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AI CAN BE OPTIMISED FOR BETTER HEALTHCARE

Context

- **Artificial Intelligence (AI)** can be optimised for better healthcare **where delays can be reduced, clinicians can make better-informed decisions, and more patients can receive appropriate care.**

About

- **In 2025, the U.S.** Food and Drug Administration (FDA) has authorized **more than 1,000 AI-enabled medical devices.** These include **tools used in radiology, cardiology, and other areas of diagnosis.**
- **In the U.K.,** the NHS issued a guidance in 2025 for the use of **AI-enabled ambient scribing.**
 - ♦ By 2026, the **country was developing a national programme** to support wider adoption.
 - ♦ These point to a wider change, **AI is moving out of innovation teams and into consultations, diagnostic workflows, and hospital operations.**

Healthcare Sector of India

- India's healthcare delivery system is categorised into **two major components - public and private.**
 - ♦ **Public Sector:** It comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of **Primary Healthcare Centers (PHCs) in rural areas.**
 - ♦ **Private Sector:** The private sector provides the majority of **secondary, tertiary, and quaternary** care institutions with a major concentration in metros, tier-I, and tier-II cities.
- **Medical Tourism:** India ranks **10th** in Medical Tourism Index (MTI) for 2020-2021 out of 46 destinations in the world.
 - ♦ 12th among the world's top 20 wellness tourism markets.
 - ♦ 5th among the top 10 wellness destinations in the Asia-Pacific region.
- India has 69,364 hospitals (43,486 private hospitals, and 25,778 public hospitals) with 1.2 million registered doctors, achieving WHO recommended doctor population ratio.

- **Future Projection:** The hospital sector in India was valued at INR 7940.87 Bn in FY21 in terms of revenue & is expected to reach INR 18,348.78 Bn **by FY 2027, growing at a CAGR of 18.24%.**

Major Challenges Faced by Healthcare Sector in India:

- **Lack of infrastructure:** India has been struggling with deficient infrastructure in the form of lack of well-equipped medical institutes.
 - ♦ The government mandated that private medical colleges must be built on at least five acres of land hence, they were built in rural areas, where there was a lack of adequately qualified, full-time doctors due to living conditions, besides low pay scales.
- **Shortage of Efficient and Trained Manpower:** There is a severe shortage of trained manpower, this includes doctors, nurses, paramedics and primary healthcare workers.
 - ♦ **The doctor-to-patient ratio remains low,** which is merely 0.7 doctors per 1,000 people whereas the World Health Organisation (WHO) average is 2.5 doctors per 1,000 people.
- **Population Density and Demographics:** The sheer size and diversity of the population pose unique challenges in providing healthcare services to all.
 - ♦ The aging population and the associated increase in chronic diseases add to the healthcare burden.
- **High out-of-pocket Expenditure:** While public hospitals offer free health services, these facilities are understaffed, poorly equipped, and located mainly in urban areas leaving no alternatives but to access private institutions and incurring high out-of-pocket expenses in healthcare.
- **Disease Burden:** High prevalence of communicable diseases (such as tuberculosis) and the increasing burden of non-communicable diseases (like diabetes, cardiovascular diseases) pose a dual challenge.
 - ♦ Every year, roughly **5.8 million Indians** die from heart and lung diseases, stroke, cancer and diabetes.
- **Lack of Diagnostic Services:** The penetration of diagnostic services in India is mainly concentrated around metros and big cities.
- **Public-Private Partnership Issues:** Challenges in fostering effective collaboration between the public and private sectors in healthcare.

- ♦ Ensuring that the private healthcare sector serves the larger public health goals.

AI Based Solutions

- **To Enhance Efficiency:** An AI tool that helps prioritise a radiology scan, alerts a care team to a deteriorating patient or supports a physician handling a complex case in a smaller city can make existing capacity work more efficiently.
- **Automating Few Tasks:** AI can assist in appointment scheduling, clinical documentation, claims, inventory planning, and discharge management. Each task takes time away from care if handled poorly.
- **Financial Benefits:** A January 2026 McKinsey analysis estimated that applying AI across healthcare revenue-cycle operations could reduce the cost to collect by 30% to 60%.
 - ♦ For hospitals, these gains can free resources for clinical teams, equipment and capacity.
 - ♦ They can also reduce administrative work that contributes to staff fatigue.
- **Remote Monitoring:** Using AI Remote monitoring can extend care beyond discharge.
- **Risk-based preventive programmes** can identify people who need attention before symptoms become severe.
- **Virtual specialist support** can connect smaller hospitals with expertise located elsewhere.
- **Diagnostics can be taken closer to communities,** while hospitals maintain an ongoing relationship with patients managing diabetes, cardiac disease or cancer.

Conclusion

- **AI can transform healthcare** by making quality expertise more accessible, enabling early detection and improving the efficiency of care.
- As healthcare is closely linked to the productivity and well-being of India's population, its **role extends beyond the health sector** to economic development.
- The true success of AI in healthcare will therefore lie in **better health outcomes, greater accessibility and improved quality of life,** rather than merely in technological deployment.

Source: TH

INDIA'S CAMPAIGN FOR A UN SECURITY COUNCIL (UNSC) SEAT IN 2028-29

Context

- India has launched its campaign for a non-permanent **United Nations Security Council (UNSC)** seat for **2028–29**, with the election scheduled for June 2027.

About UNSC & Its Composition

- The UNSC is the UN's principal organ for maintaining international peace and security. It has **15 members**:
 - ♦ **5 Permanent Members (P5):** United States, Russia, China, France and the United Kingdom, with veto power.
 - ♦ **10 Non-Permanent Members:** Elected by the UN General Assembly for **two-year terms**, with five members retiring each year.
- The seats are distributed among regional groups: **Africa (3), Asia-Pacific (2), Latin America and Caribbean (2), Western Europe and Others (2), and Eastern Europe (1).**
- A candidate requires a **two-thirds majority of members present and voting** in the General Assembly.
- **Elections** are conducted through a **secret ballot**.

Key Objectives of UNSC

- Under the UN Charter, the Council primarily seeks to:
 - ♦ Maintain international peace and security.
 - ♦ Investigate disputes and recommend peaceful settlements.
 - ♦ Impose sanctions and authorise collective measures when necessary.
 - ♦ Authorise peacekeeping and other enforcement actions.
 - ♦ Recommend the appointment of the UN Secretary-General and admission of new UN members.

India and UNSC Membership

- If elected for 2028–29, India will serve on the UNSC for the **ninth time**.
 - ♦ Its previous terms include 1950–51, 1967–68, 1972–73, 1977–78, 1984–85, 1991–92, 2011–12 and 2021–22.
 - ♦ India's sole Asian-group competitor is **Tajikistan**.

- The regional dynamics are significant: Kyrgyzstan will occupy the other Asian seat for 2027–28, replacing Pakistan.

Rationale Behind India's Membership

- **Greater voice in global governance:** UNSC membership provides India an institutional platform to shape debates on conflicts, terrorism, peacekeeping and emerging security challenges.
- **Global South representation:** India can articulate concerns of developing countries on equitable global governance and reform of multilateral institutions.
- **Counter-terrorism diplomacy:** The Council remains important for international action against terrorism, financing networks and proliferation.
- **Permanent membership objective:** Repeated successful elections strengthen India's case for a permanent UNSC seat by demonstrating diplomatic acceptability and sustained contribution to the UN system.

Related Efforts & Key Obstacles

- Recent elections show that **global standing alone does not guarantee victory**.
 - ♦ In 2026, Germany lost its bid for a Western European seat despite its economic weight, while Kyrgyzstan secured strong support in Asia.
 - ♦ It highlights the importance of coalition-building, regional solidarity and issue-based diplomacy.
- India's **2021–22 UNSC term** and its outreach to Global South partners have strengthened its diplomatic profile.
 - ♦ In the 2010 contest involving Kazakhstan, India successfully worked through bilateral diplomacy to avoid a direct confrontation and subsequently secured **187 votes**.
- However, India faces challenges including competing regional candidates, divergent interests among Global South countries, geopolitical rivalries and the need to secure support across diverse UN groupings.

Way Ahead

- India should pursue an **early, sustained and inclusive campaign**, combining bilateral engagement with outreach to regional organisations and smaller states.

- Its diplomacy should focus on shared priorities such as development, counter-terrorism, food and energy security, peacekeeping and reform of global institutions.
- The 2028–29 campaign should therefore be viewed not merely as a bid for another elected term, but as an opportunity to demonstrate that India can contribute constructively to a more **representative, effective and multipolar UN order**.

Source: IE

MEGHALAYA'S DELAY IN IMPLEMENTING MINE CLOSURE POLICY

Context

- A committee constituted under **Justice (retired) B.P. Katakey** has criticised the Meghalaya government for delays in implementing a comprehensive mine closure policy and in addressing illegal rat-hole coal mining in the state.

Background

- **The National Green Tribunal (NGT)** banned the practice of rat-hole coal mining in **2014**, as it causes environmental degradation and is a threat to the lives of miners.
- The Meghalaya High Court appointed a single-member committee under Justice **Brojendra Prasad Katakey** in **2022** to recommend measures to the state government in compliance with the directions issued by NGT.

Key Issues Highlighted by the Committee

- **Delay in mine closure policy:** Meghalaya has yet to adopt a comprehensive policy for closing and restoring abandoned and illegally operated coal mines.
 - ♦ Many open mine shafts remain **unfenced and uncovered**, posing risks to humans and livestock.
- **Large number of abandoned mines:** According to the Jaintia Coal Mines Owners and Dealers' Association, there are about **60,000 mines spread across 360 villages** in the East Jaintia Hills district alone. Most of these are abandoned but left uncovered.

- **Inadequate restoration planning:** The Central Mine Planning and Design Institute Limited prepared detailed project reports (DPRs) for two pilot restoration projects — One at Sutnga in East Jaintia Hills (63 lakh) and the other at Arenggtim in the South Garo Hills district (92.78 lakh).
 - ♦ However, the proposals remain pending before the **NGT-constituted Oversight Committee**.
- **Weak regulation of coal-based industries:** The panel identified gaps in scrutiny of coke oven plants, which depend heavily on coal.

What is rat-hole mining?

- The term “rat hole” refers to the **narrow pits (3-4 feet high) dug** into the ground, typically just large enough for one person to descend and extract coal.
- Once the pits are dug, miners descend using ropes or bamboo ladders to reach the coal seams.
- The coal is then manually extracted using primitive tools such as pickaxes, shovels, and baskets.

Concerns of Rat hole mining

- **Safety Concerns:** Rat hole mining is often carried out in very small and unstable tunnels, lacking safety measures such as proper ventilation, structural support, or safety gear for the workers.
 - ♦ In **2018**, around 15 rat hole miners died inside a coal mine in the **East Jaintia Hills district in Meghalaya**.
- **Environmental issues:** The mining process can cause land degradation, deforestation, and water pollution.
 - ♦ Rat-hole mining in **Meghalaya** had caused the water in the **Kopili river** (flows through Meghalaya and Assam) to turn acidic.
- **Loss of lives:** This method of mining has faced severe criticism due to its hazardous working conditions and numerous accidents leading to injuries and fatalities.
- **Child labour:** Due to the small size of the tunnels, children are employed in the mines as they can crawl through these cramped spaces on their knees.

Reasons for the persistence of rat hole mining

- **Lack of Alternative Livelihood:** In some areas, there are limited alternative employment opportunities. Hence, it is difficult for miners to transition to other professions.

- **Lack of political will:** For many regions, rat hole mining is the main source of revenue. Thus authorities do not take strict action to regulate the practice.
- **Poverty:** Economic challenges and poverty drive individuals to engage in rat hole mining as a means of survival.
- **Economic Viability:** No other method would be economically viable in Meghalaya, where the coal seam is extremely thin. Removal of rocks from the hilly terrain and putting up pillars inside the mine to prevent collapse would be costlier.

Steps taken by the government to curb illegal coal mining

- The Government of India has launched one mobile app namely “**Khanan Prahari**” and one web app, **Coal Mine Surveillance and Management System (CMSMS)** for **reporting unauthorized coal mining activities** so that monitoring and taking suitable action on it can be done by concerned Law & Order enforcing authority.
- **A committee/task force has been constituted** at different levels (block level, sub-divisional level, district level, and state level) in some subsidiaries of **Coal India Limited** to monitor different aspects of illegal mining.
- **Move towards scientific coal mining:** Meghalaya has transitioned to regulated and scientifically managed coal mining under applicable mining and environmental regulations.
 - ♦ The first officially permitted coal mines under the new framework began production in **2025**.

Way Ahead

- **Community Engagement:** Engage with local communities to raise awareness about the risks and consequences of illegal mining and to gain their support in combating it.
- **Economic Development:** Providing alternative livelihood opportunities and economic development initiatives in mining-dependent regions to reduce reliance on illegal mining.
- **Improved Monitoring:** Utilise advanced technologies for monitoring mining activities and ensuring compliance with regulations.

Source: **TH**

ARTIFICIAL INTELLIGENCE (AI) AGENT

In News

- AI agent autonomously exploited flaws in a gym's booking system in Australia to get himself into a class, including making early bookings and removing another person from the queue.

AI agents

- They are autonomous systems that employ existing tools to plan processes, make decisions, solve problems, and carry out activities with minimal human participation.
- They go beyond understanding words, and they can also interface with the external environment and software to do things.
- They (mostly based on Large Language Models or LLMs) run a series of steps based on user input, and figure out when to employ external tools.
- They are rapidly being utilised in software development, IT automation, code generation, enterprise applications and conversational support.

Application of AI agents

- **Virtual assistants:** AI agents can be employed as virtual assistants on websites and applications to advise clients, mimic interviews, and support mental health and other tailored services.
 - ♦ Easy to build and launch with no-code templates.
- **Health:** Multi-agent artificial intelligence can be used to lessen the workload of health care workers in treatment planning, processes in the emergency department, and drug management in health care, and let them focus on vital responsibilities.
- **Emergency Response:** When natural disasters hit, AI agents may review social media data to find people needing rescue, locate them, and help emergency services respond faster and save lives.
- **Finance & Supply Chain:** AI agents can evaluate financial data in real-time, predict market trends, and optimise supply networks.
 - ♦ They can tailor the outputs for a host of company needs.
 - But data security and privacy are of utmost concern while dealing with sensitive financial data.

Benefits

- **Process Automation:** AI agents can perform complex, multi-step processes on their own, reducing the need for constant supervision by humans.
 - ♦ This accelerates, makes cheaper and scalable work processes.
- **Better performance:** Multi-agent systems can outperform solo agents when specialist actors create various methods, learn from each other, and give feedback.
 - ♦ It helps you to better solve problems and synthesise information.
- **Better quality responses:** AI agents can give you responses that are more complete, accurate, and customised than most artificial intelligence systems.
 - ♦ They do it through external tools, through information they relay to other agents, and through memory updates they perform when interacting.

Risks and Limitations of AI Agents

- **Multi-Agent Dependencies:** The failure or vulnerability of a single AI agent interacting with other AI agents could have system-wide effects.
 - ♦ Similarly, agents trained on the same foundation model may be vulnerable to the same attacks, leading to the risk of systemic outages and intrusions.
 - ♦ Thus, good data governance, training, and testing are essential.
- **Infinite Feedback Loops:** If agents are not planning or analysing their outcomes properly, they could end up in infinite repetitions of the same behaviours, resulting in infinite tool-use loops. Such failures can be avoided by real-time human monitoring.
- **Computational Complexity:** Advanced AI agents need to be constructed and trained, which requires a lot of computing power, time and resources. Complex activities may take a long time to complete as well.
- **Data Privacy & Security:** Integrating agents into corporate systems and consumer data can give rise to severe privacy, security, and accountability issues, especially when agents make decisions without oversight from humans.

Suggestions

- Maintaining good records of what an agent did, what tool it used, and what other agents were involved enables users to monitor the decision-making process, identify any mistakes, and build trust in the system.
- Humans should be able to stop or interrupt AI agents, especially if they are stuck in an infinite loop, or breaking or misusing their tools.
 - ♦ But the interruption has to be context-sensitive, especially in emergencies where an agent can injure more if interrupted
- Giving AI agents unique, traceable identities can help identify their developers, deployers, and users, increasing accountability and limiting malicious use.
- Human monitoring is particularly important when agents operate in new or unknown environments. Agents can learn and adapt to user preferences over time through feedback.
- Vital actions such as financial trading, mass communication, or other critical decisions should require explicit human validation.
- The National Centre for Coastal Research, (NCCR) under the Ministry of Earth Sciences has monitored the shoreline changes for the entire Indian coastline for **the period 1990-2018**.
 - ♦ It is observed that **33.6% of the Indian coastline** was vulnerable to erosion, **26.9% was under accretion (growing)** and **39.6% was in stable state**.
- **Impact:** The erosion poses severe threats to livelihoods, particularly for fishing communities dependent on coastal stability.
 - ♦ Infrastructure such as roads, housing and ports faces significant damage, while biodiversity hotspots, including estuaries and mangroves, are at risk of collapse.
- **Factors Responsible:**
 - ♦ **Rising Sea Levels:** Driven by climate change, higher sea levels amplify storm surges and coastal flooding.
 - ♦ **Sand mining and Infrastructure Projects:** Unregulated sand extraction and construction of ports, seawalls, and breakwaters disrupt sediment flow, accelerating erosion in vulnerable areas.
 - ♦ **Mangrove Depletion:** The loss of natural barriers like mangroves leaves the coastline exposed to wave action.

Source: IE

COASTAL EROSION IN ODISHA

Context

- Union Minister for Ports, Shipping and Waterways said that about **28% of Odisha's 564-km coastline is undergoing erosion**.

About

- This is based on a **study by the National Centre for Coastal Research (NCCR)**, which carried out a comprehensive assessment and mapping of shoreline change analysis along the Odisha coast for the period 1990-2022.
 - ♦ The NCCR monitors long-term shoreline changes across the Indian coastline.
- Approximately **28.3%** of the coastline is undergoing erosion, **17.6%** remains stable, and **54.1%** is experiencing accretion or growth.

Coastal Erosion

- Coastal erosion is the process by which local sea level rise, strong wave action, and coastal flooding **wear down or carry away rocks, soils, and/or sands along the coast**.

Steps Taken by Government to in Combating Sea Erosion

- The Ministry of Environment, Forest & Climate Change has **delineated the hazard line for the entire coast of the country**.
 - ♦ The hazard line is **indicative of the shoreline changes**, including sea level rise due to climate change.
 - ♦ This line is to be **used by agencies in Coastal States as a tool for Disaster Management** including planning of adaptive and mitigation measures.
- MoEFCC has notified **Coastal Regulation Zone Notification, 2019** with a view to conserve and protect coastal stretches, marine areas and to ensure livelihood security to the fisher and other local communities.
- MoEFCC has framed a **national strategy for coastal protection** along with guidelines for all Coastal States and Union Territories.

- **The Flood Management Scheme** of the Ministry of Jal Shakti, including anti-sea erosion schemes, are planned and executed by the State Governments with their own resources as per priorities of States.
- A new component “**Coastal Management Information System (CMIS)**” was initiated under the Central Sector Plan Scheme “Development of Water Resources Information System”.
 - ♦ CMIS is a data collection activity carried out to collect near shore coastal data which can be used in planning, design, construction and maintenance at vulnerable Coastal stretches.
- **Technical support has been extended to the coastal States** in the design of coastal protection measures at vulnerable stretches and preparation of Shoreline Management Plans.

Source: IE

NEWS IN SHORT

SRI AUROBINDO

Context

- PM Modi paid tribute to Sri Aurobindo (15 August 1872–5 December 1950) on his birth anniversary.

Early Life

- He received his primary education in England at **St. Paul's School, London, and King's College, Cambridge**.
- He returned to India in **1893** and worked for the next thirteen years in the Princely State of Baroda and as a professor in Baroda College.

Role in freedom struggle

- He helped establish a series of youth clubs, including the **Anushilan Samiti of Calcutta in 1902**.
- In **1906**, Aurobindo was appointed the **first principal of the National College in Calcutta (Bengal National College)**, and started to impart national education to Indian youth.
- He was the first political leader in India to openly put forward the **idea of complete independence** for the country in his newspaper **Bande Mataram**.
- In **1907** at the **Surat session of Congress**, he led along with extremists. He was arrested in 1908 in connection with the **Alipore Bomb Case**.

Yogic Life

- Sri Aurobindo had **begun the practice of Yoga in 1905** in Baroda. **In 1910 he withdrew from politics** and went to Pondicherry in order to devote himself entirely to his inner spiritual life and work.
- During his forty years in Pondicherry he evolved a new method of spiritual practice, which he called the **Integral Yoga**.
- In **1926**, he founded the **Sri Aurobindo Ashram**.

Literary works

- **The Life Divine**, which deals with the philosophical aspect of Integral Yoga.
- **Synthesis of Yoga**, which deals with the principles and methods of Integral Yoga.
- **Savitri: A Legend and a Symbol**, an epic poem.
- He also started **two weeklies**: the Karmayogin in English and the Dharma in Bengali.

Source: AIR

ROYAL INDIAN NAVY (RIN) MUTINY

In News

- India's 80th Independence Day offers an opportunity to recall the **1946 RIN Mutiny**, which seriously challenged British authority and contributed to the acceleration of India's independence.

Royal Indian Navy (RIN) Mutiny

- It happened in February 1946 and was a massive anti-colonial rebellion by Indian naval forces against the British.
- It started in Bombay and quickly spread to naval establishments across British India, involving some 20,000 people, 78 ships, and 20 shore establishments.
 - ♦ Often considered one of the last major threats to British rule before independence.

Origin and Factors Behind it

- Royal Indian Navy (RIN) was founded in 1934 and grew rapidly in the period of World War II from less than 2,000 personnel to 30,000.
- At the end of the war, Britain planned to demobilise the force and decrease numbers to around 11,000, provoking fear and dissatisfaction amongst sailors.

- Sailors looked for recognition and improved job opportunities following their wartime service.
- They suffered from racial prejudice, bad food and poor housing circumstances, insufficient pay and allowances, and brutal treatment by British officials.
- Between 1942 and 1945, nine distinct mutinies had already occurred in the RIN, exposing greater difficulties of morale and leadership.
- The Indian National Army (INA) trials produced a strong political and nationalist climate among the sailors.
- At HMIS Talwar, Bombay discontent was growing and from November 1945 sailors were displaying anti-British slogans.
- The tensions came to a head when Commander Arthur Frederick King allegedly insulted and mistreated seamen, calling them “sons of coolies” and refusing to listen to their complaints.
- On 18 February 1946, the sailors initiated a walkout which quickly spread to other naval stations by wireless contact.

Key demands of Sailors

- They wanted improved food and housing conditions, similar pay and allowances to the Royal Navy, fair demobilisation and employment prospects, use of NAAFI facilities and protection from victimisation.
- Their demands also became strongly political, demanding action against Commander King, the release and fair trial of INA captives, the withdrawal of British soldiers from Indonesia and a stop to the deployment of Indian troops for British imperial interests.

Spread

- The revolt spread from Bombay to Karachi, Calcutta, Visakhapatnam, Madras, Jamnagar and other naval centers.
- Sailors created a Naval Strike Committee, dubbed themselves the Indian National Navy/Azad Hindis and replaced British banners with the Congress and Muslim League flags, symbolising nationalist unity.
- They also occupied Butcher Island (Jawahar Dweep) and turned guns on key emblems of colonial rule in Bombay.

British Reaction and Popular Support

- The insurrection enjoyed considerable popular backing, particularly in Bombay.

- About three lakh workers, dockworkers, railway employees and students went on strike and protests disrupted transit and commercial business.
- The citizens also brought food to the sailors.
- The British replied with force. Police firing on 22 February reportedly killed at least 400, largely civilians, and injured roughly 1,500–2,000. The unrest in parts of the Royal Indian Air Force and Indian Army also caused concern among the British.

Importance

- The mutiny undermined the coercive bases of British colonial power.
- It demonstrated that the loyalty of the Indian armed forces could no longer be taken for granted.
- Together with the INA movement, it shook British confidence, raised the demand for departure, and showed the possibility of collaboration between Hindus and Muslims in the anti-colonial struggle.
- It also linked sailors' economic and service grievances to the larger nationalist movement.

Source: IE

RAJASTHAN TREES (PROTECTION) BILL-2026

Context

- The Rajasthan Cabinet has approved the Rajasthan Trees (Protection) Bill-2026.

About

- The Bill will regulate the felling of **29 specified tree species** on non-forest land. The list includes the **state tree Khejri**, Rohida, Banyan, Peepal, Lasoda, Tendu, Mahua, Kair and Chironji.
- Felling or causing the felling of a specified tree on land owned or occupied by a person will require prior permission from the authorised authority.
- Offences under the proposed law will be **cognisable and bailable**. A person convicted of illegal felling may face **imprisonment of up to one year**, a fine of up to 1 lakh, or both.
- Where a tree is removed with permission, the person will be required to plant a prescribed number of trees in the same area for each tree removed.

Source: TH

SURROGATE ADVERTISEMENTS

Context

- Maharashtra's Food and Drug Administration (FDA) issued show-cause notices to actors alleging that their advertisement for Vimal Elaichi amounts to surrogate advertising for Vimal Pan Masala.

About

- Surrogate advertising** is a form of marketing used to promote products banned or limited from advertising under government regulations, such as alcohol, tobacco, and pan masala.
- Maharashtra has prohibited gutkha and pan masala containing tobacco or nicotine since 2012 under Section 30(2)(a) of the Food Safety and Standards (FSS) Act, 2006.

Misleading Advertisement Under the Consumer Protection Act 2019

- Under it, **misleading advertisement** is defined as in relation to any product or service an advertisement, which
 - falsely describes such product or service; or
 - gives a false guarantee to, or is likely to mislead the consumers as to the nature, substance, quantity or quality of such product or service; or
 - conveys an express or implied representation which, if made by the manufacturer or seller or service provider thereof, would constitute an unfair trade practice; or
 - deliberately conceals important information.
- The present guidelines define **"surrogate advertisement"** as an advertisement for goods, product or service, **whose advertising is otherwise prohibited or restricted by law.**
 - It is advised by **circumventing such prohibition or restriction and portraying it to be an advertisement for other goods,** products or services, the advertising of which is not prohibited or restricted by law.
- Penalty:** CCPA can impose a penalty of **up to Rs 10 lakh on manufacturers, advertisers, and endorsers** for any misleading advertisements.
 - For subsequent contraventions, **CCPA may impose a penalty of up to Rs 50 lakh.**

- CCPA can prohibit the endorser of a misleading advertisement from making any endorsement for up to 1 year and for subsequent contravention, prohibition can extend up to 3 years.

Source: IE

SAPTADHARA

In News

- Prime Minister launched a seven-point 'Saptadhara' reform framework to fast-track India's goal of attaining a Viksit Bharat by 2047,

Saptadhara

- It is the seven strategic streams of India's progress and national strength mentioned by the Prime Minister in the address on Independence Day 2026.
- It combines industry, agriculture, technology, infrastructure, defence, green and blue economy, and soft power as inter-linked pillars of India's development in the next phase.

Pillars

- Manufacturing Power:** Making India a global manufacturing and supply chain hub, with concentration on cost competitiveness, quality, scale, precision, components and completed products.
 - India needs to build the entire value chain from components and design to production of finished products and become a trusted hub of the global supply chain.
 - Emphasis is being laid on cost, quality and scale, competitive factories, user-friendly goods, beautiful packaging and zero-defect, precise manufacturing. Quality should be the mantra of Indian production, and there should not be any compromise on quality.
- Agriculture and Food Production:** Use FTAs to connect Indian farms with the world market; Promote Indian millets, spices, fruits, vegetables and traditional foods as worldwide brands.
 - Chemical-free farming and agricultural products also have to meet the requirements of the world.
- Technology and Innovation:** Build on the achievements of UPI and Digital Public Infrastructure and further develop indigenous 6G to make India an innovation powerhouse for data centers, robots, new technologies and next-generation communications.

- **Gati Shakti:** Reduce logistics restrictions by seamless, high-speed multimodal connections through roads, motorways, high-speed rail and port-led development.
 - ♦ Ports are more than just loading and unloading commodities. They are engines for port-led development and progress.
- **Defence (Raksha) Shakti:** Aatmanirbhar defence manufacturing, with focus on drones, counter-drone systems and next-generation defence technologies, while promoting India as a worldwide defence supplier. Another area where Indian youth's strengths can be used for India and the world is cyber security.
- **Green and Blue Economy:** Be a global leader in green hydrogen, renewable energy and energy storage, and utilise the Blue Economy in fisheries, coastal tourism and ocean technologies.
- **India's Soft Power:** Enhance India's global cultural outreach through yoga, handicrafts, cinema, animation, gaming, digital content, tourism and creative economy.

Importance of Saptadhara

- It links economic growth, technological capacity, infrastructure, energy security and cultural influence in a broad framework of development.
- It emphasises exports, supply chains, innovation and connectivity to enhance India's status in the global economy.

Source: PIB

FRIEDREICH'S ATAXIA (FRDA)

Context

- Many Indian communities practice consanguinity, and it greatly increases the risk of genetic diseases that are otherwise rare, **Friedreich's ataxia** is one such disease.

About

- **Friedreich's ataxia, or FRDA,** is a **genetic disorder** that progressively damages the **nerves and the heart**.
- The affected individuals typically begin to show symptoms **between the ages of 5 and 15**.
- **Symptoms:** Unsteady and impaired coordination.
 - ♦ Speech slows down and slurs, swallowing becomes difficult, Hearing and vision deteriorates.

- ♦ Fatigued, lost sensation, eventually, most patients die relatively young, of heart disease. **There is no cure.**

- FRDA is more likely when **both parents carry the defective gene**. FRDA is caused by **mutations in the FXN gene**.
- ♦ **Consanguineous marriages** (marriages between relatives, such as cousins) increase the chance that both parents carry the same rare genetic mutation.

Source: TH

HARA MANGROVE FORESTS

Context

- A major oil spill off the southern coast of Iran has emerged as a serious ecological threat to the Hara mangrove forests.

Hara Mangrove Forests

- The Hara forests, also known as the **Qeshm–Hara mangrove forests**, are located around Qeshm Island and the Strait of Hormuz in southern Iran.
- They are dominated by the **grey mangrove (Avicennia marina)**, a species highly adapted to saline coastal environments.
- The area has been recognised as a **UNESCO Biosphere Reserve**.

What Are Mangroves?

- Mangroves are **salt-tolerant trees and shrubs** that grow in **coastal intertidal zones**, especially in **tropical and subtropical regions**.
- These ecosystems are uniquely adapted to survive saline conditions, tidal inundation, and low-oxygen soils.
 - ♦ **Root Systems:** Mangroves have specialised root adaptations like prop roots and pneumatophores that enable respiration in waterlogged conditions and provide physical stability.
 - ♦ **Habitat:** They thrive in estuaries, tidal creeks, mudflats, and deltaic regions.
- **Mangroves in India:**
 - India has about **4,900 sq. km** of mangrove cover.
 - **Mangrove forests include** the Sundarbans, Bhitarkanika, and the Krishna-Godavari delta.

Source: TH