method involves setting an **'Appointed Date'** after each general election, initiating a new electoral cycle for synchronizing elections.
- **State Assemblies** formed post 'Appointed Date' would conclude before subsequent general elections, **aligning with the Lok Sabha election cycle**.

- **Fresh Lok Sabha elections** might occur in case of a **hung House or no-confidence motion**, but the House's tenure would be limited to the unexpired term of the preceding full term.
- Constitutional amendments to **Articles 83 and 172 are proposed, requiring no ratification by the States.**
- Amendments to **Article 324A and Article 325** are recommended for panchayat and municipality elections and the preparation of a common electoral roll and voter ID cards, necessitating ratification by the States.
- The committee aims to **ease the burden on various stakeholders caused by frequent elections and suggests a mechanism for restoring the cycle of simultaneous elections.**
- Recommendations aim for minimal amendments to the Constitution and have garnered support from 32 out of 47 political parties contacted, including the BJP and the National People's Party.

National Speed Breeding Crop Facility

- The Union Minister of Science & Technology recently inaugurated the pioneering "**National Speed Breeding Crop Facility**" at the prestigious **National Agri-Food Biotechnology Institute (NABI)** in Mohali.

Key points:

- The facility is dedicated to **developing new varieties of crops like wheat, rice, soybean, pea, and tomato.**
- It achieves over four crop generations annually through a meticulously controlled environment.
- The **primary aim is to assist agricultural and biotechnology researchers in enhancing crop varieties, aiding plant breeders, and supporting farmers in adopting high-yielding and nutritionally rich varieties.**
- The facility is **particularly significant for North Indian States like Punjab, Himachal Pradesh, Haryana, and the UT of J&K.**
- NABI's technology facilitates the development of climate-resistant crops, freeing farmers from seasonal limitations.
- It enables **year-round farming, enhancing food security and economic stability.**

About NABI:

- NABI is India's **first Agri-Food Biotechnology Institute, established on February 18, 2010.**
- It aims to transform the agri-food sector in India.
- NABI focuses on **agricultural biotechnology, food, and nutritional biotechnology.**
- It aims to provide innovative solutions for **quality food and nutrition through research.**
- NABI has strong connections with national and international organizations and industries.
- Located in the **agri-food cluster of the "Knowledge City" in Mohali, Punjab, along with neighboring institutes.**
- NABI has contributed significantly to initiatives such as the '**Atal Jai Anusandhan Biotech (UNaTI) Mission, 'Poshan Abhiyan,'** and the establishment of **Biotech Kisan Hubs in regions like Jammu & Kashmir, Ladakh, Himachal Pradesh, Punjab, and Haryana.**

India's Atmospheric Research Testbed in Central India (ART-CI) Phase 1 Inauguration

- **Location:** Silkheda, Sehore district, 50 km northwest of Bhopal, Madhya Pradesh.
- **Funded by:** Ministry of Earth Sciences (MoES).
- **Purpose:** Study cloud processes during Indian monsoons in Monsoon Core Zone (MCZ).
- **Focus:** **Understanding crucial cloud processes during monsoon season.**

Need for ART-CI:

- Indian monsoon complexity impacts **agriculture and economy.**
- Lack of comprehensive cloud process data hinders predictions.
- ART-CI addresses need for specialized monsoon research infrastructure.

Madhya Pradesh's Strategic Importance:

- Silkheda strategically **located along major rain-bearing synoptic systems' path.**
- Clear environment with minimal pollutants ideal for meteorological research.
- Suitable for **installing sensitive, high-end meteorological instruments.**
- **Geographical positioning and environmental quality give Silkheda a strategic advantage for meteorological research.**

Enforcement directorate

Arvind Kejriwal has been detained by the Enforcement Directorate (ED).

ED:

- The ED is a **government agency in India** tasked with enforcing economic laws and combating economic crimes.
- It operates under the **Department of Revenue, Ministry of Finance, Government of India.**
- The ED's focus includes **investigating and prosecuting cases** involving **money laundering, foreign exchange violations, corruption, and economic offenses.**
- **Its primary goal** is to reduce the generation and circulation of black money and ensure compliance with laws related to foreign exchange and prevention of money laundering.
- The agency was originally established as an **"enforcement unit" within the Department of Economic Affairs on May 1, 1956**, to handle violations under the Foreign Exchange Regulation Act, 1947.
- **In 1957, this unit was officially renamed the Enforcement Directorate.**

The **main objective** of the Enforcement Directorate is to enforce three key Acts of the Government of India:

- the **Foreign Exchange Management Act, 1999 (FEMA)**; the **Prevention of Money Laundering Act, 2002 (PMLA)**; and the **Fugitive Economic Offenders Act, 2018 (FEOA).**
- The Enforcement Directorate is **headquartered in New Delhi** and is headed by the Director of Enforcement.
- It has regional offices in **Mumbai, Chennai, Chandigarh, Kolkata, and Delhi**, each headed by a **Special Director of Enforcement.**

Captive Elephant (Transfer or Transport) Rules, 2024

The Union environment ministry recently announced the **Captive Elephant (Transfer or Transport) Rules, 2024.**

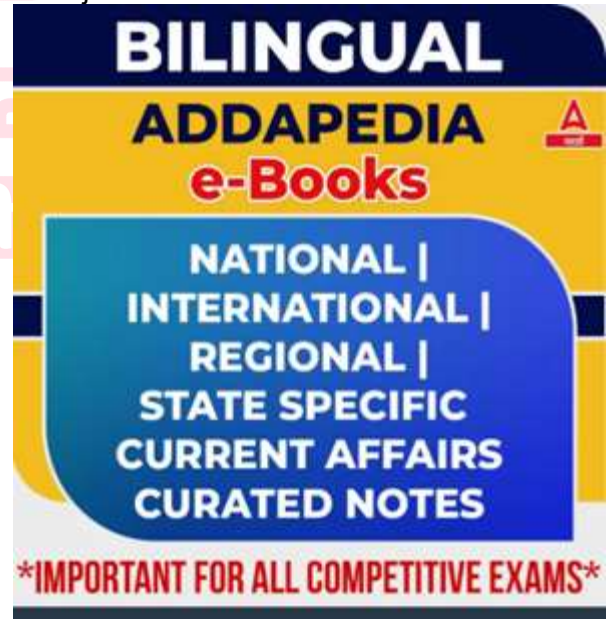
Key points:

Wildlife Protection Act (WPA), 1972

- Elephants, both **wild and captive**, are categorized as **Schedule 1 species under the WPA, prohibiting their capture or trade.**
- **Section 12 of the WPA permits the translocation of Schedule I animals for**

specific purposes like education, scientific research, and population management without harming wild animals.

- Captive elephants, due to their **historical roles, fall under a special category but are subject to strict transfer rules.**
- **Section 40(2) of the WPA mandates written permission from the Chief Wildlife Warden (CWW) for the acquisition, possession, and transfer of captive elephants.**
- An amendment in **2021 allowed elephant transfers for religious or other purposes.**
- **The Captive Elephant (Transfer or Transport) Rules, 2024, detail procedures for intra and inter-state transfers.**
- **State and UT CWWs** have authority to approve or reject such transfers, considering factors like the owner's ability to maintain the elephant and its welfare.
- Transfers require the **elephant's genetic profile in the MoEFCC's electronic monitoring application.**
- Transfer applications must be submitted to the **deputy conservator of forests (DCF)**, who conducts inquiries and verifications before forwarding to the CWW for approval or rejection.



State News

PM Inaugurates India's First Underwater Metro Line in Kolkata

- In Kolkata, Prime Minister Narendra Modi inaugurated the **Esplanade-Howrah Maidan**

section of the **Kolkata Metro**, marking **India's first underwater transportation tunnel passing beneath the Hooghly river.**

Key points:

- The Esplanade-Howrah Maidan stretch, part of the East-West Corridor, **spans 4.8 kilometers and was constructed at a cost of ₹4,965 crore.**
- Additionally, the **Kavi Subhash-Hemanta Mukhopadhyay section of the New Garia-Airport line, 5.4 kilometers long and costing ₹1,430 crore, was inaugurated.**
- These new sections aim to alleviate road traffic congestion and enhance connectivity in Kolkata.

Bengaluru's First Driverless Metro Train

- The **Bengaluru Metro Rail Corporation Limited (BMRCL) has received the first set of six train coaches for its under-construction yellow line.**
- These coaches are part of the **Communication-based Train Control (CBTC) system, enabling driverless operations.**

What is CBTC-enabled Driverless Metro Train?

- Utilizes Communication-based Train Control (CBTC) technology.
- Relies on radio communication for precise train control.
- Enables trains to communicate with each other.
- **Unattended Train Operations (UTO) automate tasks like door operations and train movement.**
- Enhanced Supervision Capability from **Operations Control Centre (OCC)** ensures effective monitoring and management of train operations.

Manufacturing and Design:

- Manufactured by CRRC Nanjing Puzhen Co Ltd, China, in collaboration with Titagarh Rail Systems Ltd., India.
- Part of the Make In India Initiative.
- A contract worth Rs 1,578 crore for 216 coaches was secured in 2019.

AI Integration:

- AI technology enhances **safety operations on the new line.**
- AI algorithms monitor tracks for anomalies using sensor data.
- Cameras on trains capture visual data for real-time analysis of safety concerns.
- Aims to improve track maintenance and ensure safe operations.

Special Features:

- Hot axle detection system monitors train bearings for overheating.
- Real-time location displays door status and arrival/departure information.
- Front and rear-view cameras aid in monitoring boarding and deboarding.
- **Emergency Egress Device (EED) allows passengers to request assistance during emergencies.**

Operation and Timeline:

- Initially, the train will have a train operator for at **least six months** before transitioning to fully driverless operations.
- Revenue operations will start with **seven trains running at a 15-minute frequency.**
- Operational delays have pushed the expected commencement to December 2024.
- Delays are primarily due to slow manufacturing and testing processes.

International News

Seizure of CNC Machines Bound for Pakistan at Nhava Sheva Port

- Customs authorities at Nhava Sheva port recently intercepted a **dual-use shipment on a vessel destined for Karachi**, expressing suspicions regarding its potential utilization in **Pakistan's nuclear initiatives.**

About Nhava Sheva Port:

- Jawaharlal Nehru Port, also known as **JNPT and Nhava Sheva Port**, is the second largest container port in India after Mundra Port.
- Operated by the Jawaharlal Nehru Port Trust Authority (JNPTA), it is located on the eastern shores of the Arabian Sea in Navi Mumbai, Raigad district, Maharashtra.

India, four-nation EFTA bloc likely to ink FTA on March 10

- India and the **four-nation European Free Trade Association (EFTA)**, which includes **Switzerland, Finland, Norway and Liechtenstein**, is likely to sign a long-negotiated **free trade agreement on March 10**, aimed at increasing trade and investment flows, job creation and economic growth, according to multiple sources.

Key points:

- The **proposed India-EFTA Trade and Economic Partnership Agreement (TEPA)** is expected to lead to investments worth **\$100 billion** from the four-country bloc into India over the next 15 years generating an **estimated one million jobs**, officials said.
- Notably, this FTA marks the **first instance where India secures commitments on investment and employment from partner nations**.
- Officials anticipate that the pact will help address India's significant trade deficit with the EFTA bloc.

Yaounde Declaration

- Health ministers from **11 African countries met in Yaoundé, Cameroon**, and pledged to **end malaria deaths**.

Key points:

- In **2022**, malaria cases globally rose significantly from **233 million in 2019 to 249 million**.
- In Africa, cases increased from **218 million to 233 million during the same period**.
- Africa accounts for **94% of global malaria cases and 95% of malaria-related deaths**.
- In 2022, an estimated 580,000 deaths occurred in Africa due to malaria.
- According to the **2023 Africa Malaria Progress Report**, malaria incidence has declined by 7.6% and mortality by 11.3%, falling short of African Union's interim goals.
- The African Union aims to control and eliminate malaria by **2030**.

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

India hosts 41st IPHE meeting, focusing on accelerating the hydrogen economy.

Key points:

- Established in **2003**, the **IPHE is an inter-governmental alliance currently comprising 23 member countries and the European Commission**.
- Its primary objective is to facilitate and expedite the transition to clean and efficient energy and mobility systems utilizing hydrogen and fuel cell technologies.
- The IPHE serves as a **platform for organizing and executing international research, development, demonstration, and commercial utilization activities related to hydrogen and fuel cells**.
- Moreover, the **IPHE informs various stakeholders, such as policymakers and the public, about the benefits and challenges associated with establishing widespread commercial hydrogen and fuel cell technologies**.
- Members: Australia, Canada, European Commission, India, Netherlands, Switzerland, Austria, Chile, France, Italy, Norway, UAE, Belgium, China, Germany, Japan, South Africa, United Kingdom, Brazil, Costa Rica, Iceland, South Korea, Singapore, and the United States**.

Operation Indravati

- In response to the recent turmoil in **Haiti**, the **Indian government has launched Operation Indravati to evacuate its citizens from the violence-stricken country to the neighboring Dominican Republic**.

Key points:

- Haiti has been grappling with a state of emergency triggered by recent violent attacks.
- Haiti, a **Caribbean country**, has plunged into chaos due to gang warfare.
- Gang control in Haiti's capital has **reached 80%, according to the UN**, with fighting ongoing in the remaining areas.

Capital: Port-au-Prince

Economy News

India signs free trade pact with 4 European countries

- India recently signed a landmark free trade agreement (FTA) **with four European countries - Iceland, Liechtenstein, Norway, and Switzerland**.

- The agreement aims to boost investments in India to **\$100 billion and create one million jobs within 15 years.**
- This Trade and Economic Partnership Agreement (TEPA) is the second full-fledged FTA signed by India, following the one with the United Arab Emirates.

Key points:

- The **FTA with the EFTA** (European Free Trade Association) countries, separate from the EU, **includes significant tariff reductions, increased market access, and simplified customs procedures.**
- It also includes a unique chapter on **commitments to human rights and sustainable development, a first in such agreements.**
- The agreement will come into force after ratification by the EFTA states, expected possibly by the end of the year.
- Commerce Minister Piyush Goyal highlighted the investment clauses as a unique achievement, **with a goal to invest \$100 billion in India from EFTA countries.**
- The agreement sets objectives to **increase foreign direct investment from EFTA states into India by \$50 billion within 10 years and another \$50 billion in the next five years, aiming to generate 1 million jobs within 15 years in India.**
- If the goals are not met within 15 years, India can temporarily withdraw some trade concessions.

Avaana Sustainability Fund

- SIDBI has secured **\$24.5 million from the Green Climate Fund (GCF)** for its Avaana Sustainability Fund (ASF), aimed at promoting sustainability and climate-focused startups and MSMEs.
- The funding was approved during the 38th meeting of the **GCF Board in Kigali, Rwanda.**

Project Overview:

- The project is valued at **\$120 million and will support early-stage startups and MSMEs using technology-led innovations for sustainability and climate solutions in India.**

- The ASF initiative aims to fund enterprises using technological innovations to address climate change challenges.
- It will aid in climate change mitigation, adaptation, and improving resilience in sectors vulnerable to climate impacts.

Implementation:

- **SIDBI will work with stakeholders and ministries, including the Department of Financial Services of the Ministry of Finance.**
- The bank can anchor proposals from other entities and submit its own, supporting the development of MSMEs.

Significance:

- This is a **pioneering move by SIDBI, representing the first such project anchored by the bank and aligning with India's commitments under the Paris Agreement.**
- SIDBI, as an accredited and direct access entity with the GCF, will fund projects promoting low-carbon and climate-resilient development across India.

Green Climate Fund:

- The **GCF is the largest climate fund globally, supporting developing countries in meeting their nationally determined contributions (NDCs) for global climate action.**

Indo-Pacific Economic Framework for Prosperity

- Union Minister Piyush Goyal Joins **Indo-Pacific Economic Framework for Prosperity (IPEF) Virtual Ministerial Meeting.**

Key points:

The four pillars of IPEF are

- (1) Trade;
- (2) Supply Chains;
- (3) Clean Energy, Decarbonization, and Infrastructure; and
- (4) Tax and Anti-Corruption.

- The IPEF is not an **FTA.**
- India actively participates in the IPEF but not across all pillars.
- India has opted out of the trade pillar due to misalignment with its **trade policies.**

About IPEF:

- IPEF was launched in **May 2022**, bringing together **14 regional partners – Australia,**

Brunei, Fiji, India, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand, the United States, and Vietnam – in a new model of **economic cooperation**.

- IPEF negotiations began in late **2022**.
- In May 2023, the IPEF partners announced the substantial conclusion of the negotiations for a first-of-its-kind IPEF Supply Chain Agreement.
- In November 2023, the IPEF partners announced the substantial conclusion of the negotiations on the proposed **IPEF Clean Economy and Fair Economy Agreements**, as well as on a **proposed overarching Agreement on IPEF** to help ensure the **durability of the framework and held a signing ceremony for the IPEF Supply Chain Agreement**.

World Monuments Fund 2025

- Conservationists propose **Kazhuveli watershed, Tamil Nadu, for inclusion in World Monuments Fund Watch 2025**.
- The historic Eri network in the region, vital for agriculture, is in decline and requires urgent protection.

Significance:

- Nomination-based initiative linking **local heritage preservation with global awareness and action**.
- **Aims to preserve locations in need, addressing issues like cultural heritage and environmental sustainability**.

About World Monuments Fund (WMF):

- **A private, global non-profit organization** dedicated to protecting historic architectural and cultural heritage sites worldwide.
- Founded in **1965, headquartered in New York City**, WMF partners with local communities and governments to preserve significant sites through donations and matching funds.

Exchange-traded funds

- The **Securities and Exchange Board of India (SEBI)** has instructed mutual fund companies to halt new investments in **schemes that invest in overseas exchange-traded funds (ETFs) from April 1, 2024**.
- SEBI's decision stems from the fact that investments in these foreign ETFs are nearing the **mandated limit of \$1 billion**.

About:

- An exchange-traded fund (ETF) is a type of **security that tracks an index, commodity, bonds, or a basket of assets, similar to an index fund**.
- Unlike regular mutual funds, **ETFs are traded like common stocks on stock exchanges**.
- The price of an ETF changes throughout the day 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 it represents**.
- ETFs are known for their **high daily liquidity and low fees compared to mutual fund schemes**, making them appealing to individual investors.
- They are **also considered more tax efficient**.
- There are **five main types of ETFs: equity ETFs, bond ETFs, commodity ETFs, international ETFs, and sectoral/thematic ETFs**.

Summit and Conference News

Nuclear Energy Summit

- World leaders convened in **Brussels** on 21st March for the **inaugural Nuclear Energy Summit**, emphasizing nuclear energy's role in **tackling global challenges like reducing fossil fuel usage, enhancing energy security, and stimulating economic development**.

Key points:

- Organised jointly by the **International Atomic Energy Agency (IAEA) and Belgium**.
- Co-chaired by the **Prime Minister of Belgium Alexander De Croo** and the **Director General of the International Atomic Energy Agency (IAEA) Rafael Mariano Grossi**, the Summit will be the highest-level meeting to date exclusively focused on the topic of nuclear energy.
- The Summit follows **nuclear energy's landmark inclusion** in the Global Stocktake during the **UN Climate Change Conference (COP28) in Dubai in December 2023**.
- Aligned with the launch of the **IAEA's Atoms4NetZero initiative**.

India's Statement:

- India is set to have nuclear energy a significant share in the electricity mix **by the year 2047** when India celebrates **100 years of independence**.

As a medium-term target, it is set to achieve **tripling nuclear power generation capacity by 2030** from around 7.5 GW at present.

Schemes and Committee News

ADITI scheme

Raksha Mantri Shri Rajnath Singh unveiled the ADITI scheme at DefConnect 2024 to boost innovations in critical and strategic defence technologies.

Key points:

- **Scheme Name:** Acing Development of Innovative Technologies with iDEX (ADITI)
- **Purpose:** Develop critical and strategic defence technologies.
- **Falls under:** iDEX (Innovations for Defence Excellence) framework.
- **Period:** 2023-24 to 2025-26
- **Focus:** Innovations in critical and strategic defence technologies from startups
- **Grant Amount:** Up to **Rs 25 crore for research**, development, and innovation in defence technology
- **Benefits:** Nurtures youth innovation and advances country's technology sector
- **Technology Watch Tool:** To bridge gap between modern Armed Forces' needs and defence innovation ecosystem
- **Challenges:** 17 challenges launched in the first edition for Indian Army, Indian Navy, Indian Air Force, and Defence Space Agency to develop latest technologies
- **R&D Importance:** Need for self-reliance in technology development due to limitations of technology acquisition through offset and FDI
- **Government's Support:** Reserved 75% of defence capital acquisition budget for purchases from local companies including MSMEs.

Revision in PM Surya Ghar Muft Bijli Yojana and Its Implementation

The Union government has modified the ₹75,000-crore PM Surya Ghar Muft Bijli Yojana, also known as the rooftop solar: free electricity scheme.

Key points:

- **Initially intended to fully subsidize 1 kW-3 kW solar systems in one crore households,**

the scheme now contributes up to 60% of the installation costs.

- Interested households must now **bear the remaining cost, with a minimum payment of ₹20,000**, which can be mitigated through a low-interest, collateral-free loan.
- **Eligibility criteria include suitable roof conditions and an existing grid connection.** Consumers are still responsible for paying for the net power supplied and consumed via the grid.
- Net-metering allows unused solar power to flow back into the grid, offsetting the household's electricity bill.
- **Twelve public sector banks offer collateral-free loans at 1% above the prevailing RBI repo rate to eligible households.**
- **A 3 kW-hour system can generate up to 300 units per month, with a maximum subsidy of ₹78,000 available.**
- Currently, the cost of a rooftop solar system is around **₹50,000 per kW.**
- Households can either pay the remaining balance or opt for a loan, with installation and maintenance costs factored in.
- **Over 40 lakh registrations have already been received, with installations underway in Gujarat.** The target is to reach one crore houses within three years.

Electric Mobility Promotion Scheme 2024

- **Announcement:** Ministry of Heavy Industries announces **Electric Mobility Promotion Scheme 2024.**
- **Duration:** Scheme to be implemented from 1st April to 31st July 2024.
- **Total Outlay:** Rs. 500 crore.
- **Objective:** **To promote electric two-wheeler (e-2W) and three-wheeler (e-3W) adoption, and boost electric vehicle manufacturing in India.**
- **Eligible Categories:**
 - Two Wheelers (electric) (e-2W)
 - Three-wheeler (electric) including registered e-rickshaws & e-carts and L5 (e-3W)
- **Applicability:** Mainly for commercial e-2W and e-3Ws; privately or corporate owned registered e-2W also eligible.

Target Numbers:

- Aim to support 3,72,215 EVs including e-2W (3,33,387) and e-3W (38,828 including 13,590 rickshaws & e-carts and 25,238 e-3W in L5 category).

Aatma Nirbhar Bharat Impact:

- Promotes **efficient, competitive, and resilient EV manufacturing, aligning with the vision of Aatma-Nirbhar Bharat.**
- **Phased Manufacturing Programme (PMP)** adopted to encourage domestic manufacturing and strengthen EV supply chain, creating significant employment opportunities.

PM Gati Shakti- National Master Plan in Coal Sector

- Union Minister of Coal, Mines and Parliamentary affairs Shri Pralhad Joshi released **“PM Gati Shakti-National Master Plan in coal sector”**.
- **Aim:** To offer in-depth insights into the coal sector through the **geospatial layers available on the Ministry of Coal page of the PMGS-NMP portal.**

Key points:

- **Shri Anandji Prasad, Advisor (Projects), Ministry of Coal,** echoed that the release of the PM-Gati Shakti National Master Plan aims to **develop a smart, integrated, and sustainable coal logistics ecosystem.**
- This will ensure the **availability of adequate infrastructure, optimize logistics costs, and promote modernization through the adoption of information and communication technology.**
- The initiative aligns with the vision of **'Atmanirbhar Bharat'** by promoting cost efficiencies, minimizing disruptions, and fostering inclusive growth.

Revamped Pharmaceuticals Technology Upgradation Assistance Scheme

- The Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers has introduced the **Revamped Pharmaceuticals Technology Upgradation Assistance (RPTUAS) Scheme.**

Key points:

- **Objective:** Provide subsidies based on **quality reimbursement to aid pharmaceutical companies** in achieving Revised Schedule M and WHO-GMP certifications, enhancing product quality and safety.

Key features of the scheme:

- **Expanded Eligibility Criteria:** Extends eligibility beyond Micro, Small, and Medium Enterprises (MSMEs) to encompass any pharmaceutical manufacturing unit with a **turnover of less than 500 crores, facilitating technology and quality upgradation.**
- **Flexible Financing Options:** Introduces more flexible financing, emphasizing subsidies on a reimbursement basis rather than traditional credit-linked approaches.
- **Comprehensive Support for Compliance:** Aligned with revised Schedule-M and WHO-GMP standards, the scheme supports a broader spectrum of technological upgrades.
- **Integration with State Government Schemes:** Revised scheme allows integration with state government initiatives, enabling units to benefit from additional top-up assistance.
- **New Benefit Limits Based on Turnover:** Incentives are determined based on the company's turnover.

PM-SURAJ Portal

- PM unveiled **'Pradhan Mantri Samajik Utthan and Rozgar Adharit Jankalyan' (PM-SURAJ) national portal online.**
- The **Ministry of Social Justice and Empowerment** launched a nationwide initiative aimed at offering credit support to the marginalized segments of society.

Key points:

- It is a national portal launched by Prime Minister Narendra Modi to **provide credit support to small entrepreneurs from marginalised communities.**
- Small entrepreneurs from marginalised communities, including Scheduled Castes, Backward Classes, and sanitation workers, can benefit from the PM-SURAJ Portal.
- **The objective of PM-SURAJ Portal is to provide financial assistance directly to beneficiaries, eliminate middlemen and commissions, and empower marginalised communities economically and socially.**
- PM-SURAJ Portal aims to uplift marginalised communities and integrate them into the mainstream economy, which is essential for achieving the goal of **Viksit Bharat by 2047.**

Developing Countries Trading Scheme (DCTS)

- The **Directorate General of Foreign Trade (DGFT)** has issued a **trade notice**

highlighting the need for Indian exporters to follow new UK rules under the Developing Countries Trading Scheme (DCTS) to avail duty concessions on shipments to the UK.

Key features:

- The DCTS benefits **65 developing and least developed countries, excluding China**. Key features include reduced tariffs on various Indian products and simplified qualification processes with clear origin rules.
- India is in the **"Standard Preferences" category under DCTS**, enjoying benefits though not as extensive as those granted to the poorest countries.
- Products exceeding a specific export limit to the UK don't receive lower tariffs and are removed from the scheme.
- **The new 6% limit on the UK's total imports affects some Indian products like textiles, with £748 million worth of exports now taxed at the regular rate instead of the preferential rate under DCTS.**

Kisan Credit Card (KCC) Fisheries scheme

- The **Kisan Credit Card (KCC) Fisheries scheme** has been integrated into the **JanSamarth Portal** by the Department of Fisheries.
- This integration aims to **enhance credit accessibility for fishers, fish farmers, and stakeholders nationwide.**

JanSamarth Portal:

- JanSamarth is an innovative online platform that **facilitates direct interactions between lenders and beneficiaries.**
- It enables citizens to **access loans under specific Central government schemes.**
- In **2018-19, the Kisan Credit Card (KCC) facility was extended to fishers and fish farmers** to meet their working capital requirements.
- The scheme covers various farmer categories, including individuals, joint borrowers, Joint Liability Groups, and Self Help Groups.
- It offers an **annual interest subvention of 2%**, along with an additional subvention of 3% for timely repayment.

Kisan Credit Card (KCC) Scheme

- The Kisan Credit Card (KCC) scheme was introduced in **1998 for issue of Kisan Credit Cards to farmers on the basis of their holdings** for uniform adoption by the banks so that farmers may use them to readily purchase

agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs.

Award News

National Creators Award

- Prime Minister Narendra Modi presented the **inaugural National Creators Award at Bharat Mandapam, New Delhi.**
- The award is being provided across **twenty categories** including the Best Storyteller Award; The Disruptor of the Year; Celebrity Creator of the Year; Green Champion Award; Best Creator For Social Change; Most Impactful Agri Creator; Cultural Ambassador of The Year; International Creator award; Best Travel Creator Award; Swachhta Ambassador Award; The New India Champion Award; Tech Creator Award; Heritage Fashion Icon Award; Most Creative Creator (Male & Female); Best Creator in Food Category; Best Creator in Education Category; Best Creator in Gaming Category; Best Micro Creator; Best Nano Creator; Best Health and Fitness Creator.

Key points:

- **Disruptor of the Year award:** Ranveer Allahbadia (BeerBiceps)
- **Best Creator in Education Category(Male & Female):** Naman Deshmukh
- **Best Creator in Tech Category:** Gaurav Chaudhary(Technical Guruji)
- **Favourite Travel Creator:** Kamiya Jani
- **Best Health and Fitness Creator:** Ankit Baiyanpuria
- **Best Creator in Food Category:** Kabita Singh (Kabita's Kitchen)
- **Celebrity Creator of the Year:** Aman Gupta
- **Green Champion' Category:** Pankhti Pandey
- **Best Storyteller:** Keerthika Govindasamy
- **Cultural Ambassador of the Year:** Maithili Thakur
- **Most Creative Creator Female:** Shraddha Jain
- **Most Creative Creator Male:** RJ Raunac
- **Heritage Fashion Icon Award:** Jahnvi Singh
- **Best Creator for Social Change Award:** Jaya Kishori
- **Best Micro Creator Award:** Aridaman
- **Best Creator in Gaming Category Award:** Nishchay

- **Swachhta Ambassador Award:** Malhar Kalambe
- **Best International Creator Award:** Drew Hicks, Kili Paul, Cassandra Mae Spittmann
- **Best Nano Creator Award:** Piyush Purohit
- **Most Impactful Agri Creator:** Lakshay Dabas
- **The New India Champion Award:** Abhi and Niyu

96th Academy Awards

The 96th Academy Awards ceremony, organized by the Academy of Motion Picture Arts and Sciences (AMPAS), was held on March 10, 2024, at the Dolby Theatre in Hollywood, Los Angeles.

2024 Winners :

- **Best Actor:** Cillian Murphy won for his role in "Oppenheimer."
- **Best Actress:** Emma Stone won for her performance in "Poor Things."
- **Best Supporting Actor:** Robert Downey Jr. won for "Oppenheimer."
- **Best Supporting Actress:** Da'Vine Joy Randolph won for "The Holdovers."
- **Best Director:** Christopher Nolan won for "Oppenheimer."
- **Best Original Screenplay:** Justine Triet and Arthur Harari won for "Anatomy of a Fall."
- **Best Movie:** "Oppenheimer"

Defence News

Yars Missile

- Russia recently conducted a fire test of its nuclear ballistic Yars missile.

Key points:

- The **RS-24 Yars** is an **intercontinental ballistic missile (ICBM)** in Russia's Strategic Missile Forces arsenal.
- It has an **operational range of up to 12,000 kilometers**, making it one of the longest-range missiles globally.
- The RS-24 Yars features a **Multiple Independently targetable Reentry Vehicle (MIRV) system**.
- This allows it to carry multiple nuclear warheads, enhancing its strategic deterrence capability.
- The RS-24 Yars replaces the **older Topol and Topol-M missile systems**.

- It exists in **both mobile and silo-based forms** to increase flexibility and reliability.

ICBM:

- An intercontinental ballistic missile is a **ballistic missile with a range greater than 5,500 kilometres**, primarily designed for **nuclear weapons delivery**.
- Maximum range varies from **7,000 to 16,000 kilometers**, according to the Federation of American Scientists.
- Compared to other types of ballistic missiles, ICBMs are significantly **faster and have a greater range**.
- **Agni-V**, an Indian ICBM, has a range of over 5,000 kilometers.

Navy commissions INS Jatayu, MH-60R helicopter squadron

INS Jatayu:

- The Indian Navy commissioned the INS Jatayu at **Minicoy island, marking its second base in Lakshadweep after INS Dweeprakshak in Kavaratti**.
- The commissioning of INS Jatayu is part of a **phased expansion plan to bolster India's surveillance and security** in the strategically located islands near the Nine Degree channel and critical sea lanes of communication.
- The presence of **INS Jatayu will strengthen the Indian Navy's presence in the Lakshadweep islands**, enhancing capacity building, operational reach, and sustenance in the region.
- Plans are underway to improve the **jetty infrastructure in Minicoy island to accommodate larger vessels, improve connectivity, and enhance response and ability**.

MH-60R Squadron Commissioned as INAS 334 'Seahawks'

- The Navy also commissioned its first MH-60R multi-role helicopter squadron, **INAS 334 'Seahawks', at Kochi**.
- The squadron consists of 48 officers and 170 men and is commanded by Captain M. Abhishek Ram, **an experimental test pilot with extensive flying experience**.

- A scintillating fly-past by a formation of **Seahawks and a traditional water cannon salute with four helicopters** marked the historic moment.
- The MH-60R squadron represents a major capability boost for the Indian Navy's rotary fleet and its anti-submarine warfare capabilities.

Project Seabird

- The Defence Minister is set to inaugurate key infrastructure/facilities of **Project Seabird at Naval Base Karwar in Karnataka.**

About:

- The largest naval infrastructure project for India, it **involves creation of a naval base at Karwar on the west coast of India.**
- **Approved in 1999 after Pokhran-II by the then Defence Minister George Fernandes.**
- Upon completion, this \$3 billion program and effort will provide the **Indian Navy with its largest naval base on the west coast** and also the largest naval base east of the Suez Canal.
- It will be able to accommodate **around 32 warships, 23 submarines, and hangers for several aircraft.**

Purpose

- Providing fleet support and maintaining warships.

Phases

Phase I

- Designed for **10 ships, completed in 2011.**
- Infrastructure included a **breakwater, a pier for 10 ships, a 10,000-ton ship lift, Naval Ship Repair Yard, logistics and armament storage,** accommodation for 1000 personnel, Headquarters/Depot Organisation, and a 141-bed Naval Hospital.

Phase IIA

- CCS(Cabinet Committee on Security) approval for **berthing 32 ships, submarines, and 23 Yardcraft.**
- Includes constructing buildings adhering to MOEF and IGBC guidelines, piers for ships/submarines, technical facilities, electrical

substations, and a Covered Dry Berth for four capital ships.

- **Four townships with 10,000 dwelling units for Officers, Senior and Junior Sailors, and Defence Civilian staff.**
- **Setting up a green field dual-use Naval Air Station with a 2700 m runway and civil-enclave.**

Economic Benefits

- Directly generated employment for 7,000 personnel and indirectly for 20,000 jobs.
- More than 90% materials sourced from India, involving companies like AECOM India Ltd., Larsen & Toubro, ITD Cementation India Ltd., Nagarjuna Construction Company, Navayuga Engineering Company Ltd., and Shapoorji Pallonji Group.
- Once operational, estimated **50,000 individuals to reside in Naval Facilities, contributing to the local economy.**
- Expected industrial growth and investments in Uttara Kannada region, creating employment opportunities.
- Naval Air Station to improve air connectivity and boost tourism in Uttar Karnataka and South Goa, providing government employment to around 8,000 personnel.

Mission Divyastra

- DRDO, on 11th March 2024, conducted the first successful flight test of the Agni-5 missile with **MIRV(Multiple Independently Targetable Re-Entry Vehicle) technology.**
- The indigenously developed missile was launched from Dr APJ Abdul Kalam Island in Odisha.
- **Prime Minister Modi lauds the first successful test of Agni-5 with multiple warhead technology.**

Key points:

- **Agni, a long-range missile developed by DRDO, has been in the Indian armed forces' arsenal since the early 1990s.**
- The recent test of **Agni-5** demonstrates India's upgraded missile system, enhancing its **strike capability, including the nuclear option.**
- MIRV technology, allowing a missile to carry multiple warheads, is possessed by a **few countries like the US, Russia, China, UK, and France.**

- Pakistan claimed to have tested a MIRV-equipped missile, **Ababeel**, last year.
- **Agni-5 can carry nuclear warheads and hit targets over 5,000 km away, mainly aimed at countering China.**
- Dr. V K Saraswat highlighted that MIRV technology significantly increases Agni-5's potency as a force multiplier.
- The **MIRV-equipped Agni-5 missiles can carry three to four warheads and autonomously guide them to pre-determined targets.**
- Agni-1 to 4 missiles have ranges from **700 km to 3,500 km** and are already deployed, including medium to intercontinental versions.
- The next upgrade, **Agni-6, is expected to be an intercontinental ballistic missile with a range exceeding 7,000 km.**
- The DRDO development team of MIRV-equipped Agni-5 was led by a woman, **Sheena Rani**, and included many other women scientists.

Cutlass Express 24

- The Indian Navy led the maritime exercise "**Cutlass Express**" – 24 with **INS Tir at Port Victoria, Seychelles.**
- The exercise involved active engagement with participants from 16 friendly foreign countries.

Training Activities:

- The training encompassed theoretical and practical aspects of Maritime Interdiction Operations, Visit Board Search and Seizure (VBSS) procedures, and Diving operations.
- During the sea phase, the VBSS team of **INS Tir** boarded the Seychelles Coast Guard ship **LE Vigilant**, showcasing boarding operation procedures.
- Joint diving operations were conducted by Indian, US, and Seychelles divers after intensive training.

INS Tir:

- **INS Tir (A86)** is the first dedicated **cadet's training ship to be built by Mazagon Dock Limited and commissioned as such by the Indian Navy.**
- She is the senior ship of the 1st Training Squadron of the Southern Naval Command.
- **INS Tir** was commissioned on **21 February 1986.**

INS Tushil

INS Tushil, India's latest naval asset, began its sea trials from Russia's **Baltiysk** naval base on **March 5.**

Key points:

- **INS Tushil** belongs to the **Talwar-class frigates**, known for their stealth-guided missile capabilities.
- These frigates are **upgraded versions of the Russian Krivak III-class frigates, originally used by the Coast Guard.**
- The Indian Navy currently **operates six of these ships, with four more under construction, including two at India's Goa shipyard.**
- These ships incorporate **"stealth technology"** to minimize radar and underwater noise detection.
- They are equipped with **Indian and Russian weaponry**, including **surface-to-surface missiles, sonar systems, surveillance radar, communication suites, anti-submarine warfare systems, surface-to-air missiles, and gun mounts.**
- Designed for combat in brown and blue waters, they can engage submarines, warships, and repel air attacks independently or in formations.
- The frigates have a displacement of **3620 tons, a length of 124.8 meters, a top speed of 30 knots, and a cruising range of 4850 miles.**

Project 11356M:

- In **October 2016**, India and Russia signed an **Inter-Governmental Agreement (IGA)** for **four Admiral Grigorovich-class frigates (Project 11356M).**
- Russia agreed to deliver two frigates, including **INS Tushil and INS Tamala**, while India would build the other two domestically.
- The construction of these ships is tailored to meet the **Indian Navy's requirements for comprehensive naval warfare capabilities in air, surface, and sub-surface domains.**

India's indigenous fifth gen fighter jet AMCA

- The **Cabinet Committee on Security (CCS)** cleared a **Rs 15,000 crore** project to design and develop the **Advanced Medium Combat Aircraft (AMCA)**, India's **fifth-generation fighter multirole fighter jet.**

Agencies Involved

- The **Aeronautical Development Agency (ADA)** under the Defence Research and Development Organisation (DRDO) will be the nodal agency for executing the programme and designing the aircraft.
- It will be manufactured by **state-owned Hindustan Aeronautics Limited (HAL)**.

Features

- Stealth features
- Low-probability-of-intercept radar
- Agile airframes with super cruise performance
- Advanced avionics features
- Highly integrated computer systems capable of networking with other elements within the battlespace
- Higher utilization time and smaller serviceability or maintenance periods

Other fifth-generation fighters

- Only a few countries have **built a fifth-generation stealth fighter aircraft**.
- The list of the aircraft currently in service includes the **F-22 Raptor and F-35A Lightning II of the US, the Chinese J-20 Mighty Dragon, and the Russian Sukhoi Su-57**.

Exercise Bharat Shakti

- Prime Minister Narendra Modi and a delegation of over 30 members observed the **'Bharat Shakti' tri-service exercise in Pokhran, Rajasthan**.

Key points:

- This exercise integrates the **firepower and manoeuvre capabilities of all three services**.
- It serves to exhibit the effectiveness of domestically manufactured defence equipment.
- Through realistic scenarios, it showcases the **Indian Armed Forces' ability to operate cohesively across various domains**.
- The exercise is in **line with the Aatmanirbharata initiative, underscoring India's self-reliance in defence**.

Key Equipment and Weapons Systems Participated:

Indian Army:

- Includes **T-90 (IM) Tanks, Dhanush and Sarang Gun Systems, Akash Weapons System, Logistics Drones, Robotic Mules, Advanced Light Helicopter (ALH), and various unmanned aerial vehicles**.

Indian Navy:

- **Deployed Naval Anti-Ship Missiles, Autonomous Cargo Carrying Aerial Vehicles, and Expendable Aerial Targets**.

Indian Air Force:

- Showcased the Light Combat Aircraft Tejas, Light Utility Helicopters, and Advanced Light Helicopters.

Rajnath Singh Inaugurates Indian Navy's New Headquarters in Delhi

- Defence Minister Rajnath Singh inaugurated the Indian Navy's new headquarters, **Nausena Bhawan, in Delhi Cantonment**.
- This marks a significant **milestone as the Indian Navy establishes its first independent headquarters in Delhi**, consolidating its operations previously spread across 13 different locations.

Key points:

- It is equipped with a **state-of-the-art integrated building management system** for efficient coordination and monitoring of security services and utility systems.
- Nausena Bhawan has achieved **Green Rating IV under the integrated habitability assessment**.

EX TIGER TRIUMPH – 24

- In alignment with the established partnership between India and the US, a **bilateral tri-service Humanitarian Assistance and Disaster Relief (HADR) Exercise, Tiger Triumph24, is set to take place on the Eastern Seaboard from 18 to 31 March 2024**.

The exercise will involve:

- Indian Navy Ships with integral helicopters and landing crafts embarked
- Indian Navy aircraft
- Indian Army personnel and vehicles
- Indian Air Force aircraft and helicopters
- Rapid Action Medical Team (RAMT)
- The US will be represented by **US Navy Ships with embarked troops of the US Marine Corps and US Army**.
- The primary objectives of the exercise include developing interoperability for conducting HADR operations and refining Standard Operating Procedures (SOPs) to enable rapid and smooth coordination between the forces of both countries.

AH-64E Apache attack helicopters

- In a significant boost to its combat capabilities, the **Indian Army Aviation Corps inaugurated its first unit of AH-64E Apache Attack Helicopters at Jodhpur Air Base.**
- The **AH-64E Apache Guardian**, known as the world's most advanced multi-role combat helicopter, is set to enhance the aerial prowess of the Indian Army.

Key points:

- Manufactured by **Boeing in the United States**, the AH-64E Apache Guardian has been acquired by several countries, including **India, Egypt, Greece, Indonesia, Israel, Japan, South Korea, Kuwait, Netherlands, Qatar, Saudi Arabia, Singapore, UAE, and the UK.**
- In February 2020, India inked a deal with Boeing for six AH-64E helicopters for the Army, with an additional six contracted later.
- **Tata Boeing Aerospace Limited (TBAL)**, a joint venture between Boeing and **Tata Advanced Systems Ltd. (TASL)**, manufactures fuselages for the **AH-64 Apache at its Hyderabad facility since 2018.**
- TBAL aims to become the sole producer of AH-64 fuselages globally, sourcing **90% of parts from Indian suppliers.**

Significance:

- The AH-64E Apache boasts an **open systems architecture for seamless integration of advanced communications, navigation, sensor, and weapon systems.**
- Its enhanced thrust, lift capabilities, joint digital interoperability, improved survivability, and cognitive decision-aiding features make it a formidable asset in combat scenarios.

IMT Trilateral Exercise 2024

- **INS Tir and INS Sujata** are set to join the **second edition of the India Mozambique Tanzania (IMT) Tri Lateral (TRILAT) Exercise**, a joint maritime exercise scheduled from **21-29 Mar 24.**
- The first edition of the IMT TRILAT exercise, held in Oct 22, saw **INS Tarkash participating with the Tanzanian and Mozambique Navies.**

Key points:

- The exercise's current edition is **divided into two phases.**

- The **harbour phase, scheduled from 21-24 Mar 24**, will see **Naval ships Tir and Sujata** engaging with the respective Navies at the ports of Zanzibar (Tanzania) and Maputo (Mozambique).
- This phase will start with a **Planning Conference**, followed by joint harbour training activities such as **Damage Control, Fire Fighting, Visit Board Search and Seizure procedures, Medical Lectures, Casualty Evacuation, and Diving operations.**
- The **sea phase is scheduled from 24-27 Mar 24**, focusing on countering asymmetric threats, Visit Board Search and Seizure procedures, boat handling, manoeuvres, and firing exercises.
- A **joint EEZ surveillance is also planned during the sea phase.** The exercise will conclude with a joint debrief scheduled at **Nacala (Mozambique).**

Samudra Paheredar

- **Indian Coast Guard ship Samudra Paheredar**, a specialized pollution control vessel, arrived at **Manila Bay, Philippines** on Sunday for a three-day visit.

Purpose of Visit:

- Demonstration of **ICG Marine Pollution Response capabilities.**
- Shared concern and resolve towards **marine pollution in the ASEAN region.**
- Bolstering bilateral cooperation with the **Philippine Coast Guard (PCG).**
- The ICG ship is on an **overseas deployment to ASEAN countries** namely the **Philippines, Vietnam, and Brunei** from 25 March to 12 April 2024.
- The deployment is the **third in a row by the Indian Coast Guard to ASEAN countries.**
- Earlier in the year 2023, ICG pollution control vessels visited **Cambodia, Malaysia, Singapore, Thailand, and Indonesia** as part of the initiative.

Samudra Paheredar Overview:

- Stationed on the **East Coast of India in Visakhapatnam, Andhra Pradesh.**
- Under the Command of Deputy Inspector General **Sudhir Ravindran.**

- Successfully undertaken various **Coast Guard operations including Pollution Response, IMBL/EEZ surveillance, counter-transnational crimes, and Maritime Search and Rescue (SAR).**

Ranks and Report News

Women, Business and Law Index

India has improved its ranking to **113 out of 190 countries** in the World Bank's Women, Business and Law index.

Key points:

- The index, which measures the **enabling environment for women's economic opportunity** in 190 economies, assesses how laws and regulations impact women's economic **rights on a scale of 0 to 100, where 100 signifies equal legal rights for men and women.**
- The report evaluates **eight key areas:** Mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets, and pension.
- This is the **10th edition of the report.**
- Globally, no country achieved a perfect score, indicating a lack of equal rights for women worldwide.
- Indian women enjoy 60% of the legal rights given to men, which is lower than the **global average of 64.2%.**

Golden Langurs

- The latest survey estimates India's golden langur **population at 7,396.**
- Conducted by the **Primate Research Centre NE India (PRCNE)**, Assam Forest Department, Bodoland Territorial Council, Salim Ali Centre for Ornithology and Natural History (SACON), and Conservation Himalayas.
- The golden langur's distribution covers the **Manas Biosphere Reserve and fragmented forests in western Assam.**
- Ripu Reserve Forest and Chakrashila Wildlife Sanctuary identified as significant habitats for golden langurs.

Geographic Range:

- Limited to **Assam, India, and neighboring Bhutan.**

- Inhabits an area surrounded by **four geographical landmarks:** the foothills of Bhutan (north), Manas river (east), Sankosh river (west), and Brahmaputra river (south).

Habitat:

- Occupies moist evergreen and tropical deciduous forests, as well as some riverine areas and savannas.
- Primarily tree-dependent, living in the upper canopy of sub-tropical forests in the south and temperate forests in the north.
- Found at **elevations close to sea level in the south and up to 3000 m at the foothills of Bhutan in the north.**

Conservation Status:

- IUCN: Endangered
- CITES: Appendix I
- Wildlife Protection Act, 1972: Schedule I

Liberal Democracy Decline in India

India's democratic status has deteriorated significantly, according to the **"Democracy Report 2024"** by the V-Dem Institute.

Key points:

- In 2018, India was labeled an **"electoral autocracy,"** but it has since worsened, becoming one of the most autocratic nations.
- The report classifies countries into **four regime types based on the Liberal Democratic Index (LDI): Liberal Democracy, Electoral Democracy, Electoral Autocracy, and Closed Autocracy.**
- India, despite **having 18% of the world's population, now hosts about half of the population residing in countries experiencing autocratisation.**
- The state of liberal democracy in **South and Central Asia, particularly India,** has regressed significantly, reaching levels comparable to those seen in 1975 during Indira Gandhi's emergency declaration.
- The Modi-led government is criticized for suppressing freedom of religion, intimidating political opponents and protesters, and stifling dissent in academia.
- The report warns that a third consecutive term for the BJP and Prime Minister Modi could exacerbate autocratisation, considering the substantial decline in democracy under his leadership and ongoing crackdowns on minority rights and civil society.

- The V-Dem's Democracy Report involves 4,200 scholars from 180 countries and draws on 31 million datasets covering 202 countries from 1789 to 2023.

India was the top arms importer in 2019-2023

- India ranked as the world's top arms importer from **2019 to 2023**.
- Imports increased by **4.7% compared to 2014–2018, according to SIPRI**.

Key points:

- European countries saw a **94% increase in arms imports from 2014–18 to 2019–23, likely influenced by the Ukraine war**.
- Russia, **India's main arms supplier**, had its share drop below half for the first time since 1960–64.
- Nine out of the top 10 arms importers were from **Asia, Oceania, or the Middle East**.
- **Ukraine became the fourth largest arms importer** due to major arms transfers from over 30 states in 2022–23.
- In India's FY 2024–25 interim budget, the Defence Ministry received ₹6.2 lakh crore.
- This included ₹1.72 lakh crore for new procurements, a 5.78% increase from the previous year.

Global Arms Trade Trends

- **Pakistan, the fifth largest arms importer**, saw a 43% increase in imports, with China supplying 82% of its arms.
- U.S. arms exports grew by 17%, while Russian exports fell by more than half (-53%).
- France emerged as the world's second largest arms supplier with a 47% increase in exports.

SIPRI Overview

- SIPRI, or the **Stockholm International Peace Research Institute**, is an independent international institute established in 1966.
- It focuses on **research into conflict, armaments, arms control, and disarmament**.
- SIPRI provides **data, analysis, and recommendations to policymakers, researchers, media, and the public on international security matters**.

Grievance Redressal Assessment Index

The Ministry of Home Affairs has **consistently ranked among the top 10 ministries in 2023-24 in the Grievance Redressal Assessment Index (GRAI)**, performing well in all 15 specified indicators.

Key points:

- **The Department of Administrative Reforms and Public Grievances (DARPG)** conceived and designed GRAI.
- **Objective:** GRAI aims to offer a comparative view of organizations and highlight their strengths and areas for improvement in grievance redressal mechanisms.
- **Parameters:** A comprehensive index was used to rank based on four dimensions: **Efficiency, Feedback, Domain, and Organizational Commitment**.
- **Data Source:** Data from the **Centralised Public Grievance Redressal and Management System (CPGRAMS)**

CPGRAMS:

- Centralized Public Grievance Redress and Monitoring System (CPGRAMS) is an **online platform available to the citizens 24x7** to lodge their grievances to the public authorities on any subject related to service delivery.
- It is a **single portal connected to all the Ministries/Departments of Government of India and States**.
- Every Ministry and States have role-based access to this system. CPGRAMS is also accessible to the citizens through standalone mobile application downloadable through Google Play store and mobile application integrated with **UMANG**.

HbA1C test

- According to **2018 ICMR guidelines**, individuals over **30** should be screened for diabetes due to India's significant diabetes burden.
- India has around **10.13 crore diabetic individuals and 13.6 crore pre-diabetics, accounting for 17% of global diabetes cases**.
- Over **35%** of Indians have hypertension, and nearly **40%** have abdominal obesity, increasing diabetes risk.
- Prevention and early detection are crucial in managing this health issue.

HbA1C Test Functionality

- **Test Principle:** Measures the **percentage of red blood cells coated with sugar (glycated hemoglobin) to diagnose and manage pre-diabetes and diabetes**.
- **Test Accuracy and Approval:** Discovered in **1955**, correlated with diabetes in 1968, approved by the ADA in 2009, and endorsed

by WHO in 2011 with improved accuracy from 1993 to 2012.

World Air Quality Report 2023

- According to the **IQAir's (Swiss air quality monitoring body) 2023 World Air Quality Report, India was declared as the third-most polluted country, following Bangladesh and Pakistan.**
- With an average annual PM2.5 concentration of **54.4 micrograms per cubic meter, India's air quality is a severe concern.**
- In 2022, India was ranked the eighth-most polluted country.

Top 50 Polluted Cities Feature Indian Metropolitans

- Out of the report's list of the **top 50 most polluted cities, a staggering 42 cities were located in India.**
- **Begusarai in Bihar topped the chart as the most polluted metropolitan area in 2023, followed by Guwahati and Delhi.**

Other Significant Findings of the Report

- The report highlighted the **air quality data gathered from 7,812 locations in 134 countries.**
- The top five most polluted countries in 2023 were **Bangladesh, Pakistan, India, Tajikistan, and Burkina Faso.**
- Seven countries achieved the WHO annual PM2.5 guideline of an average of **5 µg/m³ or less, namely Australia, Estonia, Finland, Grenada, Iceland, Mauritius, and New Zealand.**
- **Africa remains deprived of air quality data, with one-third of the population lacking access.**
- Nine out of the top ten most polluted cities belong to India.
- **China recorded a 6.3% PM2.5 rise in 2023, amounting to 32.5 micrograms after experiencing declines for five consecutive years.**
- **Canada emerged as the most polluted country in North America for the first time, with the region's 13 most polluted cities.**

Gender Pay Gap Report

- The **World Bank's recent report** highlights a persistent global issue: women continue to earn significantly less than men.
- The gap is often cited as **77 cents for every dollar earned by men, known as the "gender pay gap."**

Key points:

Definition: The **International Labour Organization (ILO)** defines the gender pay gap as the difference between the average wage levels of all working women and men.

Focus: The metric focuses on overall wage differences, not on comparing the pay of men and women in identical roles.

Study Finds Spring Season 'Disappearing' in Many Indian States

- Climate Trends agency analyzed meteorological records from 1970 to present for 33 Indian States and Union Territories.

Key observations:

Warming Trends:

- **All regions experienced net warming during winter.**
- **Manipur had the largest change in temperature since 1970 (2.3°C), while Delhi had the smallest (0.2°C).**
- Winter is the fastest warming season for 12 out of 34 regions analyzed.

Regional Variations:

- **Southern regions experienced strong warming in December and January.**
- Northern regions had weaker warming and even cooling during December and January.
- **All regions warmed in February, with Jammu and Kashmir experiencing the highest warming (3.1°C) and Telangana the lowest (0.4°C).**

About Jet Streams:

- **Definition:** Western disturbances refer to extratropical storm systems that originate in the Mediterranean region and move eastwards across the Middle East and into the Indian subcontinent.
- **Impact on Weather:** These disturbances bring precipitation, primarily in the form of rain or snow, to various parts of the Indian subcontinent, especially the northern and western regions, during the winter months.
- **Winter Precipitation:** In India, western disturbances are crucial for bringing winter rainfall to regions like northwest India, including Punjab, Haryana, Rajasthan, and parts of Uttar Pradesh and Jammu and Kashmir.
- **Temperature Regulation:** They often lead to a decrease in temperature, bringing relief from winter dryness and contributing to agricultural activities by replenishing soil moisture.

- Jet Stream Connection: Western disturbances are closely associated with changes in the polar jet stream, influencing their intensity and trajectory across the Indian subcontinent.

Meteorological Factors:

- Meteorologists attribute warming in **southern India and reduced rainfall in the north during winter to changes in Western Disturbances and the jet stream pattern.**

Implications:

- Northern India may experience abrupt transitions from cool winter-like temperatures to warmer conditions in March.
- Rajasthan showed the largest jump in warming rates from January to February (2.6°C higher).
- Nine States and territories, including Delhi and Uttar Pradesh, showed a significant January-February temperature difference, contributing to the disappearance of spring-like conditions.

World Happiness Report

- In the **World Happiness Report 2024**, Finland ranked first for the seventh consecutive year, followed by Denmark, Iceland, Sweden, and Israel in the top five.

Key points:

- India ranked 126th, while China, Nepal, Pakistan, Myanmar, Sri Lanka, and Bangladesh secured 60th, 93rd, 108th, 118th, 128th, and 129th spots, respectively.
- The World Happiness Report considers six variables: GDP per capita, social support, healthy life expectancy, freedom, generosity, and corruption.

Age, Education, and Gender: Factors Affecting Happiness

- **Older people in India** were found to have higher life satisfaction than younger individuals.
- **However, women reported lower life satisfaction than men, with the gender gap widening with age.**
- **Education and caste played crucial roles**, as older individuals with secondary or higher education and those from higher social castes experienced higher life satisfaction compared to those without formal education or from scheduled castes and tribes.

Happiness Across Age Groups: Global Insights

- The report found that **Lithuania, Israel, Serbia, Iceland, and Denmark were the top five countries for happiness in young people (aged 30 and below)**, while **Denmark, Finland, Norway, Sweden, and Iceland led**

the rankings for happiness in older individuals (aged 60 and above).

State of Global Climate Report 2023

The World Meteorological Organisation (WMO) published the new annual State of the Climate report on Tuesday (March 19), revealing that **2023 broke records as the hottest year on record.**

Key points:

Greenhouse Gases (GHGs):

- GHGs like **carbon dioxide, methane, and nitrous oxide** are responsible for trapping solar radiation in the atmosphere, leading to global warming.
- **Concentrations of these gases reached record highs in 2022**, the latest year with consolidated global values available (1984–2022), according to the WMO report.

Surface Temperature:

- The global average near-surface temperature in **2023 soared to 1.45 degrees Celsius above pre-industrial levels, the highest on record.**
- The primary reason for this increase is the rising concentrations of GHGs, although the onset of El Niño in 2023 also played a role in boosting temperatures.

Ocean Heat Content (OHC):

- Oceans have absorbed nearly **90% of the extra heat trapped by GHGs since 1971**, leading to a steady increase in their temperature.
- In 2023, the OHC reached its highest level in the 65-year observational record.

Marine Heat Waves (MHWs):

- Global oceans experienced an **average daily marine heatwave coverage of 32% in 2023**, well above the previous record of **23% in 2016.**
- MHWs occur when a region of the sea's surface temperature rises to 3 or 4 degrees Celsius above the average for at least five days.

Antarctic Sea-Ice Extent:

- Antarctic sea-ice extent hit a **record low of 1.79 million km² in February 2023**, the lowest since satellite records began in 1979.

- The extent remained at a record low from June to early November, with the annual maximum in September reaching **16.96 million km², approximately 1.5 million km² below the 1991–2020 average.**

Glacier Retreat:

- The hydrological year **2022-2023 witnessed the largest loss of ice on record for the global set of reference glaciers, especially in North America and Europe.**
- The annual mass balance of the reference glaciers dropped to a new low in 2022-2023, reaching **-1.2 m w.e.**, which represents the amount of mass gained or lost by the glacier expressed in metres of water equivalent.

India Employment Report 2024

- The **International Labour Organisation (ILO) recently released the India Employment Report 2024**, shedding light on the country's employment landscape.
- The report highlights **grim employment trends, sectoral imbalances, and pervasive informal sector dominance.**

Key Findings:

Deteriorating Employment Indicators (2000-2018)

- India witnessed a decline in crucial labor metrics, reflecting a challenging employment scenario.
- Youth unemployment remains a **significant concern, with nearly 83% of the unemployed population comprising young individuals.**
- The proportion of **unemployed educated youth almost doubled from 35.2% in 2000 to 65.7% in 2022, signaling a skill-job mismatch.**

Slight Improvements Amid Economic Distress (Post-2019)

- Key labor market indicators like **LFPR, WPR, and UR showed a slight improvement after 2019**, but their sustainability remains questionable.
- Sectoral Imbalances and Informal Sector Dominance
- Despite higher growth in non-farm employment, the sector struggles to absorb workers adequately, leading to underemployment.
- Informal employment persists, engaging **nearly 90% of the workforce.**
- Contractualization** is on the rise, with a small percentage of regular workers benefitting

from long-term contracts, contributing to job insecurity.

The report underscores the need for addressing systemic challenges, aligning skills with job market demands, and promoting formal sector growth to foster a more robust employment environment in India.

Sports News

Union Minister Anurag Singh Thakur Announces Two NCoE for Women

Union Minister for Youth Affairs and Sports, Shri Anurag Singh Thakur, has **declared the establishment of two National Centres of Excellence (NCOEs) for women in honor of International Women's Day.**

Key points:

- These NCOEs will focus on **23 disciplines prioritized for medal-winning potential in global competitions like the Asian Games and the Olympics.**
- Shri Thakur, addressing the lack of trainers, coaches, and infrastructure at the state level, emphasized the **importance of national support for sports development.**
- Collaboration between the Central government and state authorities is underway to identify key sports and allocate resources accordingly, ensuring a strategic approach to promoting sports like hockey, boxing, and athletics.**
- Efforts are being made to strengthen existing NCOEs and enhance coaching quality in collaboration with national sports federations.
- The Sports Authority of India has established 23 NCOEs across India, equipped with advanced infrastructure, sports science facilities, personalized nutrition plans, and expert coaching staff to nurture promising athletes.**

Science and Technology News

Prototype Fast Breeder Reactor - Kalpakkam

Prime Minister Narendra Modi visited the **Kalpakkam nuclear power plant** and observed the commencement of **"core loading"** at India's first indigenous Fast Breeder Reactor (500 MWe).

Key points:

- In 2003, the government approved the creation of **Bhartiya Nabhikiya Vidyut Nigam Ltd. (BHAVINI)** to operate India's most **advanced nuclear reactor**, the Prototype Fast Breeder Reactor (PFBR).
- The **PFBR**, fully designed and constructed indigenously by BHAVINI with contributions from 200 Indian industries, is a significant achievement.
- Once commissioned, **India will be the second country, after Russia, to have a commercial operating Fast Breeder Reactor.**
- The **PFBR is an advanced third-generation reactor** with inherent passive safety features, ensuring high levels of safety.

PFBR:

- The PFBR, which **breeds more material for nuclear fission than it consumes**, is a key project of India's nuclear power programme.
- Initially, the reactor will use **uranium-plutonium mixed oxide (MOX) fuel**.
- The **uranium-238 'blanket'** surrounding the fuel core will undergo **nuclear transmutation to produce more fuel**, earning the name **'Breeder'**.
- The use of **Thorium-232** as a blanket is also envisaged.
- Through transmutation, **Thorium will create fissile Uranium-233 for use as fuel in the third stage.**
- FBR is a stepping stone for the third stage, leading to the full utilization of India's abundant thorium reserves.
- After core loading, the **reactor will approach criticality, generating power subsequently. PFBRs are cooled by liquid sodium**, with 1,750 tonnes of liquid sodium to be loaded into the reactor.
- India chose the closed fuel cycle option for this reactor, where spent fuel is reprocessed and converted into indigenously-developed unique plutonium-rich mixed carbide fuel.

Graphene Innovation Center

- Recently, S Krishnan, Secretary of the Ministry of Electronics and Information Technology (MeitY), inaugurated two significant initiatives in Kerala: a **Centre of Excellence (CoE) in Intelligent Internet of Things (IIoT) Sensors** and **India's first graphene center - the India Innovation Centre for Graphene (IICG).**

About India Innovation Centre for Graphene (IICG):

- **Collaborative Initiative:** Funded by MeitY, the Government of India, the State Government of Kerala, and Tata Steel Limited, along with various industries.
- **Implementing Partners:** Centre for Materials for Electronics Technology (C-MET), Digital University Kerala (DUK), and Tata Steel Limited.
- **Objective:** To explore the science and technology of graphene and other 2D materials, fostering partnerships between industry and academia for innovative research with practical applications.
- **International Collaboration:** Aims to attract leading international research on graphene to India and bridge the gap between scientific advancements and industrial applications.
- **Facilities:** Plans to establish facilities and acquire sophisticated equipment to support research aligned with industry needs.

Main Research Areas Include:

- Large-scale and large area single/few-layer graphene production in collaboration with Indian graphene industries.
- Nanoscale carbon and other 2D material composite technology.
- Research and development of graphene optoelectronic products such as graphene intelligent windows and touch screens.
- Development of graphene-based smart integrated devices on flexible/transparent substrates with energy storage capabilities.
- Exploration of graphene energy conversion devices like supercapacitors, fuel cells, and batteries.
- Advanced lithographic techniques for device fabrication.

Read about Graphene and its Properties

MethaneSAT

- MethaneSAT, a satellite launched **aboard a SpaceX Falcon9 rocket from California, will track and measure methane emissions globally.**
- **Methane is a potent greenhouse gas, the second largest contributor to global**

warming after carbon dioxide, responsible for 30% of global heating since the Industrial Revolution.

Why Track Methane Emissions?

- Methane is **80 times more potent at warming than carbon dioxide over a 20-year period.**
- It contributes to the formation of **ground-level ozone**, which could be contributing to one million premature deaths every year.
- Fossil fuel operations, accounting for about 40% of all human-caused methane emissions, are the main culprits.

About MethaneSAT:

- **Developed by the Environmental Defense Fund (EDF) in partnership with Harvard University, the Smithsonian Astrophysical Observatory, and the New Zealand Space Agency.**
- Will orbit the Earth 15 times a day, monitoring the oil and gas sector.
- **Will provide data on methane emissions, their sources, and trends over time, enabling stakeholders and regulators to take action to reduce emissions.**

Features of MethaneSAT:

- Equipped with a **high-resolution infrared sensor and a spectrometer, enabling it to track methane concentrations as small as three parts per billion.**
- **Has a wide-camera view of about 200 km by 200 km, allowing it to identify larger emitters known as "super emitters."**

IRIS AI Robot

A pioneering advancement in education has emerged in Kerala's Thiruvananthapuram, where a school has introduced India's first AI teacher robot, Iris.

Key points:

- **Powered by Robotics and Generative AI technologies**, Iris boasts a dedicated Intel processor and coprocessor for seamless performance.
- Its Android App interface allows users to control and interact with the robot, ensuring a **personalized learning experience.**
- Not just a passive presence in the classroom, **Iris is a dynamic voice assistant and interactive learning tool.**

- Acts as an **AI voice-controlled assistant**, responding to user queries, providing explanations, and delivering educational content.
- Engages users in **interactive learning experiences through personalized content generation, quizzes, and interactive activities.**
- Equipped with a **4-wheel chassis, Iris can move freely within its environment**, facilitating interaction with users and navigating through learning spaces.
- Its hands, **featuring 5 DoF each, enable Iris to manipulate objects, perform demonstrations, and engage in hands-on learning activities.**
- The robot can **teach subjects from nursery to Class 12.**
- Currently, Iris speaks three languages - **English, Hindi, and Malayalam.**
- Created by Maker Labs.

PI AI

- **Inflection AI recently unveiled Inflection 2.5, an upgraded version of its language model, designed to enhance the functionality of its user-friendly chatbot, Pi, serving as a personal assistant.**

Key points:

- Pi is an **AI chatbot specifically designed for engaging in deep and meaningful conversations.**
- Pi is promoted as having a personality, making it more relatable and companion-like.
- Pi offers **six distinct voices**, providing depth and variety to user interactions.
- Pi is trained on billions of lines of text from the open web, enhancing its conversational abilities.

About Inflection 2.5:

- **Model Upgrade:** Inflection 2.5 features an upgraded in-house model, now comparable to global leading LLMs.
- **Signature Features:** Inflection 2.5 maintains its unique personality with added empathetic fine-tuning.
- **Real-Time Web Search:** Inflection 2.5 is equipped with world-class real-time web search capabilities, providing access to timely, high-quality information.
- **Versatile Conversations:** With the upgrade, users can engage Pi in discussions on a broad array of topics, including current events, local dining options, academic assistance (e.g.,

biology exam prep), business plan creation, programming, coding, leisure activities, and hobbies.

Oldest 'Dead Galaxy' Discovered by James Webb Telescope

- Astronomers using the James Webb Space Telescope (JWST) have found the oldest known **"dead" galaxy**.
- Named **JADES-GS-z7-01-QU**, it **ceased star formation when the universe was just 5% of its current age**.

Significance:

- This discovery surpasses **prior findings by approximately 500 million years**.
- It marks the earliest instance of a **"dead" galaxy**.
- Astrophysicist Tobias Looser likens its star formation pattern to James Dean's sudden halt, post a rapid burst of activity.
- Despite ample gas availability in the early universe, **star formation abruptly stopped**.

Characteristics:

- **Estimated to contain 100 million to one billion stars**.
- Comparable in size to the Small Magellanic Cloud but devoid of ongoing star formation.
- Existing stars **will expire without replacement, leading to a color shift from blue to yellow to red**.

Potential Causes:

- Researchers speculate on **reasons for cessation, including the influence of a supermassive black hole or gas depletion**.
- The JWST's advanced capabilities enabled a snapshot observation, leaving open the possibility of resumed star formation.

About James Webb Space Telescope:

- Launched in **December 2021**, it's the most potent space telescope constructed to date.
- Tailored for **infrared astronomy, it explores objects beyond the reach of the Hubble Space Telescope**.
- Primarily aims to **study the earliest stars and galaxies, providing insights into the universe's infancy**.
- Its inaugural image was captured in **July 2022**, leading to numerous discoveries, including ancient galaxies.

Astronomers Detect Seven Potential 'Ghost Particles' Passing Through Earth

- Scientists, using data from the **IceCube Neutrino Observatory in Antarctica**, have possibly discovered evidence for **astrophysical tau neutrinos, often termed "ghost particles"** due to their elusive nature.

Key points:

Neutrinos:

Neutrinos are the most abundant particles that have mass in the universe. Every time atomic nuclei come together (like in the sun) or break apart (like in a nuclear reactor), they produce neutrinos. A neutrino is a fermion that interacts only via weak interaction and gravity.

IceCube Neutrino Observatory:

- The **IceCube Neutrino Observatory** is the first detector of its kind, designed to observe the cosmos from deep within the **South Pole ice**.
- An international group of scientists responsible for the scientific research makes up the IceCube Collaboration.
- **IceCube searches for nearly massless subatomic particles called neutrinos.**
- These high-energy astronomical messengers provide information to probe the most violent **astrophysical sources: events like exploding stars, gamma-ray bursts, and cataclysmic phenomena involving black holes and neutron stars.**

PUSHPAK Viman

- The Pushpak, also known as the **Reusable Launch Vehicle Technology Demonstrator (RLV-TD)**, is **India's first uncrewed flying testbed** for this ambitious project that **aims to significantly reduce payload delivery costs to low Earth orbit**.
- The **Indian Space Research Organisation (ISRO)** has announced a successful landing experiment as part of its ongoing efforts to develop **reusable space launch vehicles**.

Project Cost:

- The **total cost of the Pushpak (RLV-TD) project was approximately ₹95 crore**.

Objectives of the Project:

- **Primary Objective:** Develop a TSTO reusable launch vehicle to achieve an 80% reduction in payload delivery costs to low Earth orbit.
- **Testing Objectives:** Evaluate key technologies such as hypersonic flight,

autonomous landing, powered cruise flight, and air-breathing engine propulsion.

lower than the ideal ratio of 40-50 males per 100 females”.

CoViNet

- WHO has launched **CoViNet, a global network for coronaviruses**, to coordinate **global expertise and capacities for early and accurate detection**, monitoring, and assessment of SARS-CoV-2, MERS-CoV, and other novel coronaviruses.

Key points:

- CoViNet is a network of **36 global laboratories from 21 countries across all 6 WHO regions**, with expertise in **human, animal, and environmental coronavirus surveillance**.
- CoViNet expands on the **initial focus of the WHO COVID-19 reference laboratory network**, established during the early days of the pandemic, to now include a broader range of coronaviruses such as MERS-CoV and potential new coronaviruses.
- Representatives of the laboratories met in **Geneva on 26 – 27 March to finalize an action plan for 2024-2025**, aimed at better equipping WHO Member States for early detection, risk assessment, and response to coronavirus-related health challenges.
- The CoViNet meeting brings together **global experts in human, animal, and environmental health**, using a comprehensive One Health approach to monitor and assess coronavirus evolution and spread.
- **Impact on WHO's Work:** Data generated through CoViNet will guide the **work of WHO's Technical Advisory Groups on Viral Evolution (TAG-VE) and Vaccine Composition (TAG-CO-VAC)**, ensuring that global health policies and tools are based on the latest scientific information.

Key points:

- Hangul population declined sharply since 1947 but showed a steady increase from 183 in 2015 to 261 in 2021.
- Conservation efforts include securing habitats, regulating traffic on highways, and identifying threats.
- A captive-breeding facility has been set up to further protect the species.

About:

Hangul, a subspecies of the Central Asian red deer, is primarily found in the dense riverine forests of the Valley and mountains of Jammu and Kashmir as well as northern Himachal Pradesh.

- **Habitat:** Dense riverine forests of the Valley and mountains of **Jammu and Kashmir and northern Himachal Pradesh**.
- **Threats:** Rising pollution, poaching, habitat fragmentation due to land use, and climate change.
- **Impact of Human Activities:** Studies indicate that human activities are major factors contributing to the decline in the Hangul population.
- **Conservation Status:** The International Union for Conservation of Nature (IUCN) has classified the Hangul as **Critically Endangered in the Red Data Book**.
- **Legal Protection:** The animal is listed under **Schedule I of the Indian Wildlife (Protection) Act, 1972**.

Shehbaz Sharif Becomes Pakistan's Prime Minister for the Second Time

- Shehbaz Sharif, a leader of the Pakistan Muslim League Nawaz (PML-N), has been elected as Pakistan's Prime Minister for the second time.

Key points:

- He secured 201 votes in the election held at the National Assembly, while his opponent **Omar Ayub Khan of the Pakistan Tehreek-e-Insaf (PTI)** received only 92 votes.

Misc. News

Hanguls on the Path to Recovery

- The **endangered hangul, a shy deer species native to Kashmir**, is showing signs of recovery with a healthy mating season indicating a potential increase in numbers.
- The official figure suggested there are **19.2 males per 100 females** “which is much

- In his victory speech, Shehbaz Sharif emphasized his commitment to **revive Pakistan's economy and eradicate terrorism.**
- Shehbaz Sharif vowed to maintain **cordial relations with neighboring countries based on principles of equality and not to involve Pakistan in any geopolitical "great game."**
- While emphasizing the importance of improving ties with all nations, he also raised the Kashmir issue, urging for solidarity with the Kashmiri and Palestinian causes.

Narasapur crochet lace

- The Narasapur crochet lace craft, famous in the **Godavari region of Andhra Pradesh, has received the Geographical Indications (GI) tag from DPIIT.**
- The GI tag aims to revive the craft and boost its demand, especially against competition from machine-made lace products from China.

Key points:

- Originated in **1844** when Macrae and his wife from Scotland taught the lace-making technique to local women at Dummugudem, Telangana.
- The craft is limited to **19 mandals in West Godavari** and Dr. B.R. Ambedkar Konaseema districts in the Godavari region.
- Major trade points include **Narsapur, Palacole, Razole, and Amalapuram,** involving around 15,000 women in production.

GI Tags in Andhra Pradesh

- Srikalahasthi Kalamkari
- Kondapalli Bommallu
- Machilipatnam Kalamkari
- Budithi Bell & Brass Metal Craft
- Andhra Pradesh Leather Puppetry
- Uppada Jamdani Sarees
- Tirupathi Laddu
- Guntur Sannam Chilli
- Venkatagiri Sarees
- Bobbili Veena
- Mangalagiri Sarees and Fabrics
- Dharmavaram Handloom
- Pattu Sarres And Paavadas
- Bandar Laddu
- Udayagiri Wooden Cutlery
- Durgi Stone Carvings
- Etikoppaka Toys

- Allagadda Stone Carving
- Atreyapuram Pootharekulu
- Araku Valley Arabica Coffee
- Banaganapalle Mangoes

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

After a year of Tripura's queen pineapple receiving the GI tag, 'risa,' a traditional tribal attire, has also been granted the GI recognition, as announced by Chief Minister Dr. Manik Saha in Agartala.

Historical Significance:

- The attire is claimed to have originated before the **Manikya kings' rule over Tripura,** which lasted **over 500 years starting from the 15th century.**
- Maharaj Trilochana, also known as Subhrai Raja, is said to have invented nearly 250 designs of '**rignai**' during his time for his 250 wives.

Features of Tripura's Traditional Attire:

- The traditional Tripuri female attire consists of three parts: '**risa, 'rignai,' and 'rikutu.'**
- '**Risa**' is a handwoven cloth used as a female upper garment, headgear, stole, or a present to express respect. It is wrapped around the torso twice.
- '**Rignai**' is primarily worn as the lower garment, similar to the sari of mainland India.
- '**Rikutu**' is mainly used as a wrap, 'chunri,' or 'pallu' of the Indian saree, also used to cover the heads of newly married Tripuri women.

Cultural and Religious Significance:

- '**Risa**' is worn in religious festivals such as Garia Puja by tribal communities and as a turban by men during weddings and festivals.
- Adolescent **Tripuri girls are first given a 'risa' to wear in an event called Risa Sormani, at ages 12 to 14.**
- The cloth is also used as a makeshift hanger to hold an infant on mothers' backs and is presented as a mark of honor to distinguished recipients.
- '**Risa**' is common in almost all **19 indigenous tribal communities of Tripura,** with each community having its own design.

Vaccine Preventing Six Cancers

- March 4: International HPV Awareness Day
- January: Cervical Cancer Awareness Month

Key points:

- Cervical cancer affects the cervix, the lower part of the uterus.
- HPV vaccination prevents cervical cancers.
- Cervical cancer is the **fourth most common cancer among women globally**.
- Over 300,000 women die from cervical cancer annually, about one every two minutes.
- Nine out of 10 women who die from cervical cancer live in lower- and middle-income countries.
- In India, cervical cancer is the second most common cancer after breast cancer.
- Around 500 million women above 15 in India are at risk of cervical cancer.
- Without action, cases and deaths from cervical cancer are expected to rise significantly by 2040.
- **By 2040, India is estimated to have 191,347 new cases of cervical cancer, a 54% increase from 2020.**

Prevention Strategies:

- Cervical cancer is caused by certain types of **papillomaviruses (HPV)**.
- Two major prevention strategies: **HPV vaccination and screening for precancerous lesions.**

WHO's Strategy by 2030:

Targets:

- **90% of girls** to be fully vaccinated with HPV vaccine by age 15.
- **70% of women** screened for precancerous lesions by ages 35 and 45.
- **90% of women** with detected pre-cancer or cancer lesions receive treatment.
- Emphasizes high-quality and equitable healthcare services.

El Niño 2023: Among the Strongest on Record

- The **World Meteorological Organisation (WMO)** announced on March 5 that the **2023-2024 El Niño is among the five strongest on record.**

- **Despite a weakening trend, the El Niño is expected to continue affecting the climate in the upcoming months.**

Key points:

- **Above-normal temperatures** are predicted over almost all land areas from **March to May**.
- The prevailing El Niño conditions have already caused record temperatures and extreme events worldwide, **with 2023 being the warmest on record.**
- The WMO forecasts a **60% chance of El Niño persisting during March-May and an 80% chance of neutral conditions during April-June.**
- Scientists suggest that if La Niña conditions set in by June-August, it could lead to improved monsoon rains in India compared to 2023.

About:

- **El Niño refers to the periodic warming of the ocean surface** in the central and eastern tropical Pacific Ocean, occurring every two to seven years and lasting nine to twelve months.
- It is associated with **increased rainfall in the Horn of Africa and southern U.S., and dry, warm conditions in Southeast Asia, Australia, and southern Africa.**
- According to WMO Secretary-General Celeste Saulo, **unusual high sea-surface temperatures persist globally for the past ten months, not solely explained by El Niño.**
- El Niño typically has the greatest impact on climate in its second year of development, notably in 2024.
- The current El Niño event, which began in **June 2023**, peaked in November-January, with temperatures about 2 degrees C above the 1991-2020 average.
- This El Niño event has significantly impacted societies and economies, with accurate seasonal forecasts helping countries prepare in climate-sensitive sectors like agriculture, water resources, and health.
- Early warnings of weather and climate extremes associated with El Niño have saved numerous lives.

ISRO's second rocket launchport

- Recently, Prime Minister Narendra Modi initiated the construction of **ISRO's second rocket launchport**.

Why India Needs a New Launchport?

- Increasing Commercial Launches:** India expects a surge in commercial launches with the recent policy allowing private players in the space sector.
- Relieving Pressure on Existing Facility:** To avoid overloading ISRO's Satish Dhawan Space Centre (SDSC) SHAR in Sriharikota, a new launchport is essential.
- Diverse Launch Capabilities:** The Kulasekarapattinam launchport will handle smaller payloads, allowing SHAR to focus on larger missions like lunar, Venus, and human-flight missions.
- Facilitating Private Players:** Private companies can develop space systems, build satellites, and launch vehicles, **promoting private sector involvement in space**.
- Dedicated Infrastructure:** It will provide dedicated launch infrastructure for on-demand commercial launches, ensuring smooth operations.

Why is the New ISRO Launchport in Tamil Nadu?

- Geographical Advantage:** Kulasekarapattinam's coastal location in Tamil Nadu offers a natural advantage.
- Optimized Trajectory for SSLV:** The launchport allows a direct southward trajectory, beneficial for the Small Satellite Launch Vehicle (SSLV) missions.
- Reduced Fuel Consumption:** Kulasekarapattinam's westward location saves fuel for SSLV missions compared to the eastward trajectory required from SHAR.
- Equatorial Proximity:** Located near the equator, both launchports significantly boost payload capacity due to the Earth's rotational velocity.
- Enhanced Payload Capacity:** Proximity to the equator increases velocity due to Earth's rotation, benefiting geostationary satellites.

71st Miss World pageant 2024

Krystyna Pyszkova from the Czech Republic was crowned as the new Miss World 2024 at a grand event in Mumbai, India. The previous Miss World

2022, Karolina Bielawska from Poland, crowned her successor in a magnificent ceremony.

Runners-Up and Continental Winners

- First Runner-Up: Yasmina Zaytoun of Lebanon
- Miss World Asia and Oceania: Yasmin Azaytoun of Lebanon
- Miss World Europe: Krystyna Pyszková of Czech Republic
- Miss World America and Caribbean: Aché Abrahams of Trinidad and Tobago
- Miss World Africa: Lesego Chombo of Botswana

Humanitarian Award

- The Miss World Humanitarian Award was given to **Nita Ambani for her work at the Reliance Foundation, a non-profit organization**. Julia Morley CBE, the Chairwoman of the Miss World Organization, presented her with the award.

Gold Nanoparticles

- Often referred to as '**gold bhasma**,' **gold nanoparticles are recognized for their therapeutic and beautifying properties in skincare**.
- They protect the skin from external infestations, combat aging, improve metabolism, and rejuvenate the body.

Key points:

- Gold nanoparticles (AuNPs) are **tiny particles made of gold atoms, typically ranging from 1 to 100 nanometers in size**.
- They possess unique optical, electronic, and catalytic properties due to their small size and shape.

Benefits

- Easily absorbed by the skin, they act as a **rejuvenator, potentially benefiting various systems of the human body**.
- Integral to various Ayurvedic preparations, they are known for their rejuvenating, immunomodulating, beautifying, and healing properties.
- They **slow down collagen depletion, stimulate cell regeneration, improve metabolism, and tone up muscles**.

- They strengthen underlying tissue, bones, and nerves, contributing to a youthful appearance.
- Innovative formulations like sparkling gold face washes enriched with gold nanoparticles and natural ingredients offer potent skincare solutions.

Applications

- **Biomedical:** Used in imaging, therapy, and diagnostics, serving as contrast agents in X-ray, computed tomography (CT), and photoacoustic imaging, and facilitating photothermal therapy and drug delivery.
- **Catalysis:** Exhibit remarkable catalytic activity in various chemical transformations.
- **Electronics:** Used in nanoelectronic devices, conductive inks, and sensors.
- **Environmental Remediation:** Employed in detecting and removing pollutants from water and soil.

Nyepi day

- Nyepi Day is also known as **Bali's Day of Silence**.
- It marks the **Hindu New Year according to the Balinese calendar**.
- The majority of Bali's population follows Hinduism.

Significance

- Nyepi Day is a holy day aimed at purifying the island from the previous year's negativity.
- It sets the tone for a positive and prosperous new year.

Observance

- Nyepi is observed with **silence, fasting, and meditation**.
- All lights and sounds are turned off, and all activities cease.
- The day is spent in silence, self-reflection, and meditation.
- Traffic comes to a halt, and the island appears deserted.

Kochrab Ashram

- Prime Minister Narendra Modi inaugurated the redeveloped **Kochrab Ashram in Ahmedabad, Gujarat, marking the 94th anniversary of the Dandi March**.

- Kochrab Ashram was Gandhi's first home in India after returning from South Africa in **1915**.
- Modi also revealed the master plan for the Rs 1,200 crore Gandhi Ashram Memorial and Precinct Development Project.

Future Plans for Gandhi Ashram Memorial

- The master plan aims to expand the ashram to 55 acres, restoring and conserving 36 buildings, including Gandhi's residence, Hriday Kunj.
- It includes new structures for administration facilities, visitor amenities, interactive workshops, and public utilities.
- An orientation center, a library, and archive buildings will be built to safeguard and disseminate Gandhi's ideas.

International Day of Mathematics

Context:

Pi Day, celebrated annually on March 14, honors the mathematical constant pi (π), chosen due to the significance of the date's digits (3/14 mirroring the first three digits of pi).

Key points:

- In 2009, the U.S. House of Representatives officially recognized Pi Day.
- UNESCO declared Pi Day as the International Day of Mathematics in November 2019.
- **Origins:** Founded by Larry Shaw in 1988 at the Exploratorium in San Francisco.

Pandavula Gutta

- Recently, Pandavula Gutta has been officially recognized as the **sole Geo-heritage site in Telangana**.

About:

- Located in the **Jayashankar Bhupalpally district, this geological marvel predates the Himalayan hills**.
- Discovered in **1990**, it boasts numerous prehistoric habitation sites, showcasing a rich history from the mesolithic to medieval times.
- The site is renowned for its **abundance of paintings, rock shelters, and evidence of human habitation**.
- The cave paintings, in **green, red, yellow, and white pigments**, feature geometrical designs and impressions.
- These paintings provide a **unique insight into prehistoric rock art**, found on cave walls, ceilings, and boulders.

- Noteworthy depictions in the rock art **include various wildlife such as bison, antelope, tiger, and leopard.**
- Additionally, symbols like the **swastika, along with shapes such as circles and squares, and weapons like bows, arrows, swords, and lances, are present.**

Geo heritage site:

- Geo-heritage sites, like Pandavula Gutta, are geologic features with **significant scientific, educational, cultural, or aesthetic value.**
- They may feature textbook geologic landscapes, unique rock or mineral types, rare fossils, or other geologic characteristics relevant to education and research.
- Such sites can also hold **cultural or historical significance**, with landscapes that played a role in past events.
- **Aesthetically, these sites can be visually captivating due to their geologic features or processes, often attracting tourists and providing economic benefits to the local area.**

Ethanol 100

- Petroleum Minister Hardeep Singh Puri unveiled **Ethanol 100 fuel, offering cleaner emissions and higher efficiency.**

Key points:

- **Cleaner and Greener Alternative:** Ethanol 100 offers a cleaner alternative to traditional gasoline, with lower emissions of greenhouse gases and pollutants, contributing to combating climate change and improving air quality.
- **High-Octane Rating:** With a high-octane rating typically between 100-105, Ethanol 100 is suitable for high-performance engines, ensuring better efficiency and power output while minimizing environmental impact.
- **Versatility:** Ethanol 100 can be utilized in various vehicles, including flex-fuel vehicles (FFVs) designed to run on gasoline, ethanol, or any blend of the two, highlighting its versatility and potential to become a mainstream fuel option.
- **Increased Availability:** The launch of Ethanol 100 expands its availability to **183 retail petrol outlets across Maharashtra, Karnataka, Uttar Pradesh, New Delhi, and Tamil Nadu, with plans for further expansion.**
- **Towards Blending Targets:** This initiative aligns with the goal of achieving 20% ethanol

blending by 2025-26, a target that has seen significant progress with the increased availability of ethanol blends like **E20 and now Ethanol 100.**

Barberton Greenstone Belt

- A new study has **unearthed evidence of some of the earliest known earthquakes in 3.3-billion-year-old rocks**, revealing insights into the early days of Earth's plate tectonics.
- **The rocks also hint at the conditions present when life first evolved on our planet.**

About:

- The study focused on the **Barberton Greenstone Belt, a complex geological formation in southern Africa, which holds one of the most extensive records of Earth's history between 3.2 billion and 3.6 billion years ago.**
- Researchers discovered **similarities between the Barberton Greenstone Belt and younger rocks in New Zealand** that experienced earthquake-triggered submarine landslides along the Hikurangi subduction zone.
- The findings suggest that **massive earthquakes shaped the Barberton Greenstone Belt over millions of years, indicating that plate tectonics and associated geological events played a significant role in the early history of Earth.**
- While there is no consensus on when plate tectonics began, the researchers believe that earthquakes and the energy they released could have contributed to creating conditions suitable for the emergence and survival of life.

Nana Jagannath Shankarseth

- Recently, the Maharashtra cabinet made a significant decision regarding **Mumbai Central station.**
- **They decided to request the Ministry of Railways to rename Mumbai Central station after Nana Jagannath Shankarseth.**

About:

- Born on **February 10, 1803**, in a wealthy Brahmin family in Murbad, Thane district.
- He took over the family business at a young age after his father's demise in 1822.
- Inspired by **Sir Jamsetjee Jeejeebhoy**, he became a **renowned social reformer, educationist, and philanthropist.**

- Often described as the **"architect"** of Mumbai (Bombay), he made significant contributions to various sectors, laying a strong foundation for the city.
- He earned the **goodwill of both Indians and the British and became the first Indian to be nominated to the Legislative Council of Bombay.**

Shankarseth's Contributions

- He founded the Native School of Bombay, later renamed as the Bombay Native Institution and then the Board of Education, which evolved into **Elphinstone College.**
- Shankarseth, along with Sir Jamsetjee Jeejeebhoy, was part of the committee that gave **impetus to the first train project in India, which ran between Boribunder and Thane on April 16, 1853, undertaken by the Great Indian Peninsular Railway Company.**

Battle of Okinawa

- The **FBI(Federal Bureau of Investigation) returned 22 looted artefacts to Japan** after a Massachusetts family discovered them while going through their late **World War II veteran** father's belongings.

Key points:

- The artefacts, missing for nearly 80 years, date back to the **18th and 19th centuries.**
- They include six portraits, a **hand-drawn 19th-century map of Okinawa**, and various pottery and ceramics, representing a significant piece of Okinawan history.

About:

- The Battle of Okinawa, which took place from **April 1 to June 22, 1945, stands as the Pacific Theater's most extensive amphibious assault of World War II.**
- This significant event signaled the start of the Japanese Empire's decline and played a pivotal role in paving the way for the Allied triumph in the war.

Ramgarh Crater as Geo-Heritage Sites

Situated in Baran district, Rajasthan, Ramgarh Crater is designated as a geo-heritage site by the Rajasthan government.

Key points:

- Formed approximately **165 million years ago due to a meteor impact, it is a 3-kilometer diameter crater contributing significantly to the region's ecological balance and biodiversity.**

- Recognized as the Ramgarh Conservation Reserve, it is safeguarded under the **Wildlife (Protection) Act, 1972, to preserve its unique ecological and cultural heritage.**

- The presence of the Pushkar Talab complex within the crater is acknowledged as wetlands under the Wetland (Conservation & Management) Rules, 2017.

Geo-Heritage Site/National Geological Monuments:

- **Geoheritage sites have significant scientific, educational, cultural, or aesthetic value due to their geological features.**
- They often showcase unique rock formations, fossils, or landscapes crucial for education, research, cultural significance, or visual appeal.
- The Geological Survey of India (GSI) and State governments safeguard these sites, declaring them as geo-heritage sites/national geological monuments.
- **Established in 1851, GSI operates under the Ministry of Mines, headquartered in Kolkata, focusing on national geoscientific information creation and mineral resource assessment.**

Lianas

- **Lianas, woody vines that climb trees, restrict tree growth by competing for sunlight in the canopy.**
- They have lower carbon sequestering capacity compared to trees, which increases the threat to carbon storage.
- **Lianas can accelerate global warming by reducing forests' efficacy as carbon sinks and disrupting carbon cycles.**

Challenges:

- **Lianas grow in disturbed forests and at higher temperatures, often outcompeting trees for sunshine and resources.**
- Their resilience to climatic stress gives them a competitive advantage, especially in areas with more extreme conditions due to global warming.
- **Increased lianas can harm tree growth, reduce regeneration, and disrupt nutrient cycles, making forests less resilient to future disturbances.**

Basmati Rice

India's 'protected' basmati varieties have been renamed and cultivated in Pakistan, leading to a demand for legal action by IARI.

Key points:

- Basmati is a long, slender-grained aromatic rice grown in the Indian subcontinent.
- It is mainly cultivated in **India, Pakistan, Sri Lanka, and Nepal.**
- The term '**basmati**' comes from the Hindi word **bāsmatī**, meaning '**fragrant.**'
- As of 2019, India dominated the international basmati rice trade, accounting for **65%**.
- Pakistan accounted for the remaining **35%**.

Geographical Indication in India:

- Basmati rice production in India is geographically indicated in several states.
- These states include Uttarakhand, Bihar, Punjab, Haryana, Himachal Pradesh, Delhi, Western Uttar Pradesh, Orissa, and Jammu and Kashmir.

IARI:

- The **Indian Agricultural Research Institute (IARI)**, also known as the **Pusa Institute**, is India's national institute for agricultural research, education, and extension.
- It was established in **1905 in Pusa, Bihar** by the Government of India with financial assistance from American philanthropist Henry Phipps, Jr.. After an earthquake in 1934, the institute moved to New Delhi in 1936.
- The **IARI conducts basic and strategic research to understand processes and develop technologies for conservation agriculture, precision farming, and soil testing.**
- The IARI also provides national leadership in agricultural research, technology assessment, and transfer.

Bima Sugam

- The **Insurance Regulatory and Development Authority of India (IRDAI)** has approved the establishment of **Bima Sugam— an online insurance marketplace—**for purchasing, selling, and servicing insurance policies, as well as settling claims.

About:

- **Bima Sugam is an e-commerce platform** for insurance companies to sell their products.

- It will onboard all **companies offering life and non-life insurance products under one roof.**
- Bima Sugam aims to provide an '**end-to-end**' digital journey for policyholders, including buying insurance policies, renewals, claim settlements, portability, and grievance redressal.
- The marketplace serves as a one-stop solution for all insurance stakeholders, promoting transparency, efficiency, and collaboration across the entire insurance value chain.

Atlantic "Ring of Fire"

A recent study conducted by scientists in **Portugal** has **uncovered a subduction zone beneath the Gibraltar Strait** between **Spain and Morocco**, which could potentially **lead to the Atlantic Ocean's gradual disappearance in the distant future.**

Key Findings:

- The study has revealed that the **African plate is slowly pushing beneath the Eurasian plate**, initiating a process that may take an estimated **20 million years to reach its final stage.**
- The African plate is currently in the early stages of subduction beneath the Eurasian plate, **causing a gradual narrowing of the Gibraltar Strait.**
- As the process continues, a new subduction system called the "**Ring of Fire**" will form in the Atlantic.
- The **Ring of Fire will initially extend approximately 125 miles** and could eventually grow to over 500 miles in length, ultimately resulting in the **closure of the Atlantic Ocean.**

Ring of Fire:

- The "**Ring of Fire**" is a **chain of tectonic plates** that collide with one another at their junctions.
- **Subduction zones mark the areas on Earth where two crustal plates meet**, with one sliding beneath the other, causing significant geological changes over millions of years.
- While this geological process is **extremely slow, taking place over millions of years**, the study offers fascinating insights into the potential future geography of our planet and the powerful forces that shape it.

Delisting of Monuments

- The Archaeological Survey of India (ASI) has decided to **delist 18 centrally protected**

monuments previously categorized as "untraceable."

- These monuments will no longer receive conservation, protection, or maintenance from the ASI, and activities near them will be exempt from certain restrictions.

Reason for Delisting

- The ASI has opted to delist these 18 monuments due to their assessed lack of national importance. Some notable monuments affected by the delisting include:
 - Kos Minar No.13 at Mujessar village in Haryana
 - Barakhamba Cemetery in Delhi
 - Gunner Burkill's tomb in Jhansi district
 - A cemetery at Gaughat in Lucknow
 - The Telia Nala Buddhist ruins in Varanasi

About:

- The ASI is responsible for protecting and preserving monuments and archaeological sites of national importance.
- This duty is mandated by acts such as The Ancient Monuments Preservation Act, 1904, and The Ancient Monuments and Archaeological Sites and Remains Act, 1958 (AMASR Act).

Great Indian Bustard

- The Supreme Court has recently appointed a seven-member committee to address the challenge of balancing conservation efforts for the Great Indian Bustard (GIB) with the promotion of renewable energy in the same regions.

About:

- The Great Indian Bustard (*Ardeotis nigriceps*), also known as the Indian bustard, is a large bird found in the Indian subcontinent.
- It has a horizontal body and long bare legs, resembling an ostrich.
- These birds are often found in the same habitat as blackbuck and are protected under the Wildlife Protection Act of 1972 in India.
- Formerly widespread in India and Pakistan, the Great Indian Bustard is now critically endangered, listed as such on the IUCN Red List since 2011.
- The population has drastically declined, with possibly fewer than 250 individuals remaining as of 2008.

- The main threats to the species are hunting and habitat loss.
- Historically, they were hunted for meat and sport, and poaching remains a concern.
- Increased agriculture due to irrigation projects like the Indira Gandhi Canal has also led to habitat loss.

Efforts of Conservation:

- To address these challenges, the state of Rajasthan launched "Project Great Indian Bustard" on World Environment Day in 2013.
- The project aims to protect and manage bustard breeding grounds within protected areas and outside by fencing them off and providing secure breeding enclosures.

Ramakrishna Mission

- Swami Smaranananda Maharaj, the president of Ramakrishna Math and Ramakrishna Mission, passed away in Kolkata.

About:

- The Ramakrishna Mission, established in 1897 by Swami Vivekananda, is a philanthropic organization rooted in the principles of karma yoga, emphasizing selfless service to God.
- Its multifaceted work includes healthcare, disaster relief, rural management, tribal welfare, education, and cultural activities.
- Additionally, the mission provides religious and spiritual teachings and publishes numerous important Hindu texts.
- The organization primarily promotes Advaita Vedanta and advocates four yogic ideals: Jnana, Bhakti, Karma, and Raja yoga.
- The Ramakrishna Movement, also known as the Vedanta Movement, was initiated by Swami Vivekananda to disseminate the message of Vedanta and uplift the underprivileged. Its motto is "for one's own liberation and for the good of the world."

Brucethoa ISRO

Researchers have recently identified a new species of deep-sea isopod off the Kollam coast in Kerala, naming it *Brucethoa ISRO* in honor of the Indian Space Research Organisation (ISRO).

Key points:

- This tiny crustacean, part of the *Brucethoa* genus, was found living as a parasite on the Spinyjaw greeneye fish.

- It is the second species from this genus to be discovered in India.

Isopods:

- Isopods, which belong to the order "Isopoda," are invertebrates within the larger group of crustaceans, which includes crabs and shrimp.
- They are incredibly diverse, with approximately 10,000 known species found in various habitats worldwide, ranging from mountains and deserts to the deep sea.
- Despite their diversity, isopods share common features.
- They all possess two pairs of antennae, compound eyes, and four sets of jaws.
- Their bodies consist of seven segments, each with its own pair of walking legs.
- Additionally, isopods have a short abdominal section composed of six segments, known as "pleons," with one or more segments fused into a tail section.
- About half of all isopod species live in the ocean, while others inhabit coastal and shelf waters, either moving along the seafloor or residing in plants.
- While most isopods are free-living, some marine species are parasitic, living on other animals.

Philippines

- India has voiced support for the sovereignty of the Philippines, a move that has drawn a reaction from China.

About:

- The Philippines, officially known as the Republic of the Philippines, is an archipelagic nation in Southeast Asia, comprising 7,641 islands with a total land area of 300,000 square kilometers.
- The country is divided into three main geographical regions from north to south: Luzon, Visayas, and Mindanao.
- With a diverse population, it is the world's twelfth-most-populous country.
- Manila serves as the capital, while Quezon City is its most populous city.

Border Countries:

- Geographically, the Philippines is bordered by the South China Sea to the west, the Philippine Sea to the east, and the Celebes Sea to the south.

- It shares maritime borders with Taiwan to the north, Japan to the northeast, Palau to the east and southeast, Indonesia to the south, Malaysia to the southwest, Vietnam to the west, and China to the northwest.
- Due to its location as an island nation on the Pacific Ring of Fire and its proximity to the equator, the Philippines is prone to earthquakes and typhoons.

Key points:

- Economically, the Philippines has a mixed economic system that combines private freedom with centralized economic planning and government regulation.
- The country is a member of the Asia-Pacific Economic Cooperation (APEC) and the Association of Southeast Asian Nations (ASEAN).
- The Philippines has experienced significant economic growth in recent decades, with an average annual growth rate of approximately 6% since 2010.
- In 2023, the Philippine economy was estimated to be \$435.67 billion, with a per capita income of \$12,127 in 2024.
- The dispute between China and the Philippines centers on China's claim to the Spratly Islands, which it asserts dates back centuries.
- China contends that almost the entire South China Sea, including the Spratlys and other island groups, falls within its sphere of influence, a claim strongly disputed by the Philippines and Vietnam, among others.

Afanasy Nikitin Seamount

- India has applied to the International Seabed Authority (ISA) in Jamaica for rights to explore two vast tracts in the Indian Ocean seabed.
- One of these regions, the Afanasy Nikitin Seamount (AN Seamount), is rich in cobalt and is also claimed by Sri Lanka under different laws.
- India's application is partly motivated by reports of Chinese vessels conducting reconnaissance in the same area.

About:

- The AN Seamount is a structural feature in the Central Indian Basin, located approximately 3,000 km from India's coast, and contains rich deposits of cobalt, nickel, manganese, and copper.

- Countries have exclusive rights up to 200 nautical miles from their borders, including the underlying seabed.
- Regions beyond this limit are considered **'high sea' and open for exploration with ISA permission.**
- The ISA is currently reviewing India's application for cobalt-rich ferromanganese crust, seeking clarification due to the overlap with Sri Lanka's claim.
- India presented **scientific evidence in Jamaica to support its exploration claims, with a decision expected later this year.**
- India has also applied for permission to explore the **Carlsberg Ridge for polymetallic sulphides, which are rich in copper, zinc, gold, and silver.**
- India has staked a claim for its **continental shelf up to 350 nautical miles** but awaits approval, having previously secured exploration rights in the Central Indian Ocean.

Seamounts

- Seamounts are **underwater mountains with pointed summits** that rise from the **seafloor but do not reach the ocean's surface.**
- They are **volcanic in origin** and can be **3,000-4,500 meters tall.**
- The Emperor Seamount, an extension of the Hawaiian Islands in the Pacific Ocean, is a well-known example.

Guyots:

- Guyots are **flat-topped seamounts that show evidence of gradual subsidence** through stages to become flat-topped submerged mountains.
- It is estimated that more than **10,000 seamounts and guyots exist in the Pacific Ocean alone.**

Mid-oceanic ridge

- A mid-oceanic ridge is composed of **two chains of mountains separated by a large depression.**
- The mountain ranges **can have peaks as high as 2,500 meters**, and some even reach above the ocean's surface.

ISA:

- The **International Seabed Authority (ISA) is an autonomous international organization established in 1994.**
- It regulates **mining and related activities in the international seabed** beyond national

jurisdiction, covering most of the world's oceans.

- The ISA was **established upon the entry into force of the 1982 United Nations Convention on the Law of the Sea (UNCLOS)**, which sets out international law regarding territorial waters, sea lanes, and ocean resources.
- The ISA is **responsible for granting licenses for the exploration and exploitation of mineral resources** in the international seabed, regulating activities related to these endeavors, and ensuring compliance with international standards and guidelines.
- It also promotes **fair and efficient utilization of mineral resources, ensuring benefits for all stakeholders involved.**

Southern Africa's SEAMA Ecoregion

- The **South East Africa Montane Archipelago (SEAMA)** is a **newly recognized ecoregion in southern Africa.**
- Recent studies reveal a **rich biodiversity in SEAMA, yet it faces urgent conservation challenges.**

Life in SEAMA:

- SEAMA is a **newly recognized ecoregion stretching from northern Mozambique to Mount Mulanje in Malawi.**
- The region is home to **numerous previously undocumented species, including 127 plants, 45 vertebrates, and 45 invertebrates.**
- SEAMA boasts of **two endemic genera of plants and reptiles and 22 strictly endemic reptile species, mostly threatened by habitat loss.**

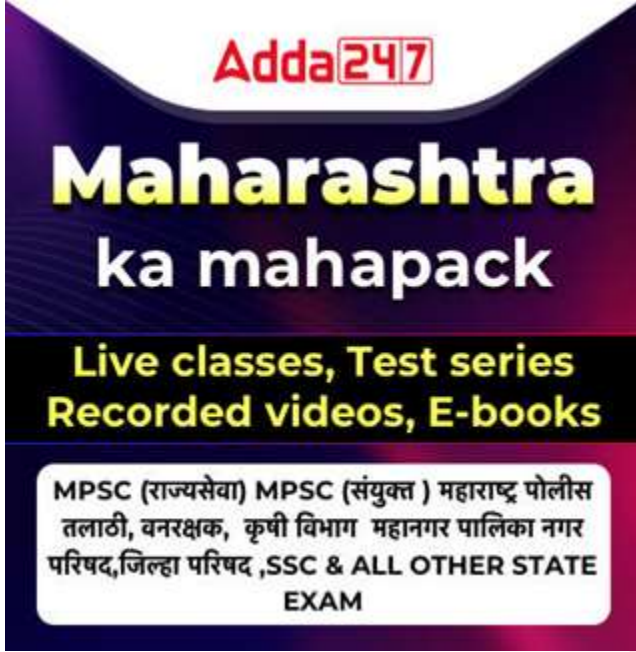
Conservation Challenges:

- Despite its ecological significance, SEAMA is experiencing **one of the highest deforestation rates in Africa.**
- Since 2000, SEAMA has **lost 18% of its primary humid forest cover, with rates reaching up to 43% in some areas.**
- The major causes of deforestation include **slash-and-burn agriculture and charcoal production, necessitating conservation agriculture and sustainable livelihood alternatives.**

Conclusion:

- SEAMA's diverse ecosystems and species highlight its **global biological importance, warranting immediate conservation efforts**

to mitigate threats and preserve its rich biodiversity.



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