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Dr. GINDI'S IAS ACADEMY

DAILY CURRENT AFFAIRS

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Dr. GINDI'S I.A.S. ACADEMY
Civils & Competitive Careers
TRANSFORMING ASPIRANTS INTO ACHIEVERS

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A/C CAMPUS

Table of Contents

DAILY CURRENT AFFAIRS	2
1. India-France Bilateral Talks: Economic Security & Innovation	2
2. NCERT Textbook Alteration: Mohenjo-daro's 'Dancing Girl'	3
3. India-France Special Global Strategic Partnership: Key Outcomes	4
4. India-China UNESCO Joint Nomination: Xuanzang's Chronicles	5
5. Ladakh Governance Deadlock: Article 371 & Administrative Control	6
6. Waqf Board Composition Controversy: Non-Muslim Nominations	7
7. Holistic Early Childhood Development: The Anganwadi Paradigm Shift	8
8. Smart Village Initiative: Odisha's AI Crocodile Alert & Rural Tech	10
9. Indo-Pacific Security Dynamics: Expanding Chinese Missile Capabilities	11
10. Technology Incubation & Strategic Sovereignty: India's Innovation Next ...	12
11. Frontier AI Export Controls: Structural Risks to India's Tech Sector	13
12. Indus Waters Treaty Freeze: India Ramps Up J&K Hydropower	15

DAILY CURRENT AFFAIRS

1. India-France Bilateral Talks: Economic Security & Innovation

- **Special Global Strategic Partnership:** India and France have elevated their ties to a 'Special Global Strategic Partnership', reflecting a deepened level of defense, technological, and geopolitical cooperation.
- **Economic Security Dialogue:** The leaders established a new 'Dialogue on Economic Security' to safeguard critical supply chains, counter economic coercion, and protect strategic assets from external vulnerabilities.
- **Innovation Roadmap 2030:** Both nations adopted a comprehensive 'Innovation Roadmap 2030' to provide long-term direction to technological collaboration, underscored by the signing of 19 ecosystem agreements.
- **Artificial Intelligence Cooperation:** A Joint India-France AI Working Group has been created to expand bilateral research, ethical governance, and development in AI.
- **India-EU FTA Acceleration:** The meet strongly advocated for the expedited conclusion and adoption of the India-European Union Free Trade Agreement (FTA) to boost market access.

Key Definitions & Provisions

- **Economic Security:** The practice of protecting a nation's economy from external threats, ensuring supply chain resilience, and safeguarding critical technologies (like semiconductor and telecom infrastructure).
- **Constitutional & Legal Provisions:** **Article 73** of the Indian Constitution extends the executive power of the Union to international treaties. **Article 51 (c)** (Directive Principles) fosters respect for international law and treaty obligations. Strategic tech transfers adhere to India's **Foreign Trade (Development and Regulation) Act, 1992** and global export control regimes like the Wassenaar Arrangement.

Conclusion

The Nice bilateral meet transitions the India-France relationship from traditional defense procurement to a future-ready partnership anchored in economic resilience and tech co-development, positioning both nations as stabilizing forces in a fragmented geopolitical landscape.

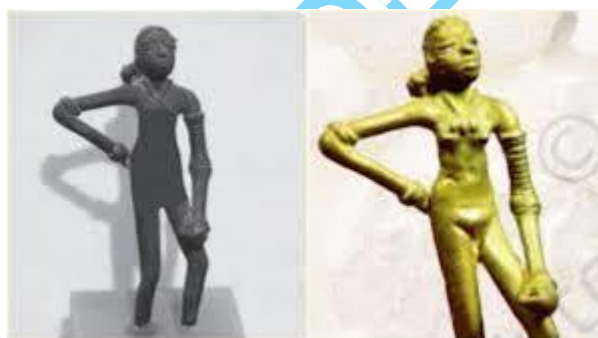
UPSC Relevance

- **GS Paper II (International Relations):** Bilateral, regional, and global groupings and agreements involving India and/or affecting India's interests.

- **GS Paper III (Science & Technology):** Developing new technologies; growth of IT and computers (AI cooperation).

2. NCERT Textbook Alteration: Mohenjo-daro's 'Dancing Girl'

- **Textbook Image Alteration:** The National Council of Educational Research and Training (NCERT) has featured a modified image of the iconic 'Dancing Girl' figurine with a shaded/masked torso in its new Class 9 Art Education textbook (*Madhurima*).
- **Historical Significance:** The approx. 4-inch-high (10.5 cm) bronze statuette, discovered at Mohenjo-daro, dates back to around 2500 BCE. It remains an unparalleled hallmark of Indus Valley Civilisation (IVC) metallurgy and social life.
- **Censorship & Pedagogy Debate:** Historians and experts have criticized the digital alteration as an act of unwarranted censorship or prudishness that distorts genuine antiquities, creating an inaccurate historic record for students.
- **Inconsistent Academic Standards:** Critics highlight an internal contradiction in academic representation, as the figurine continues to be depicted in its authentic, unaltered form within the newly released Class 6 Social Science textbooks.
- **Institutional Mandate:** The publication forms part of the newly designed textbook stream under the National Education Policy (NEP) and National Curriculum Framework (NCF), which aims to formalize mainstream arts education.



Key Definitions & Provisions

- **Lost-Wax Casting (Cire Perdue):** The ancient metallurgical technique used to create the Dancing Girl. A wax model is coated with clay, heated to melt the wax away, and filled with molten bronze to replicate the exact shape.
- **Constitutional & Legal Provisions:** **Article 51A (f)** of the Constitution mandates it as a Fundamental Duty of every citizen to value and preserve the rich heritage of our composite culture. The preservation of historical antiquities is legally protected under **The Antiquities and Art Treasures Act, 1972**, which prevents the fraudulent handling, illegal export, or misrepresentation of cultural property.

Conclusion

The alteration of the 'Dancing Girl' image underscores an ongoing tension between contemporary socio-cultural sensibilities and objective historical preservation. While curriculum frameworks look to modernize educational delivery, altering primary archaeological records risks undermining the academic authenticity essential for research and heritage studies.

UPSC Relevance

- **GS Paper I (Indian Heritage and Culture):** Indian culture will cover the salient aspects of Art Forms, literature and Architecture from ancient to modern times; specific focus on Harappan art, bronze casting techniques, and material culture.

- **GS Paper II (Governance):** Issues relating to development and management of Social Sector/Services relating to Education and human resources.

3. India-France Special Global Strategic Partnership: Key Outcomes

- **Comprehensive Bilateral Mechanisms:** India and France operationalized their Special Global Strategic Partnership by establishing an Economic Security Dialogue, an India-France AI Working Group, and a high-level mechanism aimed at doubling bilateral trade within five years.
- **Technology & Innovation Framework:** The two sides adopted the 'India-France Innovation Roadmap 2030' and institutionalized digital cooperation via a new Centre of Digital Sciences, an ICCR India Chair at Université Paris-Saclay, and an expanded footprint for India's Unified Payments Interface (UPI) across French airports.
- **Defense Co-Development & Security:** Shifting from traditional buyer-seller dynamics, the leaders emphasized defense co-design, co-development, and co-production of strategic platforms, backed by a General Security Agreement to protect the exchange of classified defense information.
- **Space and Aviation Frontiers:** Strategic agreements were formalized between ISRO and CNES focusing on human spaceflight, space situational awareness, and microgravity research, supplemented by a new National Centre of Excellence for Skilling in Aeronautics at NSTI, Kanpur.
- **Trade and Startup Ecosystem:** The nations advocated for the early implementation of the India-EU Free Trade Agreement (FTA) and agreed to expand digital entrepreneurship by incubating an additional 10 Indian startups at Station F in Paris.

• KEY OUTCOMES

- Adoption of India-France Innovation Roadmap 2030
- Creation of a Joint India-France AI Working Group focused on AI governance
- MoU on establishment of a National Centre of Excellence for Skilling in Aeronautics and Allied Sectors at NSTI, Kanpur
- Expanded possibilities for using India's UPI in France
- Incubation of an additional 10 Indian start-ups at Station F, Paris
- Establishment of a Centre of Digital Sciences between Department of Science and Technology (DST) and Institut National de Recherche en Sciences et Technologies du Numérique (INRIA)
- Establishment of an ICCR India Chair on 'AI, Innovation and Culture' at Université Paris-Saclay
- Letter of Intent between Indian Council of Medical Research and Health Data Hub of France
- Setting up a high-level mechanism for realising the goal of doubling bilateral trade in the next five years, building on the existing Economic and Financial Dialogue
- Institution of an Economic Security Dialogue
- Declaration of Intent on cooperation on railway and high-speed railway development in India
- General Security Agreement on the exchange and protection of classified information
- Letter of Intent between ISRO and CNES on cooperation in microgravity research and human space exploration

Key Definitions & Provisions

- **Space Situational Awareness (SSA):** The tracking, characterizing, and predicting of space objects, debris, and operational hazards to ensure safe, secure, and sustainable space operations.
- **Constitutional & Legal Provisions:** International treaty implementation is governed by **Article 253** of the Indian Constitution, granting Parliament exclusive power to make laws for executing international agreements. Defense procurement and technology transfers align with the **Defence Acquisition Procedure (DAP) 2020**, emphasizing self-reliance ('Atmanirbhar Bharat') through global strategic partnerships.

Conclusion

The latest bilateral outcomes mark a definitive transition from core defense procurement to an integrated technology and financial-security alliance. By synergizing digital public infrastructure

like UPI with advanced European aerospace and AI frameworks, India and France are building a resilient blueprint for multipolar strategic autonomy.

UPSC Relevance

- **GS Paper II (International Relations):** Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests; Policy outcomes of major global powers.
- **GS Paper III (Science & Technology; Economy):** Indigenization of technology, space exploration, digital public infrastructure, and growth of bilateral trade architectures.

4. India-China UNESCO Joint Nomination: Xuanzang's Chronicles

- **Joint Heritage Nomination Initiative:** To accelerate cultural heritage preservation, BRICS nations are leveraging a "joint nomination" strategy. Under this framework, India and China are in advanced talks for a shared UNESCO inscription featuring the travelogues of the 7th-century Chinese Buddhist monk Xuanzang (Hiuen Tsang).
- **Strategic Bypassing of National Quotas:** A single nation is restricted to submitting only two dossiers per two-year cycle for UNESCO heritage lists. Crucially, UNESCO places no limit on multilateral joint nominations, enabling countries with overlapping heritage to safeguard dense historical records without exhausting national limits.
- **Core Subject of Nomination:** The dossier focuses on *The Great Tang Records on the Western Regions*, Xuanzang's detailed narrative of his 19-year journey across medieval India. His writings on Nalanda University remain a primary text for reconstructing 7th-century Indian polity, society, and religious traditions.
- **Broader Transnational Cultural Ties:** Similar joint initiatives are under review, including India partnering with Iran to nominate *Panchatantra* fables and the philosophy of Satyagraha alongside South Africa, highlighting shared civilizational linkages.
- **Institutional BRICS Culture Track:** Orchestrated during the BRICS Culture Working Group meeting in Varanasi, these recommendations will be advanced to the upcoming Cultural Track ministerial meet in Bhopal to formalize a collaborative soft-power strategy.



Key Definitions & Provisions

- **Intangible Cultural Heritage (ICH):** The practices, representations, expressions, knowledge, and skills—along with instruments, objects, and cultural spaces—that communities recognize as part of their cultural heritage, transmitted across generations.
- **Constitutional & Legal Provisions:** Under **Article 49** of the Directive Principles of State Policy, the State is obligated to protect monuments, places, and objects of artistic or historic interest declared to be of national importance. Culturally, India implements these commitments through the **Indira Gandhi National Centre for the Arts (IGNCA)**, acting as the nodal administrative agency for preparing UNESCO dossiers.

Conclusion

The shift toward joint UNESCO nominations signifies a mature diplomatic approach where geopolitical competitors like India and China isolate historical commonalities from modern border frictions. By co-curating civilizational links, both nations strengthen Asian cultural historiography while maximizing administrative efficiencies within global heritage frameworks.

UPSC Relevance

- **GS Paper I (Indian Heritage and Culture):** Salient aspects of Art Forms, Literature, and Architecture from ancient to modern times; accounts of foreign travelers (Xuanzang) as primary historical sources.
- **GS Paper II (International Relations):** Bilateral and multilateral groupings involving India (BRICS), and the deployment of cultural diplomacy in global fora.

5. Ladakh Governance Deadlock: Article 371 & Administrative Control

- **Omissions in Minutes of Meeting (MoM):** Negotiations between the Ministry of Home Affairs (MHA) and Ladakh's civil society leaders hit a standstill. Ladakh leadership refused to sign the MoM from the May 22 talks, citing the exclusion of core agreed-upon administrative and legislative clauses.
- **Control Over Bureaucracy:** The primary point of contention is the omission of a clause giving Ladakh's proposed elected administrative head the authority to review the Annual Performance Appraisal Report (APAR) of the Chief Secretary and influence the transfer and posting of bureaucrats.
- **The Article 371 Alternative:** To address Ladakh's core demands for the Sixth Schedule and full statehood, the MHA proposed a compromise model of self-administration within the Union Territory structure, modeled specifically under sub-articles A, F, and G of Article 371.
- **Demand for Explicit Statutory Guarantees:** Leaders from the Apex Body Leh (ABL) and Kargil Democratic Alliance (KDA) emphasize that an elected head without structural jurisdiction over 'Services' would remain powerless, drawing parallels to governance friction seen in other Union Territories like Delhi.
- **Mobilization for Constitutional Safeguards:** Headed by civil society groups and activists like Sonam Wangchuk, the ongoing agitation seeks robust structural safeguards protecting Ladakh's distinct land, local jobs, cultural identity, alongside an independent Public Service Commission.



Key Definitions & Provisions

- **Article 371 (Special Provisions):** Part XXI of the Constitution contains temporary, transitional, and special provisions for specific states to preserve tribal cultures, address economic backwardness, and maintain local law and order. Sub-articles A, F, and G explicitly safeguard the customary laws and land rights of Nagaland, Sikkim, and Mizoram respectively.

- **Constitutional & Legal Provisions:** Union Territories are governed under **Article 239** and **Article 239A/AA** (where applicable for legislatures). The reorganization of Ladakh into a Union Territory without a legislature was enacted via the **Jammu and Kashmir Reorganisation Act, 2019**, shifting core executive jurisdiction over 'Services' and land directly to the Union via the Lieutenant Governor.

Conclusion

The impasse over Ladakh's governance model highlights the delicate challenge of balancing direct central oversight in sensitive frontier regions with local democratic aspirations. Granting statutory control over the local bureaucracy remains crucial to ensuring meaningful, representative self-governance rather than merely transactional administrative devolution.

UPSC Relevance

- **GS Paper II (Polity & Governance):** Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, local governance models, and special constitutional provisions under Article 371 and the Sixth Schedule.

6. Waqf Board Composition Controversy: Non-Muslim Nominations

- **Statutory Compliance Mandate:** Legal friction has arisen over the non-inclusion of non-Muslim members in the Kerala State Waqf Board, highlighting the challenge of implementing federal legislative mandates at the state level.
- **The Legislative Trigger:** Section 14(1)(f) of the Waqf (Amendment) Act, 2025 explicitly mandates that two members of a State Waqf Board, excluding ex-officio members, must be non-Muslims.
- **Administrative Evasion by States:** Previous state administrations in Kerala and Tamil Nadu bypassed this provision by appointing only nine Muslim members and leaving the remaining two non-Muslim slots vacant to avoid local communal friction.
- **High Court Legal Challenge:** A writ petition filed in the Kerala High Court contends that the partial constitution of the board deliberately flouted statutory provisions, rendering its administrative and quasi-judicial decisions *null and void* ab initio due to a lack of lawful jurisdiction.
- **Political and Judicial Dilemma:** The Indian Union Muslim League (IUML) and the United Democratic Front (UDF) face a complex situation, as the IUML has simultaneously challenged the constitutional validity of the Waqf (Amendment) Act, 2025 in the Supreme Court.

Key Definitions & Provisions

- **Waqf:** An endowment made by a Muslim to a religious, educational, or charitable cause, which is permanent in nature and legally binds the property to the specified public good.
- **Ab Initio:** A legal term meaning "from the beginning." In judicial reviews, if an administrative body is declared unconstitutional ab initio, all its past official actions and rulings are treated as if they never possessed legal validity.



- **Constitutional & Legal Provisions: Article 246** empowers Parliament to enact laws on subjects listed in the Concurrent List (Entry 28: Charities, charitable institutions, charitable and religious endowments). State governments are bound by **Article 256** to ensure compliance with laws made by Parliament. However, religious groups argue that altering board composition infringes upon **Article 26**, which guarantees the freedom of every religious denomination to manage its own affairs in matters of religion.

Conclusion

The dispute underscores the delicate balance between the Union's legislative intent to reform regulatory transparency and the states' management of minority religious sentiments. Resolving the gridlock requires judicial clarity on whether state-level execution can alter federal statutory requirements without invalidating the regulatory architecture.

UPSC Relevance

- **GS Paper II (Polity & Governance):** Statutory, regulatory, and various quasi-judicial bodies; Indian Constitution—significant provisions, structural dynamics of federalism, and the protection of minority rights versus state regulation under Articles 25 and 26.

7. Holistic Early Childhood Development: The Anganwadi Paradigm Shift

- **Transition Beyond Child Survival:** India's early childhood agenda is shifting from mere survival (reducing under-5 mortality from 43 in 2012 to 32 in 2020) to an integrated "ecological" approach that links physical health with cognitive development.
- **The Energy-Intensive Developing Brain:** During the first year of life, grey matter volume increases by 149% and the cerebellum by 240%. The brain consumes nearly one-fifth of the body's resting energy, requiring simultaneous nutritional and psychosocial stimulation.
- **The Seven-Point IQ Opportunity:** Longitudinal cohort studies from CMC Vellore reveal that children attending structured preschool and receiving early stimulation (love-talk-play) score 7 IQ units higher than non-attendees, bypassing constraints of early stunting and poverty.
- **Environmental & Enteric Mediators:** Nutritional inputs are heavily mediated by environmental factors; chronic infections, toxic lead exposure, or lack of responsive caregiving cause developmental deficits even when a child's height and weight metrics appear normal.
- **Policy Reorientation Frameworks:** The Ministry of Women and Child Development is re-engineering the Anganwadi architecture through flagship initiatives like *Poshan Bhi Padhai Bhi*, *Aadharshila* (play-based preschooling), and *Navchetana* (home-based caregiver stimulation).
- **Socio-Economic Empowerment Loop:** Transitioning Anganwadis into vibrant crèches and classrooms establishes a virtuous cycle—providing safe childcare unlocks economic, educational, and livelihood opportunities for working mothers.



Key Definitions & Provisions

- **Ecological Development:** A framework where a child's biological growth dynamically interacts with environmental inputs, meaning nutrition, systemic health, and psychosocial stimulation amplify or suppress one another.
- **Constitutional & Legal Provisions:** **Article 45** (Directive Principles) mandates that the State shall endeavor to provide early childhood care and education for all children until they complete the age of six years. **Article 21A** guarantees free and compulsory education as a Fundamental Right for ages 6-14, making the Anganwadi ecosystem under the **National Early Childhood Care and Education (ECCE) Policy, 2013** the critical foundational bridge.

Conclusion

Securing a *Viksit Bharat* requires moving past simple caloric metrics on growth charts. By structurally embedding cognitive stimulation into the Anganwadi network, India can optimize early brain plasticity, enhance generational intelligence, and simultaneously drive female labor force participation.

UPSC Relevance

- **GS Paper II (Governance & Social Justice):** Issues relating to the development and management of Social Sector/Services relating to Health, Education, and Human Resources; Welfare schemes for vulnerable sections (Integrated Child Development Services - ICDS).
- **GS Paper III (Economy):** Human capital formation, labor force participation, and long-term socio-economic productivity.

De-Colonisation of Military Attire: New Indian Army Uniform Policy

- **Shedding Colonial-Era Vestiges:** The Indian Army has released a comprehensive 174-page manual titled *Army Uniforms-2026 Pamphlet*. The policy systematically eliminates residual British-era customs, accoutrements, and archaic terminology—such as the prefix "Royal"—to align military identity with contemporary national ethos.
- **Tri-Services Uniform Numbering Scheme:** In a major boost to jointness, the policy introduces a common uniform numbering scheme across the Army, Navy, and Air Force. While retaining four core operational categories—Ceremonial, Working, Mess, and Combat—this digital-friendly scheme enhances tri-service clarity, interoperability, and administrative ease.
- **Indigenisation of Formal & Winter Wear:** The guidelines authorize the traditional closed-neck *Bandi Jacket* as formal civil attire for officers. Concurrently, a modern, functional *Battle Jacket* (Winter Dress No. 3B) will be phased in for all ranks to completely replace the legacy jersey-based Dress No. 3A by June 30, 2029.
- **Modification of Ceremonial Practices:** Traditional but non-functional colonial ornaments have been streamlined. This includes removing the ceremonial pouch belt from Mess Dress Nos. 5 and 6, and ending the mandatory carriage of swords by Reviewing Officers during ceremonial parades, restricting sword usage strictly to parade commanders.
- **Stringent Grooming & Conduct Standardization:** The manual codifies strict rules to maintain a standardized professional appearance, capping moustache lengths at 12 cm

and prohibiting visible tattoos, piercings, cosmetic makeup, or electronic gadgets. It explicitly bars wearing uniforms at political, religious, or unauthorized private gatherings.

Key Definitions & Provisions

- **Jointness and Interoperability:** The ability of distinct branches of the military (Army, Navy, Air Force) to operate in sync, share infrastructure, and utilize standardized terminology or administrative frameworks to maximize combat effectiveness.
- **Constitutional & Legal Provisions:** Under **Article 51A (b)** of the Constitution, it is a Fundamental Duty to cherish the noble ideals that inspired the national struggle for freedom, which aligns with de-colonizing public institutions. Furthermore, **Article 246** read with Entry 1 of the Union List grants Parliament absolute legislative jurisdiction over the Defence of India and the Armed Forces. The implementation of these internal regulations is administered via the executive powers vested under the **Army Act, 1950**.

Conclusion

The *Army Uniforms-2026* manual marks a structural transition toward indigenous military identity without compromising on service discipline. By blending cultural symbols like the *Bandi Jacket* with advanced tri-service interoperability, the armed forces are discarding symbolic colonial dependency to foster a modern, self-reliant defense ecosystem.

UPSC Relevance

- **GS Paper II (Polity & Governance):** Statutory frameworks (Army Act), executive governance of defense institutions, and the policy push toward indigenization.
- **GS Paper III (Security):** Various Security forces and agencies and their mandate; Tri-service integration, modernization of the armed forces, and military reforms.

8. Smart Village Initiative: Odisha's AI Crocodile Alert & Rural Tech

- **AI-Powered Wildlife Tracking:** Under the "Smart Village" framework, CSIR is deploying an Artificial Intelligence (AI)-enabled wild animal detection and alert system in Kusunpur, Kendrapara district. The system addresses critical human-crocodile conflicts in a region that has recorded over 20 fatalities in four years.
- **Lab-to-Land Technology Deployment:** Driven by 17 Council of Scientific and Industrial Research (CSIR) laboratories, the project translates advanced research into rural applications over a three-year implementation lifecycle to drive comprehensive rural transformation.
- **Green Infrastructure & Roads:** The village will undergo an infrastructure overhaul utilizing eco-friendly methods. This includes a renovated water gate facility, underground drainage, and roads constructed via cold mix technology, waste plastic road technology, and cement-grouted bituminous mix.
- **Green Livelihoods & Micro-Enterprises:** The initiative focuses on generating local green jobs by



incubating small-scale agro-processing and cottage industries. These include scientific parboiled rice milling units, natural beeswax scented candles, and biodegradable tableware.

- **Nutritional and Value-Addition Interventions:** To counter rural malnutrition and enhance agricultural income, CSIR is installing freeze-drying units for value-added crispy fruits, processing dry flowers, and manufacturing herbal household liquids.

Key Definitions & Provisions

- **Cold Mix Technology:** An eco-friendly road construction method where bituminous binder is mixed with aggregates at ambient temperatures, eliminating the heating process, reducing carbon emissions, and saving fuel.
- **Constitutional & Legal Provisions:** Under **Article 48A** (Directive Principles), the State must endeavor to protect and improve the environment and safeguard forests and wildlife. **Article 40** mandates the organization of village panchayats as units of self-government. Legally, estuarine crocodiles are protected under Schedule I of the **Wild Life (Protection) Act, 1972**, making mitigation of conflict a statutory responsibility of the state forest department.

Conclusion

The Kusunpur model redefines rural development by shifting from traditional asset creation to technology-driven self-reliance. By pairing advanced AI safety nets with circular economy livelihoods, CSIR offers a scalable template for balancing ecological conservation with sustainable village infrastructure.

UPSC Relevance

- **GS Paper II (Governance):** Welfare schemes for vulnerable sections; institutional role of CSIR in rural development; government initiatives for smart governance.
- **GS Paper III (Environment & Technology):** Conservation, man-wildlife conflict mitigation; Science and Technology- developments and their applications in everyday life; indigenization of technology (Lab-to-Land).

9. Indo-Pacific Security Dynamics: Expanding Chinese Missile Capabilities

- **Direct Missile Threat to Australia:** A Lowy Institute report confirms that China's People's Liberation Army (PLA) has developed the capability to project direct missile strikes onto mainland Australia, marking the most significant shift in Australian strategic security since the collapse of the Soviet Union.
- **Strategic Vectors and Platforms:** The primary threat vectors originate from Chinese surface combatants, submarines, and newly militarized artificial islands in the South China Sea, effectively extending Beijing's power-projection capabilities southward.

- **Deployment of DF-27 and Hypersonics:** The report highlights the growing deployment of the Dong Feng (DF)-27 Intermediate-Range Ballistic Missile (IRBM), which possesses a range of 5000 to 8000 km and a hypersonic glide vehicle payload, alongside conventionally armed Intercontinental Ballistic Missiles (ICBMs).



- **Australian Strategic Realignment:** In response to the PLA Navy's rapid expansion, Canberra has overhauled its defense posture, shifting from expeditionary operations toward an "Impactful Deterrence" strategy focused squarely on securing its northern maritime approaches.
- **Implications for Minilateral Groupings:** This expanding threat matrix accelerates the operational relevance of Indo-Pacific security architectures like AUKUS (pillar for nuclear-powered submarines and advanced hypersonics) and the Quad, reinforcing collective deterrence against unilateral status-quo alterations.

Key Definitions & Provisions

- **Hypersonic Glide Vehicle (HGV):** A weapon payload launched by a ballistic missile that detaches and glides through the upper atmosphere at speeds exceeding Mach 5, utilizing atmospheric maneuvering to evade traditional radar and ballistic missile defense systems.
- **Constitutional & Legal Provisions:** In India, international defense policy and external security frameworks are governed under **Article 246** read with Entry 1 (Defence of India) and Entry 15 (War and Peace) of the Union List. Geopolitically, these military advancements directly challenge the rules-based maritime order codified under the **United Nations Convention on the Law of the Sea (UNCLOS), 1982**, specifically regarding freedom of navigation and the militarization of Exclusive Economic Zones (EEZs).

Conclusion

The expanding footprint of China's intermediate-range ballistic and hypersonic arsenal alters the geography of deterrence in the Indo-Pacific. By placing previously secure continents like Australia within striking distance, Beijing's military modernization forces a convergence of defense strategies among resident democracies, shifting the region toward a highly contested, multi-domain balance of power.

UPSC Relevance

- **GS Paper II (International Relations):** Bilateral, regional, and global groupings and agreements involving India and/or affecting India's interests; Effect of policies and politics of developed and developing countries on India's interests.
- **GS Paper III (Security & Technology):** Security challenges and their management in border and maritime areas; Role of external state actors; Advanced missile and hypersonic technologies.

10. Technology Incubation & Strategic Sovereignty: India's Innovation Next

- **Transition to Innovation Origination:** India is moving from an innovation-dense model (applying and adapting technology) to an innovation-deep model focused on origination.

This involves owning critical Intellectual Property (IP), controlling supply-chain chokepoints, and building platforms that others build upon.

- **Institutional Architecture for R&D:** Over the past decade, a robust institutional ecosystem has been built to drive deep-tech talent. This includes Startup India, IndiaAI Mission, Anusandhan National Research Foundation (ANRF), IDEX (for defense), BIRAC (biotech), IN-SPACe (space), and the Semicon India program.
- **Strategic Sovereignty & Collaborative Autonomy:** True strategic sovereignty requires collaborating from a position of confidence, not dependence. Given its starting point, India's national interests are best served through deep technology partnerships with like-minded nations, exemplified by the "India-France Year of Innovation."
- **Mitigating Technology's Double Edge:** Advanced technologies like Artificial Intelligence can compress decades of progress in diagnostics and governance, but deployed without careful design, they risk disrupting work, amplifying socio-economic bias, and deepening structural inequality.
- **Corporate Role in Innovation Ecosystems:** Large domestic enterprises must act as the first customers of the startup ecosystem. This requires shifting from product-centric procurement to ecosystem-driven integration, embedding MSMEs and startups structurally into global value chains.

Key Definitions & Provisions

- **Strategic Sovereignty:** The capacity of a nation to exercise independent authority over critical technology value chains, IP, and digital infrastructure, thereby reducing vulnerability to external economic coercion or supply-chain shocks.
- **Constitutional & Legal Provisions:** Entry 65 of the Union List (**Seventh Schedule**) vests the Union with the power to handle research, scientific, and technical institutions. The operationalization of intellectual frameworks is legally protected via the **Patents Act, 1970** and the **Trade Marks Act, 1999**. Furthermore, funding and regulatory structures for academic integration align with the mandates established under the **Anusandhan National Research Foundation (ANRF) Act, 2023**.

Conclusion

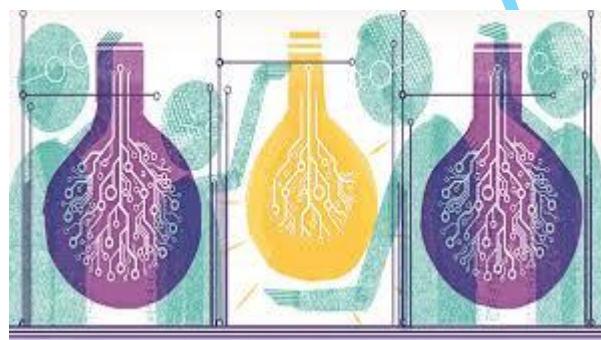
Achieving the vision of a *Viksit Bharat* hinges on transforming tech capability into structural sovereignty. By balancing bold deep-tech partnerships with rigorous internal risk mitigation, India can turn its massive talent base into a concentrated laboratory for world-class, consequence-driven innovation.

UPSC Relevance

- **GS Paper II (Governance):** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
- **GS Paper III (Science & Technology; Economy):** Indigenization of technology and developing new technology; Intellectual Property Rights (IPR) issues; growth, development, and employment challenges.

11. Frontier AI Export Controls: Structural Risks to India's Tech Sector

- **Unprecedented US AI Access Curbs:** The US government issued an emergency export control directive ordering Anthropic to block all foreign nationals from accessing its advanced "Mythos-class" frontier models, Claude Fable 5 and Mythos 5, citing national security and jailbreak vulnerabilities.
- **Disruption of Strategic IT Alliances:** The mandate forces a global shutdown of these specific systems, abruptly disrupting multi-million dollar corporate partnerships. Large Indian IT services firms like TCS and Infosys, which recently acquired enterprise licenses to deploy this technology in sensitive regulated industries, are restricted to using legacy models.
- **Precedent of Vendor & Geo-Political Risk:** The restriction highlights the vulnerability of downstream application development. Most Indian tech startups build secondary software layers and consumer apps on top of US or EU-hosted foundational models, making their operational continuity entirely dependent on foreign regulatory decisions.
- **The Sovereign AI Mandate:** This escalation intensifies the push for a sovereign AI architecture within India. While indigenous initiatives like *Sarvam* exist, they face significant scaling, data infrastructure, and trust deficits compared to established American Big Tech platforms, leaving India exposed to an impending "AI export-control war."
- **Dual-Use Technology Dilemma:** Advanced frontier models exhibit dual-use properties, particularly in automated cybersecurity, exploit discovery, and software patching. The US administration's intervention sets a precedent where commercial access to state-of-the-art computational intelligence can be summarily revoked to maintain a geopolitical technology asymmetry.



Key Definitions & Provisions

- **Foundational AI Model:** A massive machine learning model trained on vast, generalized datasets that can be adapted and fine-tuned to perform a wide array of downstream tasks, forming the infrastructure layer of modern AI ecosystems.
- **Constitutional & Legal Provisions:** Under **Article 246** read with Entry 19 (Foreign Affairs) of the Union List, the Indian government holds complete executive authority over international technology diplomacy. Nationally, digital sovereignty is governed via the **Information Technology Act, 2000** and strategic data protections under the **Digital Personal Data Protection (DPDP) Act, 2023**. To counter foreign export controls, India leverages its **National Strategy for Artificial Intelligence** driven by NITI Aayog to foster self-reliant compute infrastructure.

Conclusion

The unilateral blockade of frontier AI tools transitions artificial intelligence from a commercial enterprise tool into a weaponized geopolitical asset. For India, relying heavily on foreign-hosted large language models introduces structural vulnerabilities into its IT export economy, underscoring that computational self-reliance is now as critical to national security as physical defense.

UPSC Relevance

- **GS Paper II (International Relations):** Effect of policies and politics of developed and developing countries on India's interests; geopolitical tech alignments.
- **GS Paper III (Science & Technology; Economy):** Awareness in the fields of IT and Computers; internal security challenges linked to advanced cyber capabilities; indigenization of critical technology and data sovereignty.

12. Indus Waters Treaty Freeze: India Ramps Up J&K Hydropower

- **Strategic Shift in Water Diplomacy:** India has accelerated construction on three critical hydropower projects in Jammu and Kashmir, entailing an investment of \$3 billion. This reflects a major geopolitical shift after New Delhi placed the 1960 Indus Waters Treaty (IWT) in abeyance following a major cross-border terror attack in Pahalgam.
- **Massive Power Capacity Augmentation:** The three fast-tracked projects possess a combined capacity of 2.35 GW. The infrastructure pipeline includes phase two of state-run NHPC's Dulhasti project (260 MW) on the Chenab river in Kishtwar, the Uri-I Stage 2 project (240 MW) on the Jhelum river in Baramulla, and the mega Sawalkot project (1856 MW). 
- **Inter-Basin Water Diversion Plan:** NHPC has initiated tenders for the ambitious Dahi Nallah diversion project on a tributary of the Chenab. This engineering initiative aims to divert water that previously flowed directly into Pakistan through a dedicated tunnel toward the operational Kishanganga project (330 MW), generating an additional 30 million units of electricity annually.
- **Bypassing Restrictive Treaty Clauses:** Under the original IWT, India's storage capacity on the Western Rivers was capped at 3.6 million acre feet (maf), which India never fully utilized due to persistent design objections from Islamabad. Holding the treaty in abeyance allows India to construct optimized storage structures and bypass technical restrictions.
- **Unilateral Sediment Management:** Moving away from joint technical protocols, India will carry out routine monsoon silt-flushing at its J&K hydro reservoirs at least once a month. While maximizing the operational lifespan of Indian dams, this independent management may trigger temporary surges in sediment load and water volatility downstream in Pakistan.

Key Definitions & Provisions

- **Run-of-the-River Project:** A type of hydroelectric generation plant where little or no water storage is provided, relying primarily on the natural flow of the river to generate electricity, making it technically distinct from large conventional storage dams.
- **Constitutional & Legal Provisions:** Under **Article 253** of the Constitution, Parliament has exclusive power to make laws for executing international treaties, while Entry 14 of the Union List (**Seventh Schedule**) covers entering into treaties and agreements with foreign countries. Water governance domestically falls under Entry 17 of the State List, but is subject to Entry 56 of the Union List regarding the regulation and development of inter-state rivers. Legally, the execution of these power assets is managed under the **Electricity Act, 2003**.

Conclusion

The rapid infrastructure push in Jammu and Kashmir marks the end of India's historical hydrologic restraint. By linking cross-border security directly to transboundary water sharing, India is systematically deploying its geographical position as an upper-riparian state to secure regional energy security while imposing economic and strategic costs downstream.

UPSC Relevance

- **GS Paper II (International Relations):** Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests; India and its neighborhood relations.
- **GS Paper III (Security & Infrastructure):** Security challenges and their management in border areas; role of external state actors; Infrastructure—Energy, Dams, and Power sector growth.