



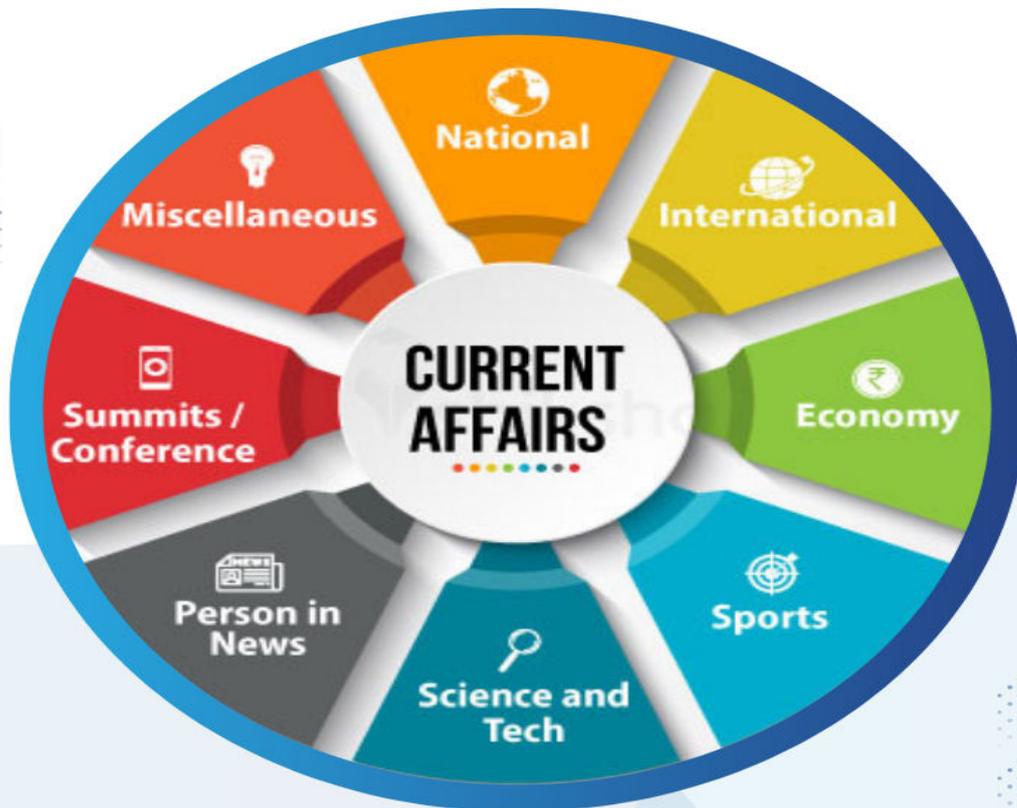
“ We help you reach for the star ”

# **VIDHVATH IAS KAS ACADEMY & STUDY CENTRE**

## **DAILY CURRENT AFFAIRS**

**FOR UPSC CIVIL SERVICE EXAMINATION**

**DATE: 05/03/2026 (THURSDAY)**



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## 1. India at Mobile World Congress (MWC) 2026: Vision for Digital Inclusion

- **Affordability and Universal Connectivity:** India advocated for "Breaking the Cost Barrier," emphasizing that the 3.1 billion people globally excluded from the digital economy require affordable devices and services to bridge the "usage gap."
- **Intelligent Infrastructure:** Under the theme "Built for What's Next," India transitioned its focus from mere access to intelligent, autonomous, and AI-driven networks that are human-centric and resilient.
- **Indigenous Manufacturing Hub:** The "Bharat Pavilion" featured 40 Indian firms showcasing home-grown solutions in 5G/6G, satellite communication, and semiconductors, signaling India's rise as a design-led manufacturing powerhouse.
- **Technological Milestones:** Key launches included the TJ1600-D3 Hyper-scalable DCI Platform (Tejas Networks) and demonstrations of 6G data calls on cmWave, highlighting India's readiness for next-gen optical and wireless standards.
- **Global Strategic Collaborations:** High-level engagements with the ITU, Nokia, Ericsson, and Qualcomm focused on building trusted technology ecosystems and aligning global 6G standards with India's specific requirements.
- **Institutional Momentum:** The unveiling of the India Mobile Congress (IMC) 2026 curtain raiser (scheduled for October 2026) aims to solidify India's position as a global nerve center for telecom innovation and AI integration.



### Key Definitions

- **Usage Gap:** The gap representing people who live within the footprint of a mobile broadband network but do not use mobile internet services, often due to high costs of devices or lack of digital skills.
- **Data Centre Interconnect (DCI):** Technology that connects two or more data centers together over short, medium, or long distances using high-speed packet-optical connectivity.
- **cmWave (Centimetric Wave):** Frequency bands between 3 GHz and 30 GHz, considered crucial for 6G to provide a balance between wide coverage and high capacity.

### Constitutional & Legal Provisions

- **Article 19(1)(a):** The Supreme Court has increasingly linked the "Right to Internet" as a medium to exercise the fundamental right to freedom of speech and expression.
- **Telecommunications Act, 2023:** Replaced the archaic Indian Telegraph Act, 1885; it provides a modern legal framework for spectrum management, right of way, and national security in telecom.
- **Digital Personal Data Protection (DPDP) Act, 2023:** Ensures that the expansion of "Intelligent Connectivity" and AI-driven networks adheres to stringent data privacy norms for Indian citizens.
- **National Digital Communications Policy (NDCP):** Aims to provide "Broadband for All" and create 4 million additional jobs in the digital communications sector.



### Additional Key Points

- **The IQ Era:** The official theme of MWC 2026, highlighting the convergence of AI and connectivity to create "smarter" business and societal outcomes.
- **TEPC's Role:** The Telecom Equipment and Services Export Promotion Council (TEPC) is the nodal agency under the Foreign Trade Policy facilitating the global outreach of Indian telecom exporters.
- **6G Vision Document:** India's proactive stance aims to secure a significant share of global IPR (Intellectual Property Rights) in the upcoming 6G standards.

### Conclusion

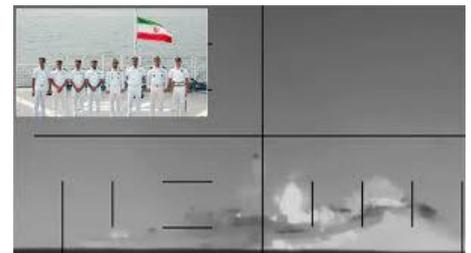
India's leadership at MWC 2026 underscores a shift from being a consumer of technology to a provider of secure, affordable, and indigenous digital solutions. By balancing cost-effective innovation with cutting-edge AI and 6G research, India is positioning itself as the "Trusted Partner" in the global digital supply chain, ensuring that the "IQ Era" remains inclusive for the Global South.

### UPSC Relevance

- **GS Paper II:** Bilateral, regional, and global groupings involving India; Effect of policies of developed/developing countries on India's interests.
- **GS Paper III:** Science and Technology—developments and their applications and effects in everyday life; Indigenization of technology; Infrastructure (Telecom); IT and Computers.
- **Prelims:** Terms like 6G, cmWave, DCI, and roles of international bodies like ITU and GSMA.

## 2. Escalation in the Indian Ocean: Sinking of Iranian Warship IRIS Dena

- **Geopolitical Flashpoint:** The sinking of the Iranian Moudge-class frigate, IRIS Dena, by a US submarine off the southern coast of Sri Lanka (approx. 40 nautical miles) marks a severe escalation in naval hostilities within the Indian Ocean Region (IOR).
- **High Casualty Incident:** Out of approximately 180 personnel on board, at least 87 have been confirmed dead, with 32 rescued by Sri Lankan authorities; the vessel was targeted as a "military target" by the US according to official statements.
- **Link to Indian Naval Exercises:** The IRIS Dena had recently concluded its participation in the International Fleet Review (IFR) 2026 and MILAN 2026 at Visakhapatnam, highlighting India's role as a platform for maritime diplomacy even amidst global polarization.
- **Strategic Maritime Implications:** The strike occurred in international waters but close to Sri Lanka's Exclusive Economic Zone (EEZ), raising concerns about the safety of Sea Lines of Communication (SLOCs) and the spillover of Middle Eastern conflicts into South Asian waters.
- **Coordinated Search and Rescue (SAR):** Despite the military nature of the strike, Sri Lankan forces launched a humanitarian SAR operation involving the Navy and Air Force, identifying an oil slick at the site of the distress call.



### Key Definitions

- **Moudge-class Frigate:** An Iranian-designed class of light frigates equipped with anti-ship missiles, torpedoes, and naval guns, symbolizing Iran's indigenous naval modernization.



- **Nautical Mile:** A unit used in measuring distances at sea, equal to 1,852 meters (approximately 1.15 miles).
- **Port Call:** A scheduled stop made by a ship at a port for refueling, replenishment, or diplomatic engagement, often used to strengthen bilateral naval ties.

### Constitutional & Legal Provisions

- **UNCLOS (United Nations Convention on the Law of the Sea), 1982:** Defines the rights and responsibilities of nations regarding their use of the world's oceans. Under UNCLOS, the "High Seas" are reserved for peaceful purposes, though the legality of military strikes depends on "Right to Self-Defense" under the UN Charter.
- **Article 51 of the UN Charter:** Recognizes the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations.
- **India's Maritime Strategy:** Guided by the concept of SAGAR (Security and Growth for All in the Region), which prioritizes the Indian Navy as a "Net Security Provider" and emphasizes collective action for maritime safety.

### Additional Key Points

- **Bilateral Impact:** The incident complicates India's "strategic autonomy" as it maintains robust ties with the US (Major Defense Partner) while historically engaging with Iran for connectivity projects like Chabahar Port.
- **Regional Neutrality:** Sri Lanka's swift rescue response while maintaining a neutral stance on the cause of the sinking reflects the delicate balancing act required by smaller IOR nations during Great Power competition.
- **Maritime Environment:** The reported oil slick poses potential ecological threats to the sensitive marine biodiversity off the southern coast of Sri Lanka, a major corridor for global shipping.

### Conclusion

The sinking of the IRIS Dena represents a shift in naval warfare from the traditional confines of the Persian Gulf to the broader Indian Ocean. While the US justifies the action as a military necessity, the proximity to South Asian shores and the recent diplomatic engagement in India underscore the fragility of maritime security. For India, this incident highlights the challenge of maintaining a stable "Zone of Peace" in the IOR amidst intensifying global rivalries.

### UPSC Relevance

- **GS Paper II:** Effect of policies and politics of developed and developing countries on India's interests; India and its neighborhood relations.
- **GS Paper III:** Security challenges and their management in border areas; Maritime security as a subset of internal and external security.
- **Current Affairs:** Understanding the geography of the Indian Ocean (Major ports like Visakhapatnam and Galle), the role of international naval exercises (MILAN), and the legalities of naval warfare under UNCLOS.



### 3. West Asia Conflict and India's LNG Security: The Force Majeure Crisis

- **Supply Disruption via Chokepoints:** The escalation of the Iran-Israel conflict has crippled maritime transit through the Strait of Hormuz, a vital chokepoint handling 20% of global LNG trade, leading to an effective halt in gas shipments from Qatar to India.
- **Invocation of Force Majeure:** India's largest importer, Petronet LNG, and supplier QatarEnergy have invoked "Force Majeure" clauses, legally suspending contractual obligations due to "acts of war" that prevent safe vessel passage and halt production.
- **Impact on Energy Markets:** The supply uncertainty triggered a massive sell-off in Indian energy stocks, with Petronet LNG plummeting nearly 12% and other major players like GAIL, IOCL, and BPCL witnessing significant valuation erosions.
- **Domestic Gas Rationing:** In response to the anticipated shortfall, gas marketers have already commenced supply cuts of up to 40% for certain industrial sectors and City Gas Distribution (CGD) entities, potentially affecting CNG and piped natural gas (PNG) availability.
- **Vulnerability of LNG Infrastructure:** Unlike crude oil, which India stockpiles for 6-8 weeks, LNG storage is technically complex and limited, making the domestic energy matrix highly sensitive to short-term disruptions in the Persian Gulf.
- **Geopolitical Countermeasures:** To mitigate the crisis, Indian companies are scouting for spot cargoes from non-Gulf markets, while the US has signaled potential military and insurance support for merchant vessels to restore the flow of global energy supplies.



#### Key Definitions

- **Force Majeure:** A common contractual clause that frees both parties from liability or obligation when an extraordinary, unforeseeable event (e.g., war, natural disaster) beyond their control occurs.
- **Off-takers:** Entities that agree to purchase a portion of a producer's future output (in this case, GAIL, IOCL, and BPCL purchasing gas from Petronet).
- **Strait of Hormuz:** A narrow waterway between Oman and Iran connecting the Persian Gulf with the Gulf of Oman and the Arabian Sea; it is the world's most important oil and gas transit chokepoint.

#### Constitutional & Legal Provisions

- **Essential Services Maintenance Act (ESMA):** Provides the government power to ensure the delivery of essential services (like fuel and energy) during emergencies or disruptions.
- **Petroleum and Natural Gas Regulatory Board (PNGRB) Act, 2006:** Legal framework regulating the refining, processing, storage, and distribution of petroleum and natural gas to protect the interests of consumers and entities.
- **Doctrine of Frustration (Section 56, Indian Contract Act, 1872):** A legal principle where a contract becomes void if the performance of the act becomes impossible or unlawful due to an event the promisor could not prevent (the statutory equivalent of Force Majeure).



### Additional Key Points

- **Import Dependency:** India imports roughly 50% of its natural gas requirements, with over half originating from Qatar and the UAE, emphasizing the risks of high geographical concentration in energy sourcing.
- **Strategic Petroleum Reserves (SPR) vs. LNG:** While India has subterranean salt caverns for crude oil, it lacks equivalent large-scale strategic reserves for LNG, highlighting a critical gap in energy security planning.
- **Sectoral Ripple Effects:** The CGD sector relies on imported LNG for 43% of its total demand; prolonged disruption could lead to inflationary pressures on transport and household cooking costs.

### Conclusion

The current crisis underscores India's acute vulnerability to geopolitical volatility in West Asia. While short-term measures like spot market purchases and domestic rationing may provide temporary relief, the situation necessitates a long-term strategic shift toward diversifying energy sources, increasing domestic production, and investing in advanced LNG storage technologies to insulate the economy from "chokepoint politics."

### UPSC Relevance

- **GS Paper II:** Effect of policies and politics of developed and developing countries on India's interests; India's energy diplomacy in West Asia.
- **GS Paper III:** Indian Economy and issues relating to planning, mobilization of resources, and growth; Infrastructure (Energy); Security challenges in the Indian Ocean and Persian Gulf.
- **Prelims:** Mapping of the Strait of Hormuz, Ras Laffan port, and the Persian Gulf; understanding the legal concept of Force Majeure.

### 4. Industrial Safety Crisis: Recurring Chemical Leaks in Tarapur-Boisar Belt

- **Geographical Concentration and Risk:** The Tarapur-Boisar belt in Palghar is one of Maharashtra's largest chemical hubs; the high density of pharmaceutical and chemical units in a confined area significantly increases the "domino effect" risk during industrial accidents.
- **Primary Causes of Failure:** Investigations into recent leaks, including the Oleum gas leak at Bhageria Industries, point to mechanical failures in ageing infrastructure, such as level indicator glasses, hose pipes during unloading, and faulty scrubber units.
- **Hazardous Material Profile:** The region handles highly reactive substances like Oleum, Chlorine, and Sulphur Trioxide; these require specialized storage and stringent "Seveso-type" safety protocols which are often compromised by maintenance lapses.
- **Environmental and Public Health Impact:** Toxic plumes (like Sulphur Trioxide haze) frequently necessitate large-scale evacuations of schools and residential areas, highlighting the dangerous proximity of industrial zones to human settlements.
- **Regulatory Oversight Gaps:** Despite observations by the National Green Tribunal (NGT) and the Bombay High Court, issues persist regarding the frequency of inspections by the Directorate of Industrial Safety and Health (DISH) and the adequacy of safety audits.





- **Emergency Preparedness:** While over 280 mock drills were conducted recently, the difficulty in identifying leak sources during dense toxic hazes suggests a need for advanced automated leak detection systems and better sensor integration.

### Key Definitions

- **Oleum (Fuming Sulphuric Acid):** A solution of Sulphur Trioxide in Sulphuric Acid; it is highly corrosive and releases choking, toxic fumes upon contact with air moisture.
- **Scrubber Unit:** An air pollution control device used to remove particulates or gases (like acid fumes) from industrial exhaust streams before they are released into the atmosphere.
- **Level Indicator Glass:** A transparent gauge used to monitor liquid levels in high-pressure tanks; its failure is a common point of mechanical leakage in chemical plants.

### Constitutional & Legal Provisions

- **Article 21:** The Supreme Court has interpreted the "Right to Life" to include the right to a clean and safe environment, casting a duty on the State to prevent industrial disasters.
- **Environment Protection Act, 1986:** Enacted in the wake of the Bhopal Gas Tragedy, it grants the Central Government power to restrict industrial areas and lay down procedures for handling hazardous substances.
- **Factories Act, 1948 (as amended):** Contains specific chapters (Section 41-A to 41-H) dealing with hazardous processes, mandating the setting up of Safety Committees and compulsory disclosure of information by occupiers.
- **Public Liability Insurance Act, 1991:** Provides for immediate relief to persons affected by accidents occurring while handling hazardous substances through a "no-fault" liability framework.

### Additional Key Points

- **Urban Sprawl:** The encroachment of residential colonies and schools near "Major Accident Hazard" (MAH) units complicates evacuation protocols and increases casualty risks.
- **The DISH Mandate:** The Directorate of Industrial Safety and Health is the nodal agency for enforcing the Factories Act; however, manpower shortages often lead to "reactive" rather than "proactive" safety audits.
- **Technical Audits:** The recent halting of operations pending a "full safety audit" reflects a shift towards more stringent compliance before resuming production in high-risk zones.

### Conclusion

**The recurring leaks in the Tarapur-Boisar belt underscore a systemic failure to balance rapid industrialization with safety infrastructure. While mock drills improve response times, they do not address the root causes: ageing equipment and inadequate regulatory pressure. Transitioning toward "Inherently Safer Design" (ISD) and enforcing strict buffer zones between factories and civil society are essential to prevent a large-scale industrial catastrophe.**

### UPSC Relevance

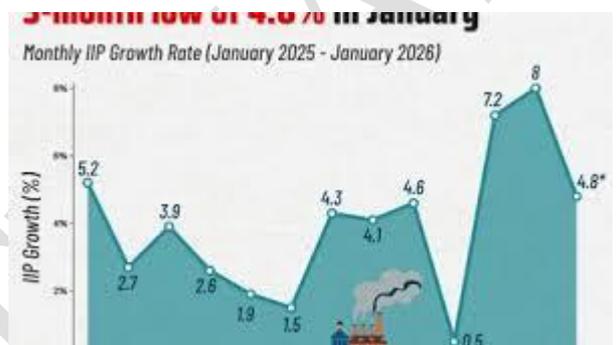
- **GS Paper II:** Statutory, regulatory, and various quasi-judicial bodies (NGT, DISH); Government policies and interventions for development in various sectors.



- **GS Paper III:** Disaster and disaster management (Chemical Disasters); Environmental pollution and degradation; Infrastructure and Industrial growth.
- **Case Study (Ethics/Mains):** Balancing economic growth/employment in industrial belts with the fundamental right to safety and environmental protection.

## 5. India's Industrial Growth: Analyzing the January 2026 IIP Slowdown

- **Broad-based Deceleration:** India's industrial activity, measured by the Index of Industrial Production (IIP), hit a three-month low of 4.8% in January 2026, dropping sharply from the 26-month high of 8% (revised) recorded in December 2025.
- **Sectoral Performance:** The manufacturing sector, which holds the largest weight in the index, slowed to 4.8%, while mining and electricity also witnessed moderated growth at 4.3% and 5.1% respectively, reflecting a cooling off from previous peaks.
- **Infrastructure as an Outlier:** Defying the general trend, the infrastructure and construction goods sector accelerated to 13.7%, the highest since August 2023, indicating sustained government capital expenditure and robust building activity.
- **Consumption Weakness:** A significant point of concern is the consumer non-durables sector, which contracted by 2.7%, suggesting a dip in rural and semi-urban demand for fast-moving consumer goods (FMCG).
- **Capital Goods Slump:** The capital goods sector—a key proxy for private investment—continued its downward trajectory for the second consecutive month, slowing to 4.3% from a high of 10.1% just two months prior.



### Key Definitions

- **Index of Industrial Production (IIP):** An abstract number that represents the status of production in the industrial sector for a given period compared to a base year (currently 2011-12). It is a short-term indicator of industrial growth.
- **Capital Goods:** Physical assets that a company uses in the production process to manufacture products and services that consumers will later use (e.g., machinery, equipment).
- **Consumer Non-Durables:** Goods that are used up immediately or have a short life span (typically less than 3 years), such as food, beverages, and toiletries.

### Constitutional & Legal Provisions

- **Article 246 & Seventh Schedule:** Industrial development falls under the Union List (Entry 52) for industries declared by Parliament to be of public interest, and the State List (Entry 24) for others.
- **National Policy on Statistics:** The data is compiled and released monthly by the National Statistical Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI), ensuring transparency and evidence-based policymaking.
- **Fiscal Responsibility and Budget Management (FRBM) Act:** Industrial performance directly impacts the government's tax revenue (GST and Corporate Tax), influencing the fiscal deficit targets mandated under this Act.



### Additional Key Points

- **Base Effect:** Some of the slowdown can be attributed to a high base effect from the previous year, though the sequential month-on-month drop indicates genuine cooling in certain segments.
- **Core Industries Impact:** Since the "Eight Core Industries" comprise nearly 40.27% of the weight in IIP, their performance (Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement, and Electricity) remains the primary driver of these figures.
- **Rural Demand Pulse:** The contraction in non-durables is often read by economists as a signal of high inflation impacting the purchasing power of lower-income households.

### Conclusion

The January 2026 IIP data presents a dual narrative: while the "Steel and Cement" driven infrastructure sector remains a powerhouse due to public spending, the slowdown in manufacturing and contraction in consumer non-durables point toward an uneven recovery. Addressing the stagnation in private capital investment and reviving rural consumption will be critical for maintaining an annual industrial growth trajectory above the 7% mark.

### UPSC Relevance

- **GS Paper III:** Indian Economy and issues relating to planning, mobilization of resources, growth, development, and employment; Industrial policy and its effects on industrial growth.
- **Prelims:** Understanding the difference between IIP and ASI (Annual Survey of Industries), the base year of IIP, the frequency of release, and the weightage of the eight core industries.
- **Economic Survey/Budget:** These monthly trends form the basis for the macroeconomic projections presented in the Parliament.

## 6. Nagaland Assembly Refers Vande Mataram Directive to Select Committee

- **Legislative Action:** The Nagaland Legislative Assembly has officially referred the Ministry of Home Affairs (MHA) directive regarding the mandatory playing/singing of the national song, *Vande Mataram*, to a House Select Committee for detailed examination.
- **Constitutional Challenge:** Members of the Assembly raised concerns that the directive, which mandates the song to precede the National Anthem, may infringe upon Article 371A, which provides special protections to Nagaland's religious and social practices.
- **Religious and Conscientious Objections:** Legislators argued that mandatory recitation of certain stanzas of the song might conflict with the religious "conscience" of the predominantly Christian population, potentially violating Article 25 (Freedom of Religion).
- **Identity vs. Uniformity:** The debate centered on the distinction between voluntary patriotism and state-imposed uniformity, with members asserting that national unity should be respectful of the unique cultural and historical identity of the Naga people.
- **Civil Society Opposition:** The move follows strong resistance from the Naga Students' Federation (NSF), which categorized the directive as an attempt to compel ideological conformity upon the Naga homeland.





- **Procedural Standpoint:** The Select Committee will now evaluate the applicability of such Central notifications within the state's specific constitutional framework before any further implementation in the Assembly.

### Key Definitions

- **Select Committee:** A small group of legislators appointed to examine a specific bill or issue in detail; they have the power to call for experts and stakeholders before submitting a report to the House.
- **National Song vs. National Anthem:** While the National Anthem (*Jana Gana Mana*) has specific constitutional status and code of conduct, the National Song (*Vande Mataram*) enjoys "equal status" in honor but lacks the same legal mandates for standing or singing under the Prevention of Insults to National Honour Act, 1971.
- **Motion of Thanks:** A formal motion moved in Parliament or State Assemblies to thank the President or Governor for their address to the house; it serves as an occasion for members to discuss government policies.

### Constitutional & Legal Provisions

- **Article 371A:** A special provision for Nagaland stating that no Act of Parliament shall apply to Nagaland in respect of religious or social practices of the Nagas, Naga customary law, and ownership of land/resources, unless the State Assembly so decides.
- **Article 25:** Guarantees freedom of conscience and the right to freely profess, practice, and propagate religion, subject to public order, morality, and health.
- **Article 29:** Protects the interests of minorities by granting them the right to conserve their distinct language, script, or culture.
- **Article 51A(a):** Part of Fundamental Duties, it mandates citizens to abide by the Constitution and respect its ideals and institutions, the National Flag, and the National Anthem. Notably, it does not explicitly mention the National Song.

### Additional Key Points

- **The Bijoe Emmanuel Case (1986):** The Supreme Court ruled that compelling a person to sing the National Anthem against their religious faith (if it doesn't disrespect the anthem) violates the fundamental right to freedom of religion.
- **MHA Directive (Jan 28, 2026):** The current controversy stems from a new notification aimed at standardizing the protocol for national symbols across all States and Union Territories.
- **Political Consensus:** Except for the BJP, members across the treasury and opposition benches in Nagaland supported the referral to the Select Committee, indicating a rare regional consensus on state identity.

### Conclusion

**The referral of the *Vande Mataram* directive to a Select Committee highlights the ongoing tension between centralized national mandates and the federal protections afforded to diverse ethnic and religious regions in India. It underscores the importance of Article 371A as a safeguard for regional identity and reflects the judiciary's historical stance that patriotism cannot be legally coerced at the expense of religious conscience.**



## UPSC Relevance

- **GS Paper II:** Indian Constitution—historical underpinnings, evolution, features, and significant provisions (Article 371A, Fundamental Rights vs. Duties); Federalism and the challenges of integration; Functions and conduct of business of State Legislatures.
- **GS Paper IV:** Ethics and Human Interface—conflict of interest between state dictates and individual conscience/religious beliefs.
- **Prelims:** Specifics of Article 371A, the status of the National Song vs. Anthem, and the powers of Assembly Select Committees.

## 7. Pakistan's Defense Export Surge: Strategic Implications for India

- **Record-Breaking Deals:** Pakistan has secured a historic \$4.6 billion arms deal with Libya's LNA and is negotiating a \$1.5 billion to \$4 billion deal with Sudan, marking a massive shift in its defense export trajectory.
- **The JF-17 Factor:** Central to these deals is the JF-17 Thunder fighter jet (developed with China). Pakistan is leveraging its "combat-proven" narrative from the May 2025 conflict to market these platforms to the Global South and conflict-ridden Arab states.
- **Third-Party Financing:** A unique feature of these transactions is financing by Gulf monarchies (UAE for Libya, Saudi Arabia for Sudan), allowing Pakistan to earn hard currency and strategic leverage without "boots on the ground."
- **Challenges to India's Parity:** Pakistan's emerging role as a "net security provider" to the Gulf could dilute India's economic advantage in the region, potentially emboldening Rawalpindi to revive cross-border provocations under the cover of newfound diplomatic legitimacy.
- **Operational Silos vs. Unified Pitch:** Unlike India's bureaucratic hurdles, Pakistan's military leadership (GHQ Rawalpindi) directly leads sales negotiations, integrating diplomacy, military-to-military links, and aggressive pricing.
- **Strategic Challenge for India:** While India's defense exports reached \$2.8 billion in 2024-25, Pakistan's cumulative claimed deals of \$13 billion signal a need for India to leverage its status as a top crude importer to "offset" trade imbalances through defense sales.

## Key Definitions

- **Force Multiplier:** A factor or a combination of factors that gives personnel or an organization the ability to accomplish greater things than without it (e.g., advanced technology or strategic alliances).
- **Net Security Provider:** A state that possesses the capacity and the will to deploy military assets to maintain regional stability and provide assistance to other nations.
- **Strategic Autonomy:** The ability of a state to pursue its national interests and adopt its preferred foreign policy without being constrained by other states.

## Constitutional & Legal Provisions

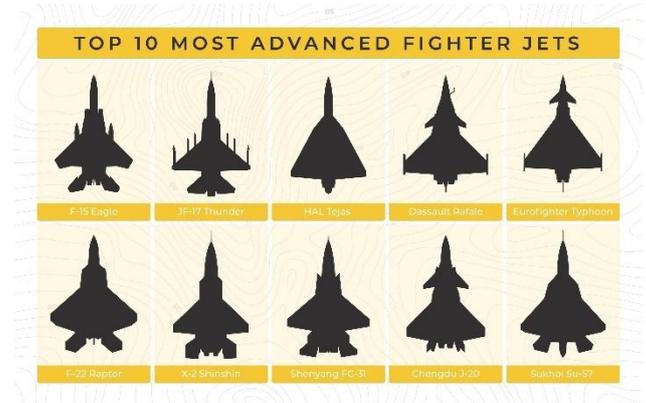
- **Article 51:** Promotion of international peace and security; while India adheres to UN arms embargoes (relevant to Libya/Sudan), it must balance ethical exports with national interest.
- **The Arms Act, 1959:** Governs the manufacturing, sale, and export of arms in India, currently being streamlined to support the "Atmanirbhar Bharat" initiative in defense.



- **UN Arms Embargoes:** International legal restrictions that Pakistan is allegedly bypassing or navigating through third-party deals, posing a challenge to the rules-based international order.

### Additional Key Points

- **The China-Türkiye Nexus:** Pakistan's production capacity relies heavily on Chinese hardware and Turkish subsystems, creating a "low-cost, high-tech" alternative for developing nations.
- **Trump-Munir "Bromance":** The transactional nature of U.S. foreign policy under President Trump may favor Pakistan as a regional subcontractor, despite concerns over Chinese technology transfers.
- **India's Export Potential:** India ranks as the world's 2nd largest importer but lags in the top 25 exporters. Bridging this gap requires a "nimble defense export promotion organization" as suggested by experts.



### Conclusion

Pakistan's "turbocharged" defense diplomacy represents a paradigm shift from seeking financial handouts to becoming a military-industrial hub for regional proxies. While Pakistan's reliance on foreign components and legal embargoes remains a vulnerability, its aggressive salesmanship has tilted the regional Geopolitical balance. India must respond by institutionalizing its defense exports and using its massive market power (as a top energy consumer) to secure long-term defense partnerships.

### UPSC Relevance

- **GS Paper II:** India and its neighborhood relations; Bilateral, regional, and global groupings involving India; Effect of policies of developed/developing countries on India's interests.
- **GS Paper III:** Indigenization of technology and developing new technology; Security challenges and their management in border areas; Linkages between development and spread of extremism.
- **Mains Perspective:** Analyzing the "Military-Industrial Complex" as a tool of foreign policy and the challenges of "Strategic Parity" in South Asia.

## 8. ASI Response on Sambhal Jama Masjid: Records and Historical Status

- **Absence of Demolition Records:** The Archaeological Survey of India (ASI) informed the Central Information Commission (CIC) that it possesses no historical documents or records indicating whether the 16th-century Jama Masjid in Sambhal was built over the ruins of a pre-existing structure or on vacant land.
- **Ownership and Land Use:** Responding to an RTI query, the ASI clarified that its archives do not contain the name of the original landowner at the time of construction, nor any documents pertaining to the transfer of ownership rights or subsequent new constructions after it became a protected site.
- **Confirmed Construction Date:** According to ASI's available supporting material, the mosque was constructed in 1526, coinciding with the beginning of the Mughal era in India.



- **Naming and Protection:** The department stated that the structure has been officially protected under the name "Jama Masjid Sambhal" and that no records suggest it was known by any other name prior to its current designation.
- **Context of Legal Dispute:** This clarification comes amid an ongoing legal petition claiming the mosque stands atop an ancient Hindu temple, placing the ASI's documented history at the center of the judicial discourse.
- **Scope of RTI Response:** The ASI's reply to the CIC underscores the limitations of archival data regarding medieval architectural transitions, particularly concerning the exact nature of the site prior to 1526.



### Key Definitions

- **Archaeological Survey of India (ASI):** A premier statutory organization under the Ministry of Culture, responsible for archaeological research and the protection of the cultural heritage of the nation.
- **Mughal Architecture:** A distinct Indo-Islamic architectural style that developed under the Mughal Empire (16th–18th century), characterized by large bulbous domes, slender minarets, and massive halls.
- **Central Information Commission (CIC):** The highest appellate body under the Right to Information Act, 2005, tasked with adjudicating disputes related to the denial of information by public authorities.

### Constitutional & Legal Provisions

- **Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958:** The primary legal framework under which the ASI protects and maintains monuments of national importance, like the Sambhal Jama Masjid.
- **Places of Worship (Special Provisions) Act, 1991:** A crucial law that mandates that the religious character of a place of worship shall continue to be the same as it existed on August 15, 1947, with certain exceptions for ancient monuments under the AMASR Act.
- **Article 49 (DPSP):** Directs the State to protect every monument or place of artistic or historic interest, declared by or under law made by Parliament to be of national importance.
- **Right to Information (RTI) Act, 2005:** Section 6 of this act allows citizens to seek information from public authorities, which in this case led to the disclosure of the ASI's lack of specific demolition records.

### Additional Key Points

- **Historical Significance:** The year 1526 marks the First Battle of Panipat and the establishment of the Mughal Empire by Babur, making this mosque one of the earliest examples of Mughal-era construction in India.
- **Judicial Scrutiny:** Similar to the Gyanvapi and Shahi Idgah disputes, the Sambhal case highlights the increasing reliance on "scientific surveys" and "historical records" to settle long-standing religious-territorial claims.



- **Archival Gaps:** The ASI's statement reflects a common challenge in Indian archaeology where specific "mutation" or "demolition" records from the early medieval period are often non-existent or lost.

### Conclusion

The ASI's statement to the CIC confirms the 1526 origin of the Sambhal Jama Masjid while highlighting a significant vacuum in documented evidence regarding its pre-Mughal state. While this "lack of information" does not prove or disprove either side of the temple-mosque debate, it underscores the difficulty of using colonial and post-colonial archives to resolve medieval structural transitions. This development shifts the burden of proof to archaeological excavation and scientific surveying in the ongoing legal proceedings.

### UPSC Relevance

- **GS Paper I:** Indian Culture—salient aspects of Art Forms, Literature, and Architecture from ancient to medieval times (Mughal Architecture).
- **GS Paper II:** Statutory, regulatory, and various quasi-judicial bodies (ASI, CIC); Important aspects of governance, transparency, and accountability (RTI).
- **GS Paper IV:** Ethics and Human Interface—balancing religious sentiments with historical facts and legal mandates.
- **Prelims:** Understanding the provisions of the AMASR Act 1958 and the Places of Worship Act 1991; mapping the location of important medieval monuments.

## 9. Strategic Defense Acquisitions: MoD Inks Rs 5,083 Crore Contracts for ALH Mk-III and VL-Shtil

- **Combined Strategic Investment:** The Ministry of Defence (MoD) has finalized two major contracts totaling Rs 5,083 crore to bolster the maritime and aerial combat capabilities of the Indian Coast Guard (ICG) and the Indian Navy.
- **Indigenization of Aviation:** A Rs 2,901 crore contract was signed with Hindustan Aeronautics Limited (HAL) for six ALH Mk-III (Maritime Role) helicopters under the Buy (IDDM) category, specifically designed for shore-based and ship-borne operations.
- **Advanced Air Defence:** The Indian Navy will procure "Vertical Launch - Shtil" surface-to-air missiles from Russia's JSC Rosoboronexport for Rs 2,182 crore to provide high-velocity, all-weather protection for frontline warships.
- **Socio-Economic Multiplier:** The ALH project alone is set to involve over 200 MSMEs and generate approximately 65 lakh man-hours of employment, reinforcing the "Aatmanirbhar Bharat" and "Make in India" paradigms in the defense sector.
- **Operational Versatility:** The ALH Mk-III (MR) incorporates state-of-the-art sensor suites to enhance the protection of artificial islands, offshore installations, and the marine environment, while the Shtil missiles strengthen the Navy's layered air defense architecture.





- **Strategic Partnership:** While the helicopter deal pushes for self-reliance, the missile contract underscores the "time-tested" defense ties between India and Russia, ensuring critical technology for contested maritime environments.

### Key Definitions

- **Buy (IDDM):** Indigenously Designed, Developed and Manufactured. It is the highest priority category for procurement under the Defence Acquisition Procedure (DAP), requiring at least 50% Indigenous Content (IC).
- **Vertical Launch System (VLS):** An advanced system for firing missiles from mobile platforms like ships. It allows for a 360-degree engagement capability and a higher rate of fire compared to older rail launchers.
- **Shtil-1 Missile System:** A ship-borne multi-channel medium-range surface-to-air missile system designed to provide defense against aircraft, helicopters, and anti-ship missiles.

### Constitutional & Legal Provisions

- **Seventh Schedule (Article 246):** "Defence of India" is a subject under the Union List (Entry 1), giving the Central Government exclusive power to legislate and enter into defense contracts.
- **Defence Acquisition Procedure (DAP) 2020:** The guiding regulatory framework that streamlines the procurement process to ensure transparency, accountability, and the promotion of the domestic defense industry.
- **Article 297:** Provides that all lands, minerals, and other things of value underlying the ocean within the territorial waters, or the continental shelf, or the exclusive economic zone (EEZ) of India shall vest in the Union, necessitating the ICG's role in their protection.

### Additional Key Points

- **Role of the Indian Coast Guard:** The ALH induction helps the ICG fulfill its statutory duties under the Coast Guard Act, 1978, particularly regarding the safety of offshore terminals and assistance to fishermen.
- **Layered Air Defence:** The Shtil missiles function as a medium-range layer, complementing short-range systems (like Barak-1) and long-range systems (like LRSAM/Barak-8), ensuring 360-degree survivability.
- **Technological Edge:** The ALH Mk-III features a glass cockpit, high-intensity searchlights, and maritime patrol radars, making it superior to older legacy platforms like the Chetak.

**The simultaneous focus on domestic manufacturing (HAL) and strategic imports (Russia) reflects India's pragmatic "Multi-Alignment" defense policy. By enhancing the Coast Guard's surveillance and the Navy's interceptive capabilities, the MoD is securing India's vast EEZ against both traditional and non-traditional threats. This dual-track approach balances the immediate need for advanced technology with the long-term goal of total self-reliance in defense production.**

### UPSC Relevance

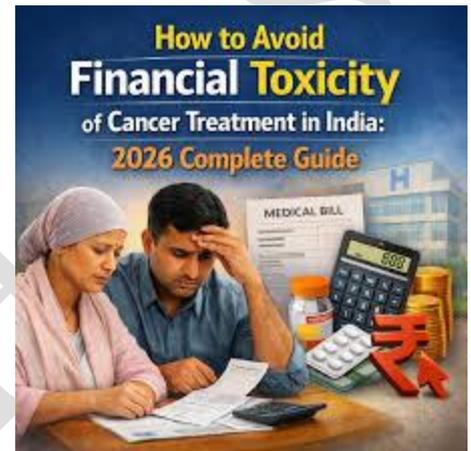
- **GS Paper II:** Bilateral, regional and global groupings and agreements involving India; Effect of policies of developed and developing countries on India's interests (India-Russia ties).



- **GS Paper III:** Indigenization of technology and developing new technology; Security challenges and their management in border areas—Maritime Security; Role of external state and non-state actors in creating challenges to internal security.
- **Prelims:** Specifics of the "Buy (IDDM)" category, capabilities of ALH Mk-III, and the geography of India's maritime boundaries/offshore installations.

## 10. Addressing Financial Toxicity in India's Cancer Care Landscape

- **Rising Disease Burden:** India faces a critical health challenge with one in nine individuals at a lifetime risk of developing cancer, leading to increased morbidity and a surge in the demand for specialized oncology services.
- **The "Financial Toxicity" Crisis:** Beyond biological impact, cancer induces severe economic strain—termed "financial toxicity"—forcing socioeconomically vulnerable families into debt, treatment discontinuation, or the abandonment of evidence-based care.
- **Out-of-Pocket Expenditure (OOPE) Gap:** While many health insurance packages cover hospitalization, they frequently exclude high-cost chemotherapy drugs and advanced diagnostic tests, which constitute over 60% of total treatment costs.
- **The Traditional Medicine Trap:** Financial distress often drives patients toward unproven traditional healers; this delay typically results in cancer progressing from curable to incurable stages, eventually leading to even higher terminal care costs.
- **Catastrophic Health Expenditure:** A recent Lancet study identifies cancer as a primary driver of catastrophic spending in India, where the cost of life-saving medicines remains the single largest barrier to meaningful digital and health inclusion.
- **Systemic Need for Affordability:** Bridging the gap requires a multi-stakeholder approach to lower the cost of next-generation oncology drugs, expand insurance coverage to outpatient diagnostics, and strengthen public sector infrastructure.



### Key Definitions

- **Financial Toxicity:** The objective financial burden (out-of-pocket costs) and subjective financial distress experienced by patients due to the high cost of medical care, which negatively impacts their quality of life and treatment outcomes.
- **Out-of-Pocket Expenditure (OOPE):** The direct payments made by individuals to health care providers at the time of service, excluding any third-party or government reimbursements.
- **Catastrophic Health Expenditure:** Health spending that exceeds a certain threshold of a household's discretionary income (usually 10% or 25%), often forcing families to cut down on basic necessities like food or education.

### Constitutional & Legal Provisions

- **Article 21:** The Supreme Court of India has consistently held that the "Right to Life" encompasses the "Right to Health," placing a constitutional obligation on the State to provide affordable and accessible healthcare.



- **Article 47 (DPSP):** Directs the State to regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties.
- **National Health Policy (NHP), 2017:** Aims to increase government health expenditure to 2.5% of GDP and seeks to reduce catastrophic health spending by ensuring "Universal Access to Good Quality Health Care Services."
- **Ayushman Bharat - PMJAY:** The world's largest government-funded healthcare program providing a cover of Rs 5 lakh per family per year for secondary and tertiary care, which includes various oncology packages.

### Additional Key Points

- **Drug Pricing Controls:** The National Pharmaceutical Pricing Authority (NPPA) has previously invoked "extraordinary powers" to cap the trade margins of non-scheduled cancer drugs to make them more affordable.
- **Diagnostic Infrastructure:** The high cost of PET-CT scans and molecular profiling remains a major hurdle; expanding the "National Dialysis Programme" model to oncology diagnostics could be a potential solution.
- **The Lancet Study Insights:** Highlights that in low- and middle-income countries (LMICs), the lack of a robust primary healthcare referral system often leads to late-stage diagnosis, which is inherently more expensive to treat.

### Conclusion

**Making cancer treatment affordable in India is not merely a medical necessity but an economic imperative. While schemes like Ayushman Bharat have provided a safety net for hospitalization, the exclusion of outpatient drugs and diagnostics remains a major policy loophole. Reducing financial toxicity requires a shift toward "value-based care," aggressive price capping of essential oncology drugs, and a massive scale-up of public diagnostic facilities to ensure that a diagnosis of cancer does not translate into a sentence of poverty.**

### UPSC Relevance

- **GS Paper II:** Issues relating to the development and management of Social Sector/Services relating to Health; Government policies and interventions for development in various sectors.
- **GS Paper III:** Economics of health and its impact on human capital; Role of technology in healthcare.
- **Mains Perspective:** Assessing the efficacy of the "National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)" and the challenges in achieving Universal Health Coverage (UHC).

## 11. Advancing India's Innovation: The Case for Mandatory R&D Disclosure

- **The "Market for Lemons" Paradox:** Applying George Akerlof's theory, India's corporate R&D intensity stagnates at 0.23% of GDP because innovation is "invisible." When capital markets cannot distinguish high-quality research from low-quality "copycats," they undervalue all innovation, leading to systemic underinvestment.
- **Impact of Transparency on Growth:** Global evidence suggests that improved R&D disclosures can raise R&D intensity by 6%-14%. Transparency specifically drives investment toward risky, long-term innovation rather than safer "brick-and-mortar" tangible assets.



- **Proposed Disclosure Framework:** To correct information asymmetry, a "Mandatory R&D and Technology Disclosure Standard" is proposed under SEBI's LODR Regulations. This would track five metrics: R&D expenditure granularity, patent activity, technology workforce depth, Technology Readiness Levels (TRL), and innovation turnover (revenue from new products).
- **Portfolio Purification:** Mandatory disclosure acts as a "Bayesian signal," allowing firms to observe competitors. This leads to "portfolio purification," where companies rationally prune low-quality or duplicative projects and shift capital toward stronger scientific bets.
- **Market-Driven Discipline:** Unlike government mandates on spending, structured disclosure is non-distortionary. It empowers investors—rather than the state—to reward genuine innovators, thereby lowering the cost of capital for high-tech firms.
- **Implementation Strategy:** A two-year voluntary "familiarization period" is recommended before transitioning to a mandatory regime to ensure data quality and allow firms to adapt to the new reporting standards.

### Key Definitions

- **R&D Intensity:** The ratio of a company's (or country's) research and development expenditure to its total revenue (or GDP). It is a key indicator of an economy's innovation-led growth potential.
- **Information Asymmetry:** A situation in a market where one party (the firm) has more or better information than the other (the investor), leading to market inefficiencies like mispricing.
- **Technology Readiness Level (TRL):** A measurement system used to assess the maturity level of a particular technology, ranging from basic principles (TRL 1) to "flight proven" or fully commercialized systems (TRL 9).



### Constitutional & Legal Provisions

- **Article 51A(h):** Part of Fundamental Duties, it urges citizens to develop the "scientific temper, humanism and the spirit of inquiry and reform," providing a moral basis for fostering an innovation ecosystem.
- **SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015:** The primary legal tool proposed to enforce R&D standards, ensuring that listed companies maintain transparency for the protection of investors.
- **National Intellectual Property Rights (IPR) Policy, 2016:** Aims to create a vibrant IP ecosystem in India; the proposed R&D disclosure standards would directly complement this by tracking patent lifecycles.
- **Science, Technology, and Innovation Policy (STIP):** A framework that aims to position India among the top three scientific superpowers, where private sector R&D contribution is a critical milestone.



### Additional Key Points

- **Lessons from China and Korea:** Mandatory intangible disclosures in these economies led to higher innovation in non-state, financially constrained high-tech firms, proving that transparency unlocks capital.
- **Intangible Assets:** In the modern economy, a firm's value is increasingly derived from "intangibles" like software, patents, and designs rather than physical machinery.
- **Non-Proprietary Disclosure:** The proposal emphasizes that firms need not reveal "trade secrets" but rather structural metrics that allow analysts to value the innovation pipeline accurately.

### Conclusion

**India's innovation stagnation is not just a failure of intent, but a failure of information. By adopting mandatory R&D disclosure standards, India can move away from a "lemon market" where innovation is hidden and undervalued. Such a move would professionalize the venture capital and equity markets, ensuring that capital flows toward high-quality scientific breakthroughs, ultimately fueling India's transition to a high-income, knowledge-based economy.**

### UPSC Relevance

- **GS Paper III:** Indian Economy and issues relating to planning, mobilization of resources, and growth; Science and Technology—developments and their applications; Indigenization of technology.
- **GS Paper II:** Statutory, regulatory, and various quasi-judicial bodies (SEBI); Government policies and interventions for development.
- **Mains Perspective:** Assessing the reasons behind low private sector R&D in India and the role of "Market Discipline" vs. "State Subsidies" in fostering innovation.

## 12. Faith and Conservation: Governing Religious Tourism in Protected Areas

- **Ecological-Religious Intersection:** India's sacred geography, including shrines, groves, and pilgrimage routes, often overlaps with ecologically sensitive habitats and Protected Areas (PAs), where traditional belief systems historically acted as a conservation tool.
- **Pressure of Mass Tourism:** The transition from seasonal community rituals to commercialized mass tourism has placed unprecedented strain on forest ecosystems, leading to habitat fragmentation, plastic pollution, and increased human-wildlife conflict.
- **Legal Precedents and SCNBWL:** The Standing Committee of the National Board for Wildlife (SCNBWL) recently deliberated on proposals for expanding religious structures within sanctuaries, highlighting the risk of setting a precedent for diverting forest land for non-forestry religious purposes.
- **The "No-Expansion" Principle:** Experts advocate for a strict policy where no new constructions or enlargement of existing structures are permitted within core forest areas, while acknowledging sites that pre-date the notification of the protected area.





- **Green Pilgrimage Model:** Successful pilots in reserves like Kalakad-Mundanthurai suggest that "Green Pilgrimage" guidelines—including caps on visitor numbers, night traffic bans, and community-led waste management—can harmonize faith with ecology.
- **Rights of Forest Dwellers:** Any regulation of religious sites must be preceded by the recognition of rights under the Forest Rights Act (FRA), 2006, ensuring that traditional forest-dwelling communities are not marginalized in the name of conservation.

### Key Definitions

- **Sacred Groves:** Communally protected forest fragments, often harboring rare flora and fauna, preserved due to religious beliefs and dedicated to local deities.
- **Protected Areas (PAs):** Geographic spaces (National Parks, Sanctuaries) recognized and managed through legal means to achieve the long-term conservation of nature.
- **Standard Operating Procedure (SOP):** A set of step-by-step instructions compiled by an organization to help workers carry out complex routine operations, proposed here for managing religious proposals in forests.

### Constitutional & Legal Provisions

- **Article 48A (DPSP):** Mandates the State to protect and improve the environment and to safeguard the forests and wildlife of the country.
- **Article 51A(g):** Fundamental Duty of every citizen to protect and improve the natural environment including forests, lakes, rivers, and wildlife.
- **Wildlife (Protection) Act, 1972:** Provides the legal framework for the protection of various species of wild animals and plants and for the management of their habitats.
- **Forest (Conservation) Act, 1980:** Prohibits the use of forest land for non-forest purposes (including religious construction) without prior approval from the Central Government.
- **The Forest Rights Act (FRA), 2006:** Recognizes the individual and community forest rights of Scheduled Tribes and Other Traditional Forest Dwellers (OTFD) who have been residing in such forests for generations.

### Additional Key Points

- **Impact of Linear Infrastructure:** Roads built to facilitate pilgrimage often lead to high "roadkill" rates and disturb the "corridor" connectivity essential for large mammals like tigers and elephants.
- **Stakeholder Governance:** Effective management requires a "multi-stakeholder mechanism" involving Forest Departments, Temple Trusts, and local Gram Sabhas to ensure compliance with environmental norms.
- **Biotic Pressure:** Unregulated waste and water use by millions of pilgrims can lead to the contamination of forest streams, which are primary water sources for wildlife.

### Conclusion

The challenge of managing religious sites within India's forests is a delicate balancing act between constitutional secularism, cultural rights, and ecological integrity. While a blanket ban is culturally and legally untenable, the "Green Pilgrimage" model offers a sustainable middle path. By enforcing a "zero-expansion" rule and integrating local communities into governance, India can preserve its sacred landscapes without sacrificing its biodiversity.



## UPSC Relevance

- **GS Paper I:** Indian Culture (Sacred Groves and Pilgrimage); Geography (Ecologically Sensitive Zones).
- **GS Paper II:** Government policies and interventions for development in various sectors; Issues arising out of their design and implementation.
- **GS Paper III:** Conservation, environmental pollution, and degradation; Environmental Impact Assessment (EIA); Disaster Management.
- **Mains Perspective:** "Can religion be a tool for conservation in the 21st century?" or "The conflict between developmental/religious needs and the Wildlife Protection Act."

## 13. India's Strategic Combat Shift: The 114 Rafale Deal and the Quest for Software Sovereignty

- **Strategic Procurement Milestone:** The Defence Acquisition Council (DAC) has cleared the "Acceptance of Necessity" (AoN) for 114 Multi-Role Fighter Aircraft (MRFA), specifically the Rafale, in a deal valued at approximately **₹3.25 lakh crore**. This aims to address the critical depletion of the Indian Air Force (IAF) fleet, which currently operates only **29 squadrons** against a sanctioned strength of **42**.
- **The "Make in India" Mandate:** Of the 114 jets, only 18 will be in "fly-away" condition. The remaining **96 units** are to be manufactured domestically, with **Tata Advanced Systems** and **Dassault Aviation** establishing a production ecosystem in Hyderabad. Indigenous content is targeted to scale from an initial **30%** to a significant **60%**.
- **The Source Code Deadlock:** A major strategic hurdle remains France's refusal to share critical **source codes** for electronic warfare and radar systems. Without these, India lacks "design authority," limiting its ability to independently integrate indigenous weapons (like the **Astra missile**) or perform autonomous software upgrades, maintaining a long-term "vendor dependency."
- **Geopolitical Hedging (The Su-57 Offer):** In contrast to Western "gatekeeping," Russia has reportedly offered "unprecedented" access to the **Su-57 stealth fighter's** source code for co-production. This serves as a strategic lever for New Delhi to negotiate better terms with France and the U.S., though Russian industrial constraints under global sanctions remain a concern.
- **Transition to "Modifier-Exporter":** India's recent **\$3 billion deal** to export upgraded **Su-30MKI** fighters to Armenia—equipped with the indigenous **Uttam AESA radar**—signals a maturation from a mere licensee to a sophisticated "modifier-exporter," marking a new era in Indian defense diplomacy.
- **Fiscal and Industrial Policy:** The **Union Budget 2026-27** allocated a record **₹7.85 lakh crore** to defense, with **75%** of the capital outlay reserved for domestic procurement. This is designed to force global OEMs to move beyond assembly and build deep-tier supply chains (Tier 2/3) within India.





## Key Definitions

- **Source Code:** The foundational programming that controls a fighter jet's mission computer, radar, and weapon systems. Ownership of the code is essential for "software-defined warfare" and independent customization.
- **Acceptance of Necessity (AoN):** The first formal step in India's defense procurement process, where the DAC acknowledges a capability gap and approves the commencement of the acquisition cycle.
- **Fly-away Condition:** Refers to aircraft delivered fully assembled and ready for immediate operational use by the manufacturer.
- **Integrated Air Command and Control System (IACCS):** An automated system for air defense that integrates all ground-based and airborne sensors and weapon systems into a single network.

## Constitutional & Legal Provisions

- **Article 246 (Union List):** Defense of India and the Armed Forces fall under the exclusive legislative domain of the Parliament (Entry 1 and 2 of List I).
- **Defence Acquisition Procedure (DAP) 2020:** The primary regulatory framework governing the "Make in India" initiatives and the "Buy (Global-Manufacture in India)" categories relevant to the Rafale deal.
- **Section 3 of the Official Secrets Act, 1923:** Often invoked regarding the confidentiality of defense "source codes" and technical specifications during international negotiations.

## Additional Key Points

- **Operation Sindoor (May 2025):** A massive BVR (Beyond-Visual-Range) engagement that underscored the IAF's need for qualitative superiority (software and sensors) over numerical parity against a two-front threat.
- **Talent and Infrastructure:** For India to move from a "Tier 0 Assembler" to a "Design Sovereign," it must double R&D intensity (currently receiving ₹29,100 crore) and address the shortage of high-end aerospace engineers.
- **The "Trump Factor":** The return of a transactional U.S. administration poses risks to engine deliveries (GE F404/F414), reinforcing the need for India to diversify its technology partners across France, Russia, and Israel.

## Conclusion

The 114 Rafale acquisition is a watershed moment for India's industrial positioning. However, true "Strategic Autonomy" in modern warfare is not measured by the number of airframes on the tarmac, but by the ownership of the software architecture within them. While "Make in India" solves the problem of production geography, only the acquisition of source codes or the success of indigenous platforms like **Tejas Mk2** and **AMCA** will solve the problem of technological sovereignty.

## UPSC Relevance

- **GS Paper II:** Bilateral and global groupings involving India (India-France/India-Russia Strategic Partnership); Effect of policies of developed countries on India's interests.
- **GS Paper III:** Science & Technology—Indigenization of technology; Security challenges and their management in border areas; Defense Budgeting.



- **Mains Perspective:** "The shift from being a sophisticated customer to a global defense manufacturer: Challenges and Opportunities for India."

## 14. Regional Rupture: The Pakistan-Afghanistan "Open War" and the Durand Line Crisis

- **Escalation to "Open War":** Following a series of lethal military exchanges in late February 2026, Pakistan's Defence Minister declared an "open war" against Afghanistan. This follows the breakdown of a ceasefire mediated by Turkiye and Qatar after initial clashes in October 2025, marking the most severe bilateral crisis since the Taliban's 2021 takeover.
- **Deepening Military Conflict:** Pakistan has shifted from border skirmishes to deep-territory aerial and missile strikes (Operation Ghazab lil-Haq) targeting Kabul and Kandahar. In retaliation, the Taliban launched a large-scale offensive, purportedly capturing multiple Pakistani border posts and employing drone warfare to target military installations across the Durand Line.
- **The TTP Friction Point:** The core driver of the conflict is the Tehrik-e-Taliban Pakistan (TTP), which Pakistan accuses the Afghan Taliban of harboring. Despite earlier hopes for "strategic depth," TTP attacks inside Pakistan surged by 74% in 2025, resulting in over 3,400 combat-related deaths—the highest toll in a decade.
- **Strategic Asymmetry:** There remains a stark power imbalance: Pakistan possesses a conventional air force and a \$93 billion defense budget, while the landlocked Taliban administration is economically dependent on Pakistani trade routes and Karachi port. However, the Taliban utilizes asymmetric guerrilla tactics and ideological kinship with the TTP to counter Islamabad's conventional edge.
- **Societal and Humanitarian Divide:** Beyond military strikes, the relationship is fractured by Pakistan's mass deportation of Afghan refugees (nearly 20,000 awaiting US resettlement were targeted in February 2026 alone). This policy has triggered intense resentment in Afghanistan, severing age-old cross-border community ties and Pashtun unity.
- **Geopolitical Realignment:** The conflict is occurring amidst shifting global dynamics, with the US showing renewed interest in Afghan airbases and Pakistan securing a mutual defense pact with Saudi Arabia. This emboldens Pakistan's military establishment to pursue a hardline "externalization" of its internal security failures.



### Key Definitions

- **Durand Line:** The 2,640 km (1,640-mile) porous border between Afghanistan and Pakistan, established in 1893. While Pakistan recognizes it as the international border, successive Afghan governments, including the Taliban, view it as an illegitimate colonial imposition.
- **Strategic Depth:** A Pakistani military doctrine aimed at establishing a friendly, subordinate government in Afghanistan to provide a safe "rear area" in the event of a conflict with India.
- **Tehrik-e-Taliban Pakistan (TTP):** An umbrella organization of various Islamist militant groups operating along the Afghan–Pakistani border. While distinct from the Afghan Taliban, they share ideological roots and provide mutual sanctuary.



- **Operation Ghazab lil-Haq:** (Arabic for "Wrath for the Truth") The 2026 Pakistani military operation involving coordinated air and ground strikes against militant hideouts and Taliban positions in Afghanistan.

### Constitutional & Legal Provisions

- **Article 51 of the UN Charter:** Invoked by Pakistan to justify its "right to self-defense" and "hot pursuit" of terrorists across international borders.
- **Article 1 of the Afghan Constitution (Historical Context):** Historically, Afghanistan has contested the legality of the Durand Line, asserting its sovereignty over Pashtun-majority areas in Pakistan's Khyber Pakhtunkhwa.
- **1951 Refugee Convention:** Though Pakistan is not a signatory, it is bound by the principle of *non-refoulement* under customary international law, which prohibits returning refugees to a country where they face persecution—a central point of legal contention regarding the 2026 deportations.

### Additional Key Points

- **The "General's" Status:** The current Pakistani military leadership's rapport with US President Donald Trump has reportedly provided "strategic space" for more adventurous regional military actions compared to previous years.
- **Economic Leverage:** Pakistan's ability to close border passes (like Torkham and Chaman) acts as a "chokehold" on the Afghan economy, which relies on these corridors for 80% of its essential imports.
- **Indian Factor:** Pakistan continues to allege "Indian collusion" with the TTP and Baloch insurgents via Afghan soil—accusations that India has dismissed as "baseless attempts to externalize internal failures."

### Conclusion

The "open war" declaration signifies the final collapse of Pakistan's decades-old policy of using the Taliban as a strategic asset. What was once intended to be "strategic depth" has transformed into a "strategic trap." As both nations move toward a protracted conflict, the escalating military asymmetry and the weaponization of refugee populations threaten to destabilize the entire South Asian security architecture, leaving the Durand Line as one of the world's most volatile flashpoints.

### UPSC Relevance

- **GS Paper II:** India and its neighborhood-relations; Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
- **GS Paper III:** Security challenges and their management in border areas; Linkages of organized crime with terrorism; Role of external state and non-state actors in creating challenges to internal security.
- **Mains Perspective:** "Analyze the failure of Pakistan's 'Strategic Depth' policy and its implications for India's regional security."

## 15. Generative AI and Data Sovereignty in Healthcare: Risks and Redressal

- **Disproportionate Risk Profile:** A recent report by Netskope Threat Labs reveals that 89% of data policy violations in healthcare involve regulated patient data, nearly triple the cross-industry average of 31%, highlighting an acute vulnerability in the sector.



- **Internal Security Gaps:** Despite the acceleration of internal AI tool deployment, 43% of healthcare workers continue to use personal GenAI accounts for professional tasks, creating "shadow IT" environments where security systems cannot detect or prevent data leaks.
- **Leakage via Prompts:** Sensitive medical information and patient records are frequently exposed through prompts and document uploads on public AI platforms like OpenAI, AssemblyAI, and Anthropic, often without proper de-identification.
- **Cloud Storage Vulnerabilities:** Nearly 56% of healthcare organizations have had to block file uploads to personal Google Drive, Gmail, and OneDrive accounts to prevent unauthorized data exposure and malware distribution through trusted cloud interfaces.
- **Shift toward Managed AI:** To mitigate risks, there is a growing trend of organizations deploying proprietary, managed GenAI applications that offer full visibility and control over data movements, outpacing similar transitions in other industries.
- **Regulatory Urgency:** The report emphasizes that while external cyber threats remain a priority, addressing "internal risk" through stringent security guardrails and behavioral modification is essential for compliance in the highly regulated healthcare landscape.

### Key Definitions

- **Generative AI (GenAI):** Artificial intelligence capable of generating text, images, or other media in response to prompts, often using Large Language Models (LLMs) that may store user input for training.
- **Shadow IT:** The use of information technology systems, devices, software, applications, and services without explicit IT department approval within an organization.
- **Application Programming Interface (API):** A set of rules that allows different software entities to communicate. In this context, it refers to the traffic between healthcare systems and AI models.

### Constitutional & Legal Provisions

- **Article 21:** The Right to Privacy is a fundamental right under the Right to Life and Personal Liberty, as affirmed by the Supreme Court in the *Justice K.S. Puttaswamy* case (2017), which extends to sensitive health data.
- **Digital Personal Data Protection (DPDP) Act, 2023:** Specifically classifies health data as a form of personal data that requires explicit consent for processing and mandates strict "data fiduciary" obligations on healthcare providers.
- **Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011:** Requires body corporates to implement documented security programs to protect sensitive personal data like medical records.
- **Digital Information Security in Healthcare Act (DISHA):** A proposed legal framework in India specifically designed to regulate the generation, storage, and transmission of digital health data while ensuring privacy and security.





### Additional Key Points

- **Malware Distribution:** Cyber attackers are increasingly exploiting the "inherent trust" employees place in personal cloud applications to distribute malware within hospital networks.
- **Behavioral Modification:** Institutions are focusing on training staff to use approved proprietary software instead of free public chatbots to ensure prompts do not become part of public training sets.
- **API Traffic Monitoring:** 63% of healthcare organizations now detect significant API traffic to AI service providers, indicating that AI integration is happening faster than security policy updates.

### Conclusion

The rapid adoption of GenAI in healthcare has outpaced the implementation of necessary security guardrails, leading to a significant "privacy debt." While AI offers transformative potential for diagnostics and administrative efficiency, the current reliance on personal accounts and public prompts poses a catastrophic risk to patient confidentiality. Sustainable integration requires a transition to "private-by-design" AI architectures and a robust legal enforcement of data fiduciary responsibilities to ensure that technological progress does not come at the cost of fundamental privacy rights.

### UPSC Relevance

- **GS Paper II:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation (Health & IT); Important aspects of governance, transparency, and accountability.
- **GS Paper III:** Challenges to internal security through communication networks; Role of media and social networking sites in internal security challenges; Basics of cyber security; Awareness in the fields of IT, Space, Computers, Robotics, and AI.
- **Mains Perspective:** "Analyze the ethical and legal challenges of integrating Generative AI in the healthcare sector with special reference to the DPDP Act, 2023."