NEXT IAS

DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

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Table of Content

News In Short

DEGRADATION OF SOCIAL PLATFORMS

Context

- **'Enshittification'** is a term increasingly being used to **describe how your digital experiences, services, and transactions have become worse over time.**

What is Enshittification?

- In 2022, the Canada-born author and activist **Cory Doctorow** coined the term "enshittification."
- It refers to the **systematic decline in quality and fairness** of digital platforms due to **profit-maximizing behaviour by tech companies.**
- It occurs when platforms:
  - Start by prioritizing users to attract a large base.
  - Shift focus to business customers (advertisers, sellers, partners) to maximize revenue.
  - Finally exploit both users and business clients to extract maximum profit — leading to decline or collapse.

How Platforms Use Enshittification?

- **Meta-owned Facebook:** It was originally meant to serve users and help them stay connected, users are now locked in along with advertisers and publishers.
- **Instagram** often crowd the user's feed **with advertisements and recommended content** without consent.
- **YouTube has degraded its free experience** with multiple unskippable ads pushing users to opt for its ad-free YouTube Premium subscription service.
- **X (formerly Twitter)** where verified noteworthy figures could connect with audiences.
  - Now, **free blue tick verification** could be bought by anyone which drastically impacts **Authentic communication.**
- **Google's browser** now uses Generative AI-powered overviews that display AI-generated summaries from various sources first, often increasing the risk of errors.

Concerns

- **Data monopoly:** Platforms manipulate data for profit rather than user welfare.
- **Distortion of competition:** Dominant platforms squeeze smaller competitors by favouring their own services.
- **Loss of trust:** Users doubt authenticity and neutrality of digital services, as algorithms manipulate what users see, limiting choice and agency.
- **Digital divide deepens:** Quality information and ad-free experiences become a privilege.
- **Privacy and Data Exploitation:** Excessive data collection and tracking are used to maximise ad revenue.
- **Manipulation:** Search results and recommendations become biased towards the platform's own interests.
- **Digital Fatigue:** Constant ads, algorithmic manipulation, and reduced authenticity create frustration. Users disengage or experience "digital burnout."
- **Long-term Platform Instability:** When platforms overexploit both users and businesses, they eventually lose credibility and collapse — a "digital decay" cycle.

Government Initiatives

- **Digital Competition Bill (Draft, 2024):** It aims to prevent anti-competitive practices by Big Tech firms and seeks to curb self-preferencing, data misuse, and gatekeeping by large digital platforms.
- **Digital Personal Data Protection (DPDP) Act, 2023:** It establishes data protection rights for users and mandates consent-based data processing and penalties for misuse.
- **Competition (Amendment) Act, 2023:** It strengthens powers of the Competition Commission of India (CCI).
  - Targets digital market monopolies and enables faster investigation into anti-competitive conduct.
- **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021:** Mandates grievance redressal, traceability, and transparency in content moderation. It also ensures platform accountability for user harm or misinformation.
- **Open Network for Digital Commerce (ONDC):** It is designed to democratize e-commerce by creating an open, interoperable network.
- **Digital India Initiative:** Focuses on inclusive digital access, cybersecurity, and digital literacy — empowering citizens to make informed digital choices.

Way Forward

- To curb enshittification, governments must strengthen digital competition and data protection laws, ensuring transparency and accountability in algorithms.
- Platforms should adopt user-centric design principles and promote ethical AI practices.

- Encouraging open-source alternatives and interoperable digital ecosystems can reduce monopoly control.
- Finally, enhancing digital literacy and consumer awareness will empower users to make informed choices online.

Source: TH

TOWARDS UNIVERSAL HEALTHCARE

In News

- Investing in healthcare boosts resilience and productivity, helping India achieve affordable universal care and a **Viksit Bharat by 2047.**

Universal Health Coverage (UHC)

- Universal health coverage (UHC) means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship.
- It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation and palliative care across the life course.
- It is a central goal of the **2030 Sustainable Development Agenda,** reaffirmed by global leaders in **2019** as essential to sustainable development.
- The WHO aims to extend UHC to 1 billion more people by **2025**, alongside improving health emergency protection and overall well-being.

Why UHC Is Needed?

- India's vast and diverse population faces significant health disparities. With over 60% of the population dependent on government welfare schemes for basic needs, access to affordable healthcare becomes a critical determinant of well-being.
- It aims to ensure equitable access to **essential health services across rural and urban areas.** UHC aims to **reduce out-of-pocket expenditure**, which often pushes families into poverty.

Various Steps

- The **National Health Mission**—launched in 2005—establishes community-owned and decentralised health systems to provide accessible, affordable, and quality healthcare services to vulnerable populations.
- The Government of India launched the **Ayushman Bharat - Pradhan Mantri Jan Aarogya Yojana (AB-PMJAY)** to achieve universal health care.
  - It is the **world's largest public healthcare scheme** with crores of vulnerable Indian families enrolled in it.
- **The National Health Policy 2017** addresses changing healthcare challenges in India as technology advances, socio-economic conditions evolve, and disease patterns shift — such as the rise of lifestyle diseases like non-communicable diseases alongside traditional infectious diseases. In line with this policy,

Challenges

- Uneven distribution of healthcare infrastructure across states and districts.
- Shortage of skilled health workers, especially in rural and tribal regions.
- High out-of-pocket spending, which still accounts for a significant portion of health expenses.
- India faces rising non-communicable diseases alongside infectious diseases.
- While platforms like eSanjeevani offer telemedicine, many lack access to reliable internet or devices.

Suggestions and the Way Ahead

- Achieving Universal Health Coverage (UHC) is vital for India's moral, economic, and national progress.
- To reach this goal, India must expand coverage to all ages, especially the elderly, strengthen primary healthcare, build public-private partnerships, ensure sustainable health financing, and promote health literacy and preventive care to create an inclusive and resilient health system.

Source: PIB

THE BLUE CITIES PARADIGM: REIMAGINING INDIA'S MARITIME FUTURE

Context

- Around the world, leading maritime hubs are **transforming into "blue cities".**

What are Blue Cities?

- Blue Cities refer to **coastal or port cities** that integrate ocean-based economic activities with **sustainable urban development.**
- The concept is rooted in the idea of a **"Blue Economy"** — using ocean resources for economic growth while preserving the health of marine ecosystems.
- **Key Features of Blue Cities:**
  - **Sustainable Maritime Economy:** Promote activities like shipping, fisheries, offshore

energy, and tourism in an eco-friendly manner.
    - **Resilient Coastal Infrastructure:** Build ports and coastal infrastructure resilient to sea-level rise and extreme weather.
    - **Marine Ecosystem Protection:** Conserve mangroves, coral reefs, and wetlands that support biodiversity and protect shorelines.
    - **Circular and Low-Carbon Practices:** Encourage waste recycling, renewable energy, and low-emission logistics.
    - **Digital and Smart Technologies:** Use digital tools, data, and automation to improve maritime operations and urban management.

Opportunity for India

- India has a 11,098.81 km coastline, 13 major ports, 200+ non-major ports.
- **Global decarbonisation drive (IMO 2050) requires $1–3 trillion investment** — a major opportunity for India to integrate green shipping finance and innovation.
    - IMO is an international effort to reduce greenhouse gas emissions, primarily by shifting away from fossil fuels to cleaner energy sources like solar and wind
- India can link **GIFT City's financial tools with port development** to fund green and digital maritime projects.
- India's Pilot Blue Cities
    - **Mumbai:** Combine port logistics with sustainable finance and innovation.
    - **Vizag:** Naval and shipbuilding expertise.
    - **Chennai:** Tech and advanced manufacturing integration.
    - **Mundra:** Private investment and clean-energy logistics.
    - **Kochi:** Maritime services and offshore renewables.
- Together, they can form a **national network of blue cities showcasing urban-maritime integration.**

India's Port Sector

- India has **major ports** (central government controlled) and **minor ports** (state government controlled).
    - **13** Major Ports
    - **217** Non-major (Minor/Intermediate) Ports
- The ports are managed by the **Ministry of Ports, Shipping and Waterways**.
- **Strategic Position:** Located along the world's busiest shipping routes, India is a key trading hub and a rising global power.
- **India's Maritime Sector Overview**: Handles 95% of India's trade by volume and 70% by value, with port infrastructure critical to the economy.
- **Port Ranking Improvement:** India's port ranking improved from **54th in 2014 to 38th in 2023,** with **nine Indian ports now in the top 100 globally.**
- **Growth in Cargo-handling:** Between 2014-15 and 2023-24, major ports increased their annual cargo-handling capacity by 87.01%.
- **Maritime Sector's Importance:** India is the **16th-largest maritime nation**, occupies a key position in global shipping, with major trade routes passing through its waters.
- **Future Goals:** India has outlined investments of **US$ 82 billion in port infrastructure projects by 2035** to bolster the maritime sector.
    - India plans to establish a new shipping company to **expand its fleet by at least 1,000 ships within a decade.**

Challenges

- **Infrastructure Gaps:** Inadequate port infrastructure and outdated facilities at some ports, limiting capacity and efficiency.
- **Congestion:** High traffic volumes at major ports leading to delays, increased turnaround times, and reduced productivity.
- **Environmental Concerns:** Pollution and sustainability issues, including emissions from ships and port operations.
- **Logistics Bottlenecks:** Inefficient transport connectivity between ports, roads, and railways, impacting smooth cargo movement.
- **Global Competition:** Rising competition from other global maritime hubs, necessitates continuous investment and modernization.

Initiatives by the Government

- **Sagarmala Programme:** Focuses on leveraging India's coastline and of navigable waterways.
    - Supports port infrastructure, coastal development, and connectivity.
    - Financial aid for projects like coastal berths, rail/road connectivity, fish harbours, and cruise terminals.
- **Maritime India Vision 2030 (MIV 2030):** Aiming for India to become a top 10 shipbuilding nation by 2030 and create a world-class, efficient, and sustainable maritime ecosystem.
    - Includes 150+ initiatives across ten key maritime sectors.
- **Inland Waterways Development:** 26 new national waterways identified by the Inland Waterways Authority of India (IWAI).

- Provides alternative, sustainable transport, easing road/rail congestion.

- **Green Tug Transition Program (GTTP):** Aims to replace fuel-based harbour tugs with eco-friendly, sustainable fuel-powered tugs.
  - Transition to be completed by 2040 across major ports.
- **Sagarmanthan Dialogue:** An annual maritime strategic dialogue to position India as a global center for maritime conversations.
- **Maritime Development Fund:** 25,000 crore fund for long-term financing to modernize ports and shipping infrastructure, encouraging private investment.
- **Shipbuilding Financial Assistance Policy (SBFAP 2.0):** Modernized to help Indian shipyards compete with global giants.

Source: ORF

SHOULD INDIA ALLOW REGULATED STABLECOINS?

Context

- Rupee-backed stablecoins regulated by the Reserve Bank of India (RBI) could revolutionize payments, remittances, and cross-border transactions, if the regulatory framework aligns with innovation.

What Are Rupee Stablecoins?

- **Stablecoins are cryptocurrencies** designed to maintain a fixed value by **being tied to a reserve asset** — typically fiat currencies like the US dollar or Indian rupee.
- A rupee stablecoin aims to **be pegged 1:1 to the Indian rupee,** offering the **benefits of crypto** (speed, programmability, global reach) without the volatility.
- Stablecoins are built for utility, not investment unlike speculative crypto assets. They can be used for:
  - Instant domestic and international payments;
  - Smart contract-based financial services;
  - Reducing transaction costs in remittances;

India's Crypto Journey

- **2018**: RBI barred banks from dealing in crypto assets, a move later struck down by the **Supreme Court**.
- **Tax on Virtual Assets (2022):** It was interpreted by many investors as a signal of gradual legitimacy.
- A recent **high court ruling** recognizing **crypto assets as 'property'** further blurred the line between prohibition and acceptance.

Why India Needs Rupee-Pegged Stablecoins

- **Domestic Integration:** They could easily integrate with the **Unified Payments Interface (UPI)**, enhancing convenience.
- **Global Utility:** Stablecoins could streamline **cross-border payments,** once interoperable with foreign CBDCs.
- **Smart Functionality:** Programmable tokens could power **AI-directed financial systems**, executing 'smart contracts' managing welfare disbursements, or automating compliance.
- Rupee stablecoins could:
  - Streamline remittances, especially from the Gulf and Southeast Asia;
  - Boost rupee internationalization, allowing global users to transact in INR;
  - Support Web3 innovation, giving Indian startups programmable money tools;

Risks and Roadblocks

- **Currency Substitution:** Widespread use of stablecoins could undermine the rupee's dominance.
- **Regulatory Clarity:** India's crypto policy remains ambiguous, with high taxation and no formal licensing framework for crypto businesses.
- **Trust & Transparency:** Issuers must maintain full reserves and undergo regular audits to ensure stability.
- **Other challenges** like high crypto taxes (30% gains, 1% TDS) discourage adoption.

Managing the Monetary Risks

- **Monetary Control:** Large-scale private token issuance could distort the RBI's view of the money supply.
- **Financial Stability:** Promotional incentives might **draw deposits away from banks**.
- **Regulatory Oversight:** Ensuring **1:1 asset backing** and **reporting of forex conversions** would be essential.
  - The **US Genius Act of 2025**, which allows stablecoins backed by sovereign assets under regulatory supervision, offers a potential model — but India needs to weigh its unique monetary and developmental context before emulating it.

RBI's Role: Regulator or Innovator?

- The RBI has already launched its **Central Bank Digital Currency (CBDC),** the e-rupee, which shares some characteristics with stablecoins.
- Stablecoins can be **issued by private entities under regulatory oversight,** while CBDCs are issued and controlled by the central bank.

- If RBI were to regulate rupee stablecoins, it could:
  - Ensure compliance with KYC/AML norms;
  - Prevent misuse for illicit activities;
  - Enable interoperability with UPI and other digital rails;

Towards a Balanced Digital Future

- India's **e-rupee project** needs to remain **open, adaptive, and innovative**. For instance, if the RBI were to accept **e-rupee deposits** and channel them to banks, it could enhance efficiency and transparency in monetary operations.
- A **digital sandbox** could test such mechanisms safely — ensuring that innovation does not outpace regulation.
- India's digital money strategy needs to balance **innovation with stability**, and **competition with control**.

Source: LM

NATIONAL BEEKEEPING & HONEY MISSION

In News

- India's honey sector is undergoing a structured transformation as the Nationa**l Beekeeping and Honey Mission (NBHM)** continues to scale scientific beekeeping across the country.

National Beekeeping and Honey Mission (NBHM)

- It is a **Central Sector Scheme** launched by the Government of India for the overall promotion and development of scientific beekeeping and the production of quality honey and other beehive products.
- It is implemented through the **National Bee Board (NBB)** and was announced under the banner of **Atmanirbhar Bharat** with a total budget outlay of 500 crore for three years (FY 2020–21 to 2022–23).
- It has since been extended for another three years (FY 2023–24 to 2025–26) with a remaining budget of 370 crore from the original allocation.
- It was launched as a part of the "**Sweet Revolution"**, an ambitious initiative aimed at promoting apiculture to accelerate the production of quality honey and boost farmers' income through scientific and organized beekeeping.

Importance of Beekeeping

- Beekeeping, an agro-based activity undertaken by farmers and landless labourers in rural areas, forms an integral part of the Integrated Farming System.
- It plays a crucial role in pollination, thereby enhancing crop yields and farmers' income while providing honey and other high-value beehive products such as beeswax, bee pollen, propolis, royal jelly, bee venom, etc., all of which serve as important sources of livelihood for rural communities.
- India exports a variety of natural honey like Rapeseed/Mustard Honey, Eucalyptus Honey, Lychee Honey, Sunflower Honey, etc.
  - Major Indian states producing honey are: Uttar Pradesh (17%), West Bengal (16%), Punjab (14%), Bihar (12%) and Rajasthan (9%).
  - Major export destinations included the U.S.A, UAE, Saudi Arabia, Qatar and Libya.

Integrated farming (or integrated agriculture)

- It is a commonly and broadly used word to explain a more integrated approach to farming as compared to existing monoculture approaches.
- It refers to agricultural systems that integrate livestock, fisheries, crop production, horticulture, etc.

Objectives of NBHM

- **Promoting holistic growth of beekeeping industry** for income & employment generation, providing livelihood support to farm and non-farm households and to enhance agriculture/ horticulture production;
- **Developing additional infrastructural facilities** for developing quality nucleus stock of honeybees, multiplication of stock by bee breeders and post-harvest and marketing infrastructures, including honey processing plants, storages/cold storages, collection, branding, marketing centre, etc.;
- **Setting up of state-of-the-art Quality Control Labs** for testing of honey & other beehive products at regional levels and Mini/Satellite Labs at district levels in main honey producing districts/states;
- To **develop blockchain/ traceability system** for traceability of source of honey & other beehive products and using IT tools in beekeeping, including online registration, etc.

Source :**PIB**

RESEARCH DEVELOPMENT AND INNOVATION (RDI) SCHEME FUND

Context

- PM Modi launched the **₹1 Lakh Crore Research, Development and Innovation (RDI) Scheme Fund** while inaugurating the Emerging Science,

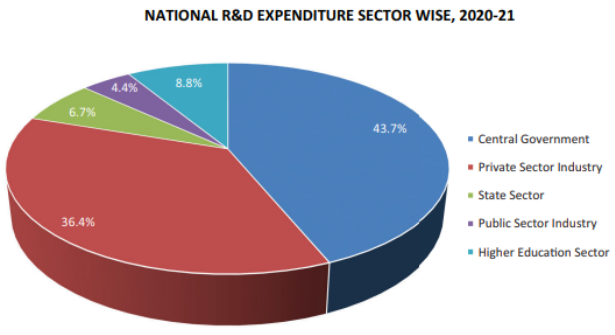
Technology and Innovation Conclave (ESTIC) 2025 in New Delhi.

About the scheme

- The scheme has an outlay of **Rs 1 lakh crore over 6 years**, with Rs 20,000 crore allocated for FY 2025–26, funded from the Consolidated Fund of India.
- **The Department of Science and Technology (DST)** will serve as the nodal department for implementation of the RDI Scheme.
- **Key objectives** of the Scheme are as follows;
  - **Encourage the private** sector to scale up research, development, and innovation (RDI) in sunrise domains and in other sectors relevant for economic security, strategic purpose, and self-reliance,
  - Finance transformative projects at higher levels of **Technology Readiness Levels (TRL),**
  - **Support acquisition of technologies** which are critical or of high strategic importance,
  - Facilitate setting up of a **Deep-Tech Fund of Funds.**
- The Governing Board of **Anusandhan National Research Foundation (ANRF),** chaired by the Prime Minister, will provide **overarching strategic direction** to the RDI Scheme.

India's R&D Landscape

- India's R&D expenditure has doubled in the last decade, but still remains around **0.7% of GDP**, lower than global leaders such as the USA (2.8%) and China (2.4%).
- **The private sector** contributes **less than 40% of total R&D spending,** compared to over 70% in advanced economies.



Government Initiatives to Boost R&D

- **National Research Foundation (NRF):** Aims to enhance research funding and collaboration between academia and industry.
- **Atal Innovation Mission (AIM):** Encourages startups, entrepreneurship, and innovation among students and professionals.
- **Production-Linked Incentive (PLI) Scheme:** Supports high-tech manufacturing through incentives for R&D-driven industries.
- **Launch of National Missions** such as;
  - **National Quantum Mission** to make India one of the leading nations in the development of Quantum Technologies & Applications (budget outlay: **₹6,003.65 crore**),
  - **Electric Vehicle-Mission program under ANRF's MAHA (Mission for Advancement in High-impact Areas) programme;**
  - **India Semiconductor Mission** (76,000 crore) for building up semiconductor ecosystem in India;
  - **Deep Ocean Mission** to explore and sustainably utilize the deep ocean's resources (budget outlay: 4077 crore);
  - **India AI Mission** to strengthen AI capabilities (budget outlay: 10,372 crore).
- Introduction of enabling policy frameworks such as the **Geospatial Policy 2022, Space Policy 2023**, and **BioE3 (Biotechnology for Economy, Environment and Employment) Policy 2024.**

Challenges in India's R&D Ecosystem

- **Limited University-Industry Collaboration:** Weak links between academia and industry hinder commercialization of research.
- **Fragmented Institutional Ecosystem:** Overlapping responsibilities reduce efficiency in fund utilisation.
- **Skilled Workforce Deficit:** Shortage of trained R&D professionals in deep-tech and interdisciplinary fields.

Way Ahead

- **Global Collaborations:** Leveraging partnerships under frameworks like the Indo-US iCET, G20 S&T Cooperation, and BRICS Innovation Network.
- **Performance-Based Funding:** Regular monitoring and performance-linked disbursements can enhance accountability.
- **Regional Innovation Clusters:** Encouraging R&D hubs in Tier-II and Tier-III cities can democratise innovation.

Source: PIB

ISRO'S LVM3 ROCKET LAUNCHES GSAT-7R

Context

- The Indian Space Research Organisation (ISRO) successfully launched the Indian Navy's advanced communication satellite GSAT-7R (CMS-03) from the Satish Dhawan Space Centre in Sriharikota.

About the GSAT-7R Satellite

- Gsat-7R an **indigenously** developed satellite, weighing approximately **4,400 kg,** is India's **heaviest communication satellite** to be launched from the country to date.
  - It is designed to replace Gsat-7 (Rukmini), which was launched in 2013 and is primarily dedicated to the Indian Navy.
- ISRO launched the rocket aboard its most powerful launch vehicle, the **LVM3**, on its **M5 mission.**
  - The satellite had been successfully inserted into a **geosynchronous transfer orbit (GTO).**

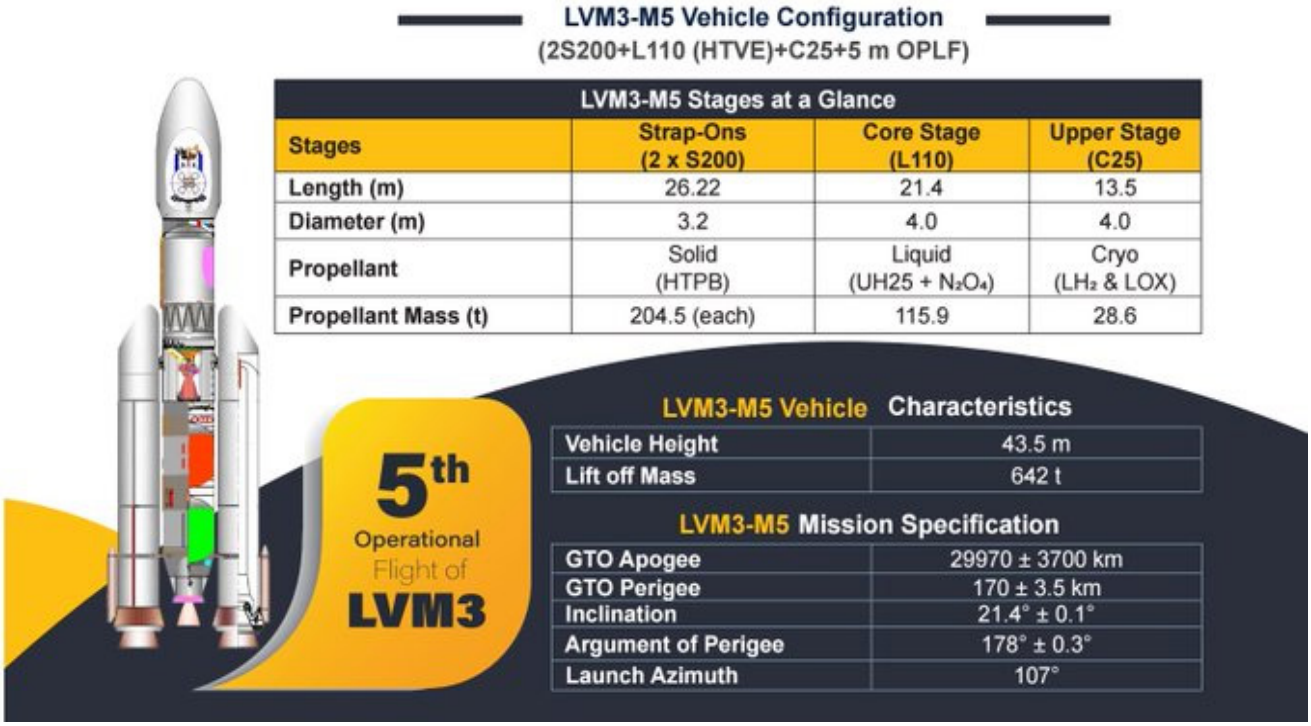
Geosynchronous Transfer Orbit

- The GTO allows satellites to be positioned into geostationary orbits, where they can maintain a fixed position relative to the Earth's surface.
- This is crucial for communication and weather satellites that need to monitor specific areas continuously.

- The satellite carries advanced payloads in multiple frequency bands, **UHF, S-band, C-band and Ku-band,** and includes several indigenous technologies such as a **1,200-litre propulsion tank** and collapsible antenna systems.
- **Its payload includes** transponders capable of supporting voice, data, and video links over multiple communication bands.
- **Significance:** With state-of-the-art indigenous components, the GSAT-7R will provide robust and secure telecommunication coverage across the **Indian Ocean Region.**

Reasons for Heavy Mass of Communication Satellites

- **Wide Coverage and Multi-band Capability:** To serve the entire Indian mainland, communication satellites require broad-area coverage and support for multiple frequency bands.
  - This multi-band design demands large deployable antennas, high-power amplifiers, waveguides, and digital processors, all of which contribute to greater mass.
- **High Power Demand and Large Solar Arrays:** Modern communication satellites are high-power platforms, consuming several kilowatts of electricity.
  - To sustain this for **12–15 years,** satellites carry large solar panels and batteries to provide continuous energy during Earth's shadow (eclipse) periods.
- **Redundancy for Long Service Life:** To ensure reliability, satellites include redundant systems, duplicate computers, radios, power units, and control systems.
  - This redundancy allows continued operation even if primary systems fail.
  - While critical for mission longevity, redundancy significantly increases the overall launch mass.



Source: TH

NEWS IN SHORT

LUCKNOW DESIGNATED A UNESCO CREATIVE CITY OF GASTRONOMY

In News

- UNESCO designated Lucknow as a **Creative City of Gastronomy**, recognizing its rich and diverse culinary heritage, particularly its **famed Awadhi cuisine**.
  - This makes Lucknow the **second Indian city after Hyderabad (2019)** to earn this honor in the gastronomy category of the UNESCO Creative Cities Network (UCCN).

UNESCO Creative City of Gastronomy

- The UNESCO Creative City of Gastronomy designation celebrates cities with rich **culinary traditions** and innovative food cultures that contribute meaningfully to sustainable urban development.
- This recognition is part of the **UNESCO Creative Cities Network (UCCN)**, which promotes cooperation among cities that **prioritize creativity in areas like music, literature, design, and gastronomy.**

Do you know?

- The **UNESCO Creative Cities Network (UCCN)** was established in **2004** to promote cooperation among cities that have identified creativity as a strategic factor for sustainable urban development.

Reasons for Lucknow's Recognition

- UNESCO acknowledged Lucknow's contributions to creative industries and its culinary innovation, including iconic dishes like kebabs and biryani.
- With this, Lucknow joins a global network of 408 cities across 100+ countries celebrated for excellence in fields like design, music, literature, and now, architecture.

Source :TH

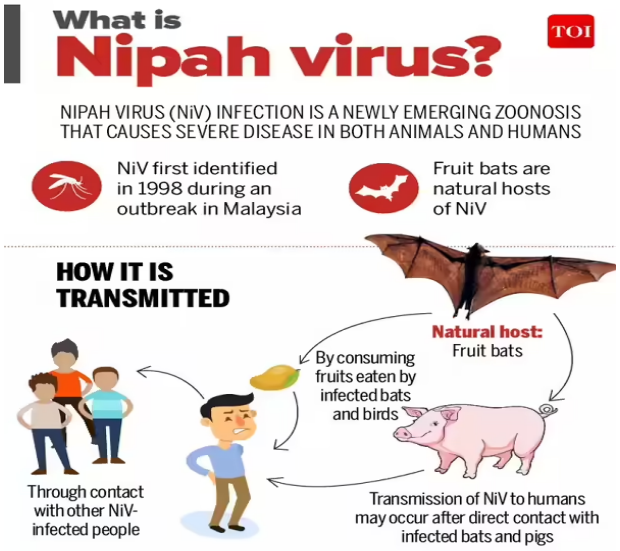
ICMR PUSHES FOR INDIGENOUS MONOCLONAL ANTIBODIES AGAINST NIPAH VIRUS

Context

- The Indian Council of Medical Research (ICMR) has invited Expressions of Interest (EoI) from eligible organisations and manufacturers for the development and production of **monoclonal antibodies (mAbs) against Nipah viral disease.**

Nipah Virus

- Nipah virus is a zoonotic pathogen belonging to the **Paramyxoviridae family.**



- In India and Bangladesh, the Bangladesh clade (NiV-B) predominates, known for its high virulence and frequent person-to-person spread.
- The **fatality rate** varies between **40% and 75%**, depending on clinical care and outbreak management.
- The animal host reservoir of the **virus is the fruit bat,** commonly known as **flying fox.**
  - Fruit bats are known to transmit this virus to other animals like pigs, and also dogs, cats, goats, horses and sheep.
- Fever, headache, cough, sore throat, difficulty in breathing, and vomiting are the common symptoms.

What are Monoclonal Antibodies (mAbs)?

- Monoclonal antibodies are lab-engineered proteins designed to **target specific antigens** (foreign substances like viruses, bacteria, or cancer cells).
- They are derived from a single clone of a **B-cell** and hence are **identical in structure and specificity.**
- mAbs mimic the natural immune response but are **highly specific**, making them powerful tools in treating diseases.

Source: TH

RUSSIA'S 'DOOMSDAY MISSILE'

In News

- Russia has launched its **newest nuclear submarine 'Khabarovsk'** designed to carry the underwater nuclear drone **'doomsday missile'.**

'Doomsday Missile'

- It is also known as **Poseidon** and It can travel at high speeds, greater than those of existing submarines and torpedoes.
- It can operate at great depths and across intercontinental distances, which could make it difficult to intercept.
- It is capable of **intercontinental travel and immense destruction.**
- It can travel deep underwater across long distances with a nuclear power source. It can reach **coastal targets and serve as a strategic deterrent.**

Source :TH

AUDITORY FUSION

Context

- Sometimes two sounds reach your ears so quickly one after the other that the brain joins them together and hears them as a single sound. This is called **auditory fusion.**

Fusion Threshold:

- It's the **smallest time gap** needed between **two sounds for you to tell them apart.**
- For very short sounds like clicks, people usually need a gap of **2–3 milliseconds.**
- For more complex sounds like tones, words, or drum beats, the gap must be **longer — about 5–10 milliseconds or more.**
- The threshold can change depending on how loud the sounds are, or how different they are in pitch or tone.

Why it matters:

- In echoey places, like big halls or churches, the original sound and its echo can reach your ears within a few milliseconds.
- If they come too close together, your brain fuses them, and you hear one clear sound instead of many.
- This helps you understand where the sound is coming from — a process known as the **precedence effect (the brain uses the first sound to guess direction).**
- **Fusion vs Masking:**
  - **Fusion:** The brain joins two close sounds into one.
  - **Masking:** One loud or similar sound hides the other so you can't hear it clearly.

Applications:

- Audio engineers use this idea in music, speech processing, and sound compression.
- Architects use it when designing concert halls and theaters to make sounds clear and pleasant.

Source: TH

EMPLOYEE ENROLLMENT SCHEME 2025

Context

- The Centre launched the **Employee Enrollment Scheme 2025,** aimed at voluntarily enrolling employees under the Employees' Provident Fund Organisation (EPFO).

About

- It was launched by the **Union Minister of Labour** during the **73rd foundation day of the EPFO.**
- It has been made effective from **November 1**, and aims at **encouraging employers to voluntarily declare and enroll eligible employees.**
- Employers can enrol workers who joined their organisations between **July 1, 2017 and October 31, 2025,** but were not registered under the Employees' Provident Fund (EPF) for any reason.
- Employers **will not have to pay the employee's share of the PF contribution** if it was not deducted earlier.
  - They will only need to pay their own share along with a **nominal penalty of Rs 100.**

Significance

- The Scheme provides a chance for employers to regularise their workforce **without fear of heavy penalties or legal action.**
- By paying only their own share of the contribution and a small fee, they can **ensure compliance with labour laws.**
- For employees, this scheme **gives them access to social security, retirement savings, and other EPF benefits**.

Employees' Provident Fund Organisation (EPFO)

- EPFO is a **statutory body** under the **Ministry of Labour and Employment.**
- It administers the **Employees' Provident Fund and Miscellaneous Provisions Act, 1952.**
- **Objectives:** To ensure financial security and social welfare of employees post-retirement.
  - To promote voluntary savings among employees.
  - To regulate and supervise provident fund, pension, and insurance schemes.

Source: TM

ROWMARI-DONDUWA WETLAND COMPLEX

Context

- Experts from academic institutions and conservation groups are collaborating to propose the **Rowmari and Donduwa wetlands in Assam for Ramsar site designation.**

About the Rowmari-Donduwa Wetland Complex

- The Rowmari-Donduwa wetland complex is within the **Laokhowa Wildlife Sanctuary**, which is a part of the **Kaziranga Tiger Reserve.**
  - Laokhowa and the adjoining **Burhachapori Wildlife Sanctuaries** function as connectivity corridors for wild animals migrating between the Kaziranga Tiger Reserve and **Orang National Park** (Kaziranga-Orang landscape).
- It hosts around **120 species** of resident and migratory birds annually, including globally threatened species such as, the **knob-billed duck, black-necked stork, and the ferruginous pochard.**
- This complex has recorded more birds than the only two Ramsar sites in the northeast, **Assam's Deepor Beel and Manipur's Loktak Lake.**

What is the Ramsar Convention?

- A Ramsar site is a **wetland designated** as one of **international importance** under the Ramsar Convention.
- The Ramsar Convention is one of the oldest **inter-governmental accords** signed by member countries to preserve the ecological character of their wetlands of international importance.
- It was signed on **February 2, 1971** in **Ramsar, Iran** and came into force in 1975.
  - India became a signatory to the **Ramsar Convention in 1982.**

Source: TH

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