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UPSC ACADEMY

March 2026

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From the Director’s Desk

Dear Aspirants,

It gives me great pleasure to present the March 2026 edition of our Monthly Current Affairs Magazine, PrepPulse. At this stage of preparation, it is important to understand that current affairs are not merely a collection of news events; they represent the evolving priorities of governance, economic policy, and global relations. A serious aspirant learns to read between the lines and understand the larger picture behind every development.

The month of February witnessed several developments of direct relevance for UPSC preparation. Discussions around the Union Budget reflected India’s focus on infrastructure growth, fiscal discipline, and inclusive development — themes that shape the country’s long-term economic direction. Rapid advancements in Artificial Intelligence and digital governance highlighted the increasing role of technology in public administration and policy implementation. Continued progress in renewable energy and climate commitments emphasized India’s responsibility towards sustainable development and environmental balance. At the international level, evolving geopolitical developments once again underlined the importance of strategic autonomy and a multipolar world order in India’s foreign policy approach.

This edition has been carefully curated to help you understand these developments with clarity, depth, and exam-oriented relevance. As a UPSC aspirant, your task is not only to stay informed but to go a step further — to connect facts with concepts, identify patterns, and understand the implications of events for India and the world.

Read this magazine with curiosity, patience, and an analytical mindset. Every page is an opportunity not only to acquire knowledge but also to develop the balanced perspective and analytical thinking that distinguish a serious aspirant from an average reader.

Stay consistent. Stay informed. And most importantly, keep moving forward with confidence.

Warm regards,
Manish Kumar
Director
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Disclaimer:

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IN THIS ISSUE

DEEP DIVE

India–EU Trade Deal

On 27 January 2026 India and the European Union announced conclusion of a long-pending Free Trade Agreement (often called the “mother of all deals”). The pact follows nearly two decades of on-and-off negotiations and covers goods, services, investment, digital trade, sustainability and regulatory cooperation — linking a market of some 2 billion people and nearly a quarter of world GDP.

Historical background

Early start (2007): Formal talks on a broad-based trade and investment agreement (BTIA) began in 2007 after political leaders agreed to negotiate deeper economic ties. Those negotiations underwent long pauses because of differences on market access, services, investment protection and regulatory cooperation.

Stalled phase to reboot: For much of the 2010s the BTIA remained frozen; renewed momentum emerged in the early 2020s as geopolitics, supply-chain realignments and mutual interest in diversification encouraged both sides to revive and accelerate talk

Acceleration and conclusion: Negotiations intensified across 2024–2025 with a two-stage push toward conclusion; the deal was finalized at the India–EU Summit in January 2026.

Context — why now?

- **Economic drivers:** Rapid growth of India’s manufacturing, services and digital sectors and rising EU interest in secure, diversified supply chains made a large FTA attractive to both sides. The EU is one of India’s top trading partners; bilateral trade and services flows had already grown substantially pre-deal.
- **Geopolitics**: The deal must be read in the context of shifting great-power competition — Europe’s desire for strategic economic autonomy, India’s push for diversified partnerships while preserving strategic autonomy, and global worries over supply-chain concentration. The EU-India FTA is as much strategic as it is commercial. The recent global supply chain driven by chain, technology security, and the Ukraine war — have created a favorable geopolitical environment for the India–EU trade deal. Rather than existing in isolation, the agreement functions as a supporting pillar of a broader transatlantic economic strategy, with India emerging as a trusted, autonomous, and indispensable partner.
- **Trump’s renewed transactional approach towards the EU** has also strengthened the case for the India–EU trade deal. As transatlantic relations become less predictable, Europe is compelled to diversify its economic partnerships, and India stands out as a stable, scalable and strategically non-threatening alternative. For India, this evolving equation reinforces its position as a swing economic power in a multipolar world—engaging deeply with Europe while maintaining room for manoeuvre vis-à-vis the United States.
- **Domestic politics:** The timing also reflects mutual political calculations — India’s ‘open-for-business’ drive and the EU’s nee d for trusted partners for green technologies, critical minerals, and secure digital links.

What's in the deal?

1. Lowering and Removing Tariffs

At the heart of the deal is a commitment by both sides to gradually reduce or remove import duties on a large number of goods.

- Indian products like textiles, garments, leather, gems and jewellery, marine products and pharmaceuticals will become cheaper and more competitive in European markets.
- European exports such as automobiles, machinery, wines, spirits and high-end industrial goods will gain easier entry into India, though often in a phased manner to protect domestic industry.

The idea is not sudden opening, but calibrated liberalization.

2. Better Access in Services

The agreement goes beyond goods and gives strong emphasis to services trade, which is a key strength of India.

- Indian IT, digital, professional and business service providers gain improved access to EU markets.
- The EU gets greater opportunities in financial services, logistics, consultancy and professional services in India.

This reflects a shift from traditional trade to a knowledge-driven economy.

3.Encouraging Investment and Technology Flow

The deal aims to create a stable and predictable environment for investment.

- European companies are encouraged to invest in India's manufacturing, renewable energy, infrastructure and green technology sectors.
- India benefits from capital inflow, advanced technology, management practices and skill development.

Investment is treated not just as money, but as a development partnership.

4. Rules for Digital Trade and Data

Recognizing the digital nature of modern trade, the agreement includes provisions on digital trade.

- It supports smoother cross-border digital transactions while respecting data protection and sovereignty concerns.
- Cooperation in emerging areas like artificial intelligence, fintech and e-commerce is encouraged.

This aligns with India's growing digital public infrastructure.

5. Standards, Regulations and Ease of Doing Business

A major hidden barrier to trade is regulation rather than tariffs.

- The agreement promotes regulatory cooperation, mutual understanding of standards and simpler customs procedures.
- This reduces delays, compliance costs and uncertainty for exporters.

In effect, it tries to make trade easier, faster and more predictable.

6. Sustainability, Climate and Labour Commitments

The deal integrates economic growth with sustainability.

- Both sides commit to respecting environmental standards, climate goals and labour rights.
- Trade is aligned with clean energy transition and responsible production.

This reflects the EU's regulatory philosophy and India's long-term climate commitments.

7. Protection of Sensitive Sectors

The agreement recognizes political and social realities.

- Sensitive sectors, especially in agriculture and small-scale manufacturing are protected through:

1. Longer transition periods
2. Partial tariff reductions
3. Quotas or exclusions

This ensures that liberalization does not come at the cost of livelihood security.

8. Dispute Resolution and Institutional Mechanisms

To avoid future conflicts:

- A structured dispute settlement mechanism is created.
- Regular dialogue platforms are established to resolve issues before they escalate.

This provides confidence and stability to businesses on both sides.

Benefits — what India and the EU stand to gain

- **Market access & exports:** Indian exporters (textiles, leather, gems, seafood, pharma, IT services) get tariff relief and improved access to a high-income market; EU firms gain better entry for automobiles, machinery, luxury goods and services. This can boost export growth and diversify dependencies.

- **Investment & supply-chain integration:** Predictable rules and investment protections attract FDI, technology transfers and deeper integration of supply chains — beneficial for 'Make in India' and manufacturing upgradation.

- **Services & technology cooperation:** Easier movement of professionals in key categories, greater ties in R&D and green tech cooperation can accelerate India's energy transition and digital ambitions.

- Strategic diversification: For both sides, the deal offers an alternative to over-reliance on any single partner, strengthening economic resilience amid geopolitical flux.

Concerns & challenges

- **Domestic industry exposure:** Rapid tariff liberalization risks hurting sensitive domestic producers (certain agricultural sectors, small carmakers, MSMEs facing competition from EU imports). Political backlash in exposed constituencies is possible.

- **Tariff revenue & fiscal concerns:** India relies on customs duties for revenue; significant cuts may require compensatory tax reforms or revenue substitution.

- **Standards, SPS & non-tariff barriers:** EU standards (technical, sanitary & phytosanitary) are often stricter; Indian exporters may face costly compliance burdens unless capacity building is provided.

- **Regulatory sovereignty:** Commitments on competition law, state aids, procurement and regulatory harmonization could be politically sensitive; balancing reform with policy space will be tricky.

- **Ratification & implementation hurdles:** The FTA must clear EU member states, the European Parliament and India's domestic procedures (cabinet/Parliament as applicable). Several national legislatures or interest groups may seek carve-outs or clarifications, delaying implementation.

Wider geopolitical and strategic implications

- **Asia–Europe architecture:** A binding economic pillar strengthens India–EU strategic ties and builds a counterweight to other major blocs, shaping trade geopolitics in the Indo-Pacific and global value chains.

- **Regulatory and standards leadership:** Cooperation on digital rules, green technology, and critical minerals may push higher global standards and set precedents for other FTAs.

- **Diplomatic balancing:** India must balance economic opening with strategic autonomy — the deal gives New Delhi leverage but also deeper entanglement with EU policy priorities (human rights, environment, labour).

Implementation outlook & what to monitor

- **Legal text & schedules:** Watch the published tariff schedules, sensitive lists and rules of origin for sectoral winners and losers.

- **Ratification timeline:** The deal requires EU member state approvals and Indian clearances; timelines can stretch.

- **Supporting measures:** Look for Indian government packages — capacity building, MSME support, compliance facilitation, and possible fiscal measures to cushion affected sectors.

- **Trade data & early indicators:** Track monthly trade statistics, FDI commitments, and sectoral export receipts; regulatory memoranda (e.g., finance/clearing MoUs) are early operational signs.

Conclusion

The India–EU trade deal is not merely a commercial arrangement; it reflects a rapidly changing world order where economics, geopolitics and strategic trust are deeply intertwined. Historically delayed by regulatory and political differences, the agreement has gained urgency in the present context of global uncertainty—marked by China's rise and assertiveness, supply-chain disruptions, the Ukraine war, and renewed unpredictability in transatlantic relations under a Trump-style transactional approach.

For the European Union, the deal represents strategic diversification: a way to reduce over-dependence on both China and an increasingly unpredictable United States, while securing access to a large, democratic and fast-growing market. For India, it offers expanded market access, investment, technology transfer and a chance to embed itself more deeply into global value chains without sacrificing strategic autonomy. At the same time, concerns relating to domestic industry protection, regulatory capacity, standards compliance and equitable distribution of gains cannot be ignored.

Ultimately, the success of the India–EU trade deal will depend not just on tariff reductions, but on India's ability to strengthen its manufacturing base, support MSMEs, upgrade standards and negotiate implementation with sensitivity to domestic realities. If managed prudently, the agreement can elevate India's role from a participant to a balancer and shaper in the emerging multipolar economic order—where cooperation, resilience and autonomy matter as much as growth itself.

Union Budget 2026–27: A Comprehensive Analysis

Introduction

Union Budget 2026–27 was presented by Finance Minister Nirmala Sitharaman on 1 February 2026, marking her ninth consecutive Budget — the longest tenure for any finance minister in India's history. It was also the first Budget prepared and presented from Kartavya Bhawan, symbolising a new institutional beginning.

At a time of global uncertainty and slowing world growth, the budget aims to sustain India's high growth trajectory, reinforce macroeconomic stability, and deepen structural reforms that enhance productivity and employment.

Key National Figures & Targets

- **Fiscal deficit** is estimated at 4.3 % of GDP in Budget Estimates (BE) 2026–27, slightly lower than the 4.4 % of GDP in the revised estimates for 2025–26, signalling continued fiscal consolidation.
- **Debt-to-GDP ratio** is projected at 55.6 % of GDP in 2026–27, compared with 56.1 % in 2025–26. The government has set a medium-term goal to reduce debt to around 50 ± 1 % of GDP by 2030–31.
- **Capital expenditure (capex)** has been enhanced to a record ₹12.2 lakh crore, up from ₹11.21 lakh crore in the previous year, underlining the continued priority on infrastructure and long-term productivity.
- **Total expenditure** for the Central Government is estimated at ₹53.47 lakh crore, with total receipts (excluding borrowings) of around ₹36.5 lakh crore.
- The government has planned **gross market borrowings** of about ₹17.2 lakh crore with net borrowings of approximately ₹11.7 lakh crore to finance the fiscal gap.
- **Nominal GDP** for 2026–27 is estimated to grow at around 10 %, reflecting a combination of real growth and moderate inflation.

Context & Background

India steps into Union Budget 2026–27 at a moment of quiet confidence—yet undeniable complexity. On paper, the economy stands tall as the fastest-growing major economy in the world, drawing global attention for its resilience in uncertain times. Beneath this headline success, however, lies a more layered reality that the budget must carefully navigate.

At the heart of India's macroeconomic position is a delicate balancing act. The state has emerged as a powerful driver of growth through high public capital investment, particularly in infrastructure, logistics, and connectivity. At the same time, there is a growing recognition that fiscal space is not infinite. The challenge before policymakers is clear: how to sustain momentum without compromising fiscal prudence and long-term stability.

Equally significant is the nature of India's recovery. The post-pandemic phase was largely consumption-led, supported by pent-up demand and government spending.

As the economy matures into the mid-2020s, it is now transitioning towards an investment-led growth model—one that relies on durable assets, productive capacity, and private sector confidence rather than short-term demand boosts.

Yet, this transition is far from frictionless. Economic growth has not translated uniformly into job creation, raising concerns about employment elasticity. Pockets of rural distress continue to persist, even as urban centres expand rapidly. Private investment, though improving, still awaits stronger and more predictable demand signals. Overlaying these challenges are climate vulnerabilities and rapid urbanisation pressures, which increasingly shape fiscal and policy choices.

The issue before India is no longer cyclical recovery from a temporary shock, but a structural transformation of the economy—from low productivity to high productivity, from informal to formal, and from carbon-intensive to sustainable growth.

Policy Signals & Priorities

The Budget emphasises a structural shift towards investment-led growth, higher capital formation, and deeper reforms in strategic sectors such as manufacturing, technology, and infrastructure. Initiatives like India Semiconductor Mission 2.0, support for biopharma, and enhanced connectivity projects (including high-speed rail corridors) highlight the government's focus on future-ready economic capabilities.

Social sector allocations see significant increases, with provisions for women, children, disadvantaged communities, and human capital development, while agriculture and rural development initiatives are designed to stabilise rural incomes and strengthen food security.

Overall Direction

Union Budget 2026–27 combines fiscal prudence with strategic investments, blending economic efficiency with inclusivity. It reflects a vision where growth, stability, and sustainability are interlinked, and where the state plays a facilitating role in expanding opportunities for all sections of society.

Global Economic & Geopolitical Context

Union Budget 2026–27 is framed against a highly uncertain global environment. The world economy is witnessing slower growth, persistent inflationary pressures in some regions, and subdued global trade, which directly affects export-oriented economies like India.

Geopolitically, rising conflicts, energy insecurity, and supply-chain disruptions have reshaped economic decision-making. The era of smooth globalization is giving way to strategic fragmentation, forcing countries to prioritise resilience over efficiency.

In this context, India's budgetary approach reflects:

- Emphasis on economic self-reliance without isolation
- Strengthening domestic manufacturing and supply chains
- Balancing global integration with strategic autonomy

Core Theme & Ideological Direction

The core theme of Union Budget 2026–27 reflects a shift towards long-term, responsible growth rather than short-term populism. The ideological direction is anchored in the belief that the state's primary role is to enable growth by creating productive assets, not merely to expand welfare transfers.

The budget emphasizes:

- **Investment-led development** over consumption-driven stimulus
- **Fiscal responsibility** alongside growth ambitions
- **Infrastructure, human capital, and sustainability** as pillars of national progress

At its core, the budget views economic policy as a tool for nation-building, aiming to combine efficiency with inclusion and stability with aspiration.

Continuity vs Departure

Continuity: Union Budget 2026–27 largely builds upon the economic framework of previous years. The continued emphasis on capital expenditure–led growth, infrastructure expansion, logistics efficiency, and fiscal consolidation signals policy stability and predictability. This continuity reassures investors and reflects confidence in the existing development trajectory.

Departure: The subtle shift lies in the quality and composition of growth. Compared to earlier budgets, there is greater attention to employment outcomes, skill alignment, climate sustainability, and urban challenges. Rather than merely accelerating growth, the budget attempts to refine it—making it more job-oriented, resilient, and environmentally conscious.

Fiscal Strategy & Macroeconomic Management

Union Budget 2026–27 adopts a cautious yet growth-supportive fiscal strategy. The focus is not merely on meeting deficit targets, but on ensuring that fiscal policy remains credible, predictable, and development-oriented. The government signals its commitment to gradual fiscal consolidation, avoiding abrupt expenditure cuts that could disrupt growth momentum.

A key shift is the emphasis on quality of expenditure. Borrowings are increasingly directed towards capital formation rather than revenue spending, reflecting an understanding that debt is sustainable when it finances productive assets. Revenue expenditure is kept under control to protect macroeconomic stability and inter-generational equity.

Growth Drivers & Capital Expenditure

In Union Budget 2026–27, capital expenditure continues to act as the primary engine of economic growth. The government reinforces its belief that public investment in infrastructure, logistics, transport, and urban development can unlock higher productivity and long-term competitiveness.

Such spending is not viewed merely as expenditure, but as investment with a strong multiplier effect—creating jobs, boosting demand, and improving connectivity across regions. By strengthening core infrastructure, the budget aims to crowd in private investment, reduce logistical costs, and enhance ease of doing business.

Employment, Skills & MSMEs

Union Budget 2026–27 recognizes that economic growth without adequate employment is socially and politically unsustainable. The focus shifts from mere growth numbers to job outcomes, especially for India's expanding youth population.

The budget emphasizes skill development aligned with market needs, apprenticeships, and employability-based training to effectively harness India's demographic dividend. MSMEs are positioned as the backbone of job creation, with continued policy support aimed at improving access to credit, technology, and formal markets.

By encouraging startups and facilitating the transition from informal to formal economic activity, the budget seeks to create stable, quality employment rather than short-term livelihood support.

Agriculture & Rural Economy

Union Budget 2026–27, agriculture is approached not merely as a welfare sector but as a foundation of economic and social stability. The focus extends beyond short-term relief to strengthening agri-infrastructure, irrigation, storage, and value chains that enhance farmers' income and reduce post-harvest losses.

The budget recognizes that rural prosperity sustains national demand. Measures aimed at improving credit access, risk management, and market linkages seek to stabilize farm incomes while supporting food security. There is also a growing emphasis on sustainability and resource efficiency, acknowledging climate risks faced by rural livelihoods.

Social Sector & Human Capital

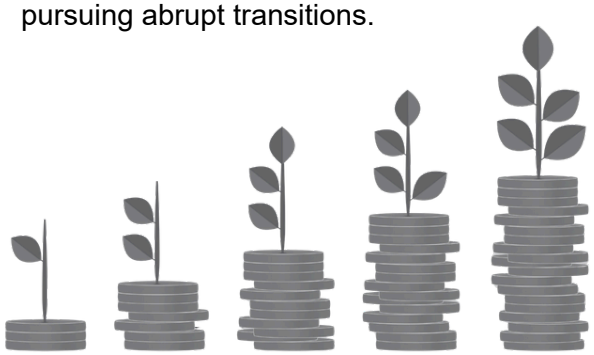
Union Budget 2026–27 reinforces the idea that long-term economic growth is inseparable from human development. The social sector is treated not as a cost, but as an investment in national capability and resilience.

The budget continues to prioritise healthcare infrastructure, education, nutrition, and women-centric interventions, recognising their role in improving productivity and social equity. Special focus on vulnerable sections reflects an effort to make growth inclusive and opportunity-driven, rather than exclusionary.By aligning social spending with Sustainable Development Goals (SDGs), the budget seeks to balance efficiency with equity and growth with dignity.

Green Growth, Energy & Climate Action

Union Budget 2026–27 places environmental sustainability at the core of India's development strategy, reflecting a shift from viewing climate action as a constraint to treating it as an economic opportunity. The budget strengthens India's transition towards renewable energy, green hydrogen, electric mobility, and energy efficiency.

Recognising increasing climate risks, there is a growing emphasis on climate-resilient infrastructure and adaptation measures, especially for vulnerable regions. The approach remains pragmatic—seeking to balance development needs with environmental responsibility rather than pursuing abrupt transitions.



Taxation & Financial Sector Reforms

Union Budget 2026–27 signals a preference for stability, simplicity, and predictability in taxation, rather than frequent structural changes. The emphasis is on improving the quality of tax administration, ensuring that compliance is easier and less intrusive, especially for the middle class and small businesses.

On the financial sector front, reforms aim to strengthen credit flow, financial inclusion, and systemic resilience. Efforts to deepen capital markets and enhance trust-based governance reflect the intent to support long-term investment and economic confidence.

Federalism & Centre–State Relations

Union Budget 2026–27 continues to uphold the principle of cooperative federalism, recognising states as key partners in India's development process. The budget maintains predictable devolution of resources to states and supports state-level implementation of national priorities.

However, underlying tensions remain. States continue to seek greater fiscal autonomy, flexibility in scheme design, and timely fund transfers, especially in the context of rising expenditure responsibilities.

Major Concerns & Criticisms

Despite its balanced and forward-looking approach, Union Budget 2026–27 is not without concerns. A key criticism lies in the uncertain translation of growth into large-scale employment, as structural job creation may lag behind policy intent.

Implementation capacity remains another challenge. Even well-designed schemes risk limited impact due to uneven execution across states and administrative levels.

Persistent regional and rural–urban disparities also raise questions about the inclusiveness of growth.

Additionally, while the budget acknowledges climate risks, allocation for adaptation and resilience may fall short of the scale of future challenges. Fiscal consolidation efforts, though necessary, could further constrain social and developmental spending if growth falters.

Way Forward & Policy Suggestions

Going ahead, the effectiveness of Union Budget 2026–27 will depend on deepening reforms beyond allocations. A stronger emphasis on job-linked growth, especially in labor-intensive sectors, is essential to fully realize India's demographic potential. Education, skill development, and research spending must be scaled up to support long-term productivity.

Greater fiscal decentralization and flexibility for states can improve last-mile delivery and regional balance. At the same time, climate action needs to move from intent to impact through higher investment in adaptation, resilience, and green technologies.

Conclusion

Union Budget 2026–27 emerges as more than a fiscal statement; it is a strategic roadmap for India's next phase of development. Analytically, the budget reflects confidence in an investment-led growth model, anchored in fiscal discipline, infrastructure creation, and gradual structural reforms. It signals a preference for stability and long-term capacity building over short-term populism.

From an ethical perspective, the budget underscores the idea that public finance is a moral instrument—one that must balance growth with equity, efficiency with compassion, and present needs with future obligations. While challenges of employment, inclusion, and climate resilience remain, the budget sets a foundation that prioritizes responsibility over rhetoric.

The Silicon Renaissance: Navigating the Frontiers of Artificial Intelligence

Introduction

Artificial Intelligence (AI) has transitioned from the realm of science fiction into the foundational architecture of the 21st century. It is no longer just a "sector" of the economy; it is the "general-purpose technology" (GPT) of our era, comparable to the steam engine or electricity in its capacity to reorganize human civilization.

In February 2026, New Delhi hosted a landmark meeting that many policy analysts now describe as a defining moment in global AI governance: the India AI Impact Summit. Heads of state, ministers, CEOs of major technology firms, and civil society leaders converged on Bharat Mandapam to shape a global conversation about how to deploy artificial intelligence safely, equitably and strategically. The Summit spotlighted not only technological breakthroughs and investment commitments, but also a distinct strategic architecture for cooperation — the Pax Silica initiative.

Announced and formalised on the summit sidelines, Pax Silica is framed as a coalition to secure critical technology supply chains (semiconductors, minerals) and to promote pro-innovation, risk-aware approaches to AI governance. India's decision to join Pax Silica and sign a bilateral "India–U.S. AI Opportunity Partnership" at the Summit signals New Delhi's intent to play a visible leadership role in shaping the rules and alliances of the AI age.

The importance of the Summit and Pax Silica is threefold: it reframes AI as a subject of geopolitical cooperation and competition; it underscores the need for governance arrangements that reconcile innovation with safety; and it places India at the fulcrum of a technology diplomacy that seeks both strategic autonomy and international partnerships.

Artificial Intelligence — The Age of Intelligent Machines

Artificial Intelligence (AI) refers to the ability of machines to simulate human intelligence —learning from data, identifying patterns, making decisions, and even generating original content. From early symbolic computing to modern deep learning systems and generative AI models, AI has evolved into a general-purpose transformative (GPT) technology, comparable to electricity or the internet. Contemporary AI spans several subfields:

- **Machine Learning (ML)** — statistical algorithms that learn from data.
- **Deep Learning** — neural networks with many layers, enabling pattern recognition in images, text and audio.
- **Generative AI** — large language models (LLMs) and multimodal systems that generate coherent text, images, and code.
- **Reinforcement Learning and Autonomous Systems** — agents that learn via trial and reward, powering robotics and adaptive control systems.

Today's LLMs and multimodal systems have extended AI into creative, diagnostic and decision-support roles. This capability expansion raises possibilities for productivity growth, governance innovation and service delivery. Now AI powers recommendation systems, medical diagnostics, autonomous vehicles, smart grids, precision agriculture, language translation, and national security analytics. However, alongside opportunity comes profound ethical, regulatory, and geopolitical challenges. The debate is no longer whether AI will shape the future—but how it will be governed.

Evolution: From Algorithms to Generative Intelligence

AI's journey can be broadly divided into four phases:

1.Symbolic AI (1950s–1990s): Rule-based systems relying on pre-programmed logic. Focused on hard-coded logic and "if-then" rules. It excelled at chess but failed at simple tasks like walking or recognizing a face.

2.Statistical and Machine Learning Era (2000s): Data-driven pattern recognition.

3.The Connectionist Revolution (2010s): The availability of Big Data and GPU computing power birthed the era of Deep Learning.

4.The Transformer Era (2017–Present): Neural networks capable of speech recognition, image generation, and human-like text synthesis. The invention of the "Transformer" architecture (the 'T' in GPT) allowed AI to understand context and relationships in data at an unprecedented scale, leading to Large Language Models (LLMs) like GPT-4 and Claude.

It has expanded AI's reach into creativity, education, and governance. These capabilities, however, raise concerns regarding misinformation, bias, and algorithmic opacity.

Recent global trajectory: breakthroughs, diffusion and the Delhi summit highlights

The AI field has progressed rapidly: generative systems write essays and code, vision models diagnose medical scans, and reinforcement learning powers increasingly capable robotics. Governments have responded in varied ways: the EU with the AI Act's risk-based classification, the U.S. with sectoral guidance and voluntary standards, and countries like India advancing pragmatic, mission-oriented AI strategies.

The India AI Impact Summit (Feb 2026) represented a rare convergence of policymaking, deployment and diplomacy. Key Summit outcomes included large investment announcements, multi-stakeholder dialogues on safety and standards, demonstrations of public-sector AI use cases (health, agriculture, language technologies), and the signing of a Pax Silica declaration that binds participating countries to cooperate on supply chains and responsible technology transfer. India's IT minister and other officials underscored the Summit's success in attracting investments and partnerships, framing New Delhi as a trusted partner for AI innovation while signalling an emphasis on indigenous capabilities.

Summit discourse also foregrounded a persistent tension: how to welcome private innovation and foreign capital while guarding national interests (data sovereignty, local value addition, cultural pluralism). Delegates debated red lines — from autonomous weapons to export controls — and converged on mechanisms that favour transparency, auditing and interoperable standards.

Pax Silica: concept, principles and geopolitical significance

Pax Silica emerged at the Summit as a U.S.-led initiative focused on securing the full "silicon stack" — semiconductors, critical minerals, manufacturing capacity and trusted software ecosystems — that underpin AI systems. The initiative's aim is to create a coalition of like-minded partners to decrease dependence on single-source suppliers, improve resilience, and promote open, democratic approaches to AI and hardware. India's formal accession to Pax Silica during the Summit (alongside a Joint Statement on India–U.S. AI cooperation) signals a strategic alignment with supply-chain diversification and technology collaboration initiatives.

Pax Silica's core principles — as articulated at the Summit — include: securing supply chains for critical components; facilitating responsible technology transfer; promoting pro-innovation regulatory approaches; and establishing mechanisms for cooperative risk mitigation (auditing, shared safety protocols). Geopolitically, Pax Silica is read as a strategic attempt to bind technologically capable democracies into a cooperative framework that both accelerates innovation and hedges against concentrated dependencies — especially in the context of tensions over China's role in global technology value chains.

Governance and regulation: competing models and the need for interoperability

AI governance models diverge on a spectrum between stringent ex-ante regulation and innovation-friendly, outcomes-based frameworks. The EU's AI Act typifies the former, categorising systems by risk and imposing obligations accordingly. The United States has leaned more towards sectoral guidance and voluntary industry standards to preserve dynamism. India has emphasised inclusive deployment, public-sector AI, and balanced safeguards that account for digital divides.

The Summit and Pax Silica discussions stressed interoperability — not uniformity — of rules: nations can retain policy sovereignty, but consenting to common safety protocols, audit mechanisms, and information-sharing arrangements can significantly lower systemic risks. A key Summit takeaway was that risk-based governance, cross-border auditing norms and emergency coordination mechanisms (to counter misuse or cascading failures) are prerequisites for an international AI order

Economic, developmental and societal implications

AI is a double-edged sword for the global economy. **Labor Market Disruption: The Reskilling Challenge:**

AI presents a two-edged economic prospect. On one hand, AI promises productivity gains across manufacturing, services and agriculture, new industries (AI tools, multimodal content platforms), and transformative public services (diagnostics, disaster response, governance automation). AI could add an estimated $15.7 trillion to the global economy by 2030 (PwC).

On the other hand, AI's automation potential may displace routine tasks, exacerbate skill mismatches and deepen inequalities. While "blue-collar" jobs were the focus of previous industrial revolutions, AI disrupts "white-collar" cognitive labor It requires large-scale skilling, social protection and inclusive digital infrastructure. (coding, legal research, content creation). The gap is no longer just about digital literacy, but "AI fluency." Governments must pivot from traditional education to lifelong learning models.

For India, the policy agenda is to harness AI as a multiplier of development: strengthen local language models, apply AI for precision agriculture, extend diagnostics to remote health centres, and embed AI into public digital platforms.

At the Summit, Indian policymakers underscored commitments to invest in domestic semiconductor capacity, research ecosystems and partnerships that enable knowledge transfer while protecting sovereign interests. These commitments complement Pax Silica's emphasis on diversified manufacturing and supply chain resilience.

Strategic and Security dimensions

AI's strategic stakes are high. From autonomous systems and decision-support in conflict theatres to cyber-resilience and intelligence analysis, AI fundamentally reshapes deterrence, escalation and crisis management. It is the new "high ground" in modern warfare.

- Autonomous Weapons Systems (AWS): The transition from "human-in-the-loop" to "human-on-the-loop" raises profound legal and moral questions about accountability for war crimes.
- Cyber Warfare: AI can automate the discovery of software vulnerabilities, creating a permanent state of high-speed cyber-offense and defense.
- Geopolitics: The "compute" (chips and data centers) has become the new oil. The control of semiconductor supply chains is now a core pillar of national security.

Security policy therefore must balance deterrence with restraint: invest in defensive capabilities (cyber resilience, secure communications), define norms for AI in weapons systems, and establish crisis communication channels. The Delhi Summit's emphasis on international cooperation including data sharing on vulnerabilities and joint exercises for incident response is a pragmatic step toward stabilisation.

Ethical and legal dilemmas

The ethical risks of AI are multifaceted: algorithmic bias can entrench discrimination; opaque models hinder auditability and accountability; pervasive data collection threatens privacy; and generative AI can amplify misinformation. **The "Black Box"** nature of AI presents several crises:

- **Algorithmic Bias:** If training data contains historical prejudices, AI will automate and scale discrimination in hiring, lending, and policing.
- **Deepfakes and Misinformation:** AI lowers the cost of creating hyper-realistic fake content, threatening the integrity of elections and social trust.
- **Data Privacy**: The hunger for training data often clashes with individual rights to privacy and "the right to be forgotten."

The Summit discussions highlighted frameworks for explainability, mandatory impact assessments for high-risk systems, data protection harmonisation, and public grievance redressal channels.

Pax Silica participants, while emphasizing supply chains and resilience, also acknowledged the necessity of shared ethical commitments—common red lines on military AI use, basic safety protocols, and joint research on robust, verifiable AI systems. However, translating joint principles into operational protocols demands technical harmonisation and political trust, both of which are non-trivial to build.

India's Perspective

India's strategic position is distinctive: a large market, a multilingual population, an emerging research base, and growing diplomatic reach. In this context India views AI as a "kinetic enabler" for its $5 trillion economy goal. At the Summit, India showcased both ambition and caution seeking investment and partnership while emphasizing indigenous capacity and responsiveness to socio-economic priorities.

New Delhi's signing of the Pax Silica declaration illustrates a pragmatic alignment with partners to secure technology stacks and attract investment, while also seeking guarantees of technology transfer and supply-chain localisation.

Domestic policy priorities for India include:

- **Investing in semiconductor and materials capability** to reduce strategic dependencies.
- **Expanding skilling and reskilling programmes** tied to AI adoption.
- **Developing local language models and inclusive data infrastructure** to democratise benefits.
- **Strengthening data protection, algorithmic audits and public accountability.**
- **Negotiating** international norms that secure both openness and sovereignty.
- **The Challenges:** The Digital Divide: Ensuring AI benefits rural populations, not just urban elites.
- **Data Ecosystems:** Creating non-personal data frameworks that respect privacy while fueling innovation.

Each of these priorities requires calibrated investments, legal reforms, and cooperation with private sector and international partners.

Initiatives by India

- **India AI Mission:** A comprehensive government initiative focusing on compute capacity, an AI startup ecosystem, and datasets for Indian languages.
- Public Sector Use Cases: From Bhashini (real-time translation for linguistic inclusion) to DIKSHA (AI for education), India is pioneering "AI for social good."

Investment Highlights from India AI Impact Summit 2026

Adani Group – AI Data and Infrastructure

- The Adani Group committed around $100 billion toward building AI data centres powered by renewable energy by 2035.
- This investment is expected to stimulate an additional $150 billion in allied sectors such as server manufacturing and sovereign cloud platforms, creating an estimated $250 billion AI infrastructure ecosystem in India over the next decade.

Microsoft – Global South AI Investment

- Microsoft announced it is on track to invest up to $50 billion by the end of the decade to help broaden access to AI technologies across the Global South, including India.
- This commitment includes programmes to reduce the AI divide, expand skills, and strengthen AI-related infrastructure.

Yotta Data Services & Nvidia AI Hub

- Yotta announced a $2 billion investment to establish a major AI computing hub in India, using NVIDIA's latest Blackwell chips.
- The hub in Delhi and expansions in Mumbai will support high-performance computing for Indian developers and global AI workloads.

Tata Group & OpenAI Collaboration

- Tata Group entered a strategic partnership with OpenAI to develop AI infrastructure and services in India.
- The initiative will begin with 100 MW of AI infrastructure, potentially expanding toward 1 GW, supporting AI deployments and solutions across industries.

Google's Strategic Initiatives

- Google announced a $30 million science and AI research fund to support Indian AI ecosystem development.
- It also unveiled an America-India Connect subsea connectivity initiative aimed at strengthening digital infrastructure.

- Google announced a $15 billion investment to build a full-stack AI infrastructurehub in Visakhapatnam, Andhra Pradesh, aimed at making the coastal city a major centre for AI computing and data capabilities in India.

State-Level and Startup Ecosystem Initiatives

- The Gujarat government signed a ₹25,000 crore MoU with L&T Vyom to build a 250 MW AI-ready data centre campus at Dholera.
- Startups like Infiheal and AI model makers such as Sarvam AI launched next-generation AI products during the Summit, signalling investor confidence in indigenous AI innovation.

Reliance Industries and Jio Commitments

- **Rs 10 lakh crore (~$110 billion) Investment:** Reliance Industries (through Reliance and its digital arm Jio) pledged Rs 10 lakh crore over seven years to build India's AI infrastructure and drive its transformation into the "intelligence era." This commitment is aimed at developing gigawatt-scale AI-ready data centres, integrated renewable energy power, and a nationwide edge computing network.

- **Strategic Focus on Sovereign AI:** The plan focuses on making AI services affordable and accessible — similar to the role Reliance played in reducing mobile data costs — and includes building sovereign AI computing infrastructure in Jamnagar and leveraging green power sources.

- **Multilingual AI and Inclusion:** ·Reliance also highlighted initiatives like Jio AI Bharat, a multilingual AI platform designed to serve diverse Indian populations in local languages, which reflects a focus on inclusion and broad AI adoption.

Assessment: promise vs peril

Artificial Intelligence offers an opportunity to accelerate development, transform public services and secure strategic advantages. However, its risks — social dislocation, privacy erosion, systemic bias, and destabilizing military competition — are real and persistent. Pax Silica and the Delhi Summit represent a cautious step toward multilateral governance that privileges democratic values, supply-chain resilience and responsible innovation. Yet, the coalition logic of Pax Silica also risks reinforcing geopolitical blocs, potentially squeezing non-aligned or less-resourced countries. India's challenge is therefore dual: to secure partnerships that deliver technology and investment, and to ensure domestic policies protect citizens' rights and long-term strategic autonomy.

Conclusion: Governing intelligence with prudence and purpose

The Global AI Summit in Delhi and the emergence of Pax Silica underscore a global recognition: AI cannot be an unfettered market frontier nor a purely national pursuit. It demands multidimensional governance — interweaving technical standards, ethical codes, legal frameworks and diplomatic arrangements. For India, the summit was both an opportunity to attract investment and a test of leadership in shaping an AI order aligned with democratic, humane values.

Ultimately, the question for policymakers is not merely 'how fast' or 'how much' AI can be deployed, but how responsibly it will be governed. India's policy choices in the coming years — investments in domestic capability, transparent regulation, robust skilling, and strategic partnerships like Pax Silica — will determine whether AI becomes a tool for equitable development and global stability, or a zone of contested power with uneven benefits.

NEWS GIST

POLITY

UGC Regulations 2026

Why in news?

The Supreme Court of India passed Stay Order on the UGC (Promotion of Equity in Higher Education Institutions) Regulations, 2026, on January 29, 2026.The regulations, intended to replace the 2012 guidelines, sparked a national debate over the definition of discrimination and the mechanisms for reporting it.

The Supreme Court's Intervention

- **The Stay Order**: A bench led by the Chief Justice stayed the 2026 regulations, describing them as "prima facie vague" and "capable of misuse."
- **Concerns of Social Division:** The Court orally observed that the regulations could have a "dangerous impact" and potentially "divide society" by institutionalizing identity-based silos instead of fostering a casteless academic environment.
- **Revival of 2012 Rules:** While the 2026 rules are in abeyance, the Court has revived the 2012 Regulations to ensure that campuses are not left without any anti-discrimination framework.

Concerns

The Quota System & "Non-Inclusionary" Definition

The primary legal and social flashpoint is Regulation 3(1)(c), which defines caste-based discrimination.

- **Exclusive Protection:** The 2026 rules define discrimination specifically as bias against SC, ST, and OBC categories.
- **The "General Category" Argument:** Petitioners argued that this definition is "non-inclusionary" because it excludes students from the general category who might also face harassment or caste-based slurs. This led to allegations of "reverse discrimination" and a violation of Article 14 (Equality before law).
- **The Presumption of Guilt:** Critics argued the rules created a legal environment where only certain groups are viewed as "victims," potentially leaving general category students without institutional remedies if they are harassed by those from reserved categories.

The Debate on "Complaining to Higher Authorities"

The regulations introduced a controversial shift in how grievances are handled:

- **Direct Complaints to UGC:** The 2026 rules allowed students to bypass university heads and report directly to a National-level Monitoring Committee or a 24x7 Equity Helpline.
- **Accountability vs. Autonomy:** * Pro-UGC View: Supporters argue that "higher authority" oversight is necessary because internal university committees are often biased or protective of senior faculty.
- **Anti-UGC View:** Academic bodies argue that this undermines the Autonomy of universities, turning the UGC from a funding body into a "policing agency" that encourages a culture of surveillance and direct interference in campus life.

Removal of Safeguards against False Complaints

In the 2025 draft, there was a clause to penalize "false or malicious complaints." The final 2026 notification removed this safeguard. This removal became a major point of contention in the Supreme Court. The bench questioned why protections against the misuse of the law were deleted, fearing it would lead to retaliatory FIRs and the weaponization of the "equity" tag during routine academic or interpersonal disputes.

Protests and Polarization

- **Campus Unrest:** Major universities like Delhi University (DU) and JNU have seen clashes between student groups. DU recently imposed a one-month ban on protests (until mid-March 2026) to prevent violence related to the "UGC Row."
- **Political Dimension:** The debate has become a "Forward vs. Backward" political dilemma, with various groups demanding either the full implementation of the "Rohith Vemula Act" principles or a complete redrafting to include all students regardless of caste.

Way Forward

To move past the current legal stay and social polarization, the following steps are essential:

- **Neutral Language:** Redrafting the regulations to protect all students from discrimination while maintaining specific, high-intensity safeguards for historically marginalized groups.
- **Due Process Safeguards:** Re-introducing penalties for proven malicious or false complaints to build trust across the student body.
- **Sensitization over Policing:** Shifting the focus from "punitive squads" to mandatory, credit-based sensitization programs for both faculty and students..
- **Decentralized Implementation:** Allowing State Universities a degree of flexibility in how they set up their Equity Cells, respecting the federal nature of education

Stop Sharing User Data or Opt Out of Country: Supreme Court to WhatsApp & Meta

Why in News?

The Supreme Court of India recently observed that if digital platforms such as WhatsApp and Meta Platforms are unwilling to comply with Indian data protection norms, they may consider exiting the Indian market.

The remarks came during hearings related to challenges against WhatsApp’s 2021 privacy policy, which allowed greater data sharing with its parent company, Meta, particularly for business and advertising integration.This development reopens critical debates around:

- Data sovereignty
- User consent
- Platform accountability
- State regulation of Big Tech

Background of the Issue

In 2021, WhatsApp updated its privacy policy to enable broader data sharing with Meta. The move triggered:

- Concerns over user profiling
- Allegations of violation of informational privacy
- Complaints before the Competition Commission of India (CCI)

The controversy gained constitutional dimension after the landmark judgment in: Justice K.S. Puttaswamy v. Union of India.In this case, the Supreme Court declared Right to Privacy as a Fundamental Right under Article 21.

Significance

Protection of Fundamental Rights

The Court's observation reinforces:

- Privacy as intrinsic to dignity and liberty
- Protection against arbitrary data harvesting
- Requirement of informed consent

India has nearly 500+ million WhatsApp users. The scale makes privacy protection a mass constitutional issue.

Data Sovereignty & Digital Governance

India is asserting regulatory sovereignty over global tech platforms operating within its jurisdiction. This aligns with:

- The Digital Personal Data Protection Act, 2023
- India's broader push for digital self-reliance

The message is clear: Market access is conditional upon regulatory compliance.

Big Tech Accountability

The case signals that:

- Global platforms cannot override domestic laws
- "Take-it-or-leave-it" privacy policies may be scrutinised
- Consent must be meaningful, not coercive

This has implications beyond WhatsApp affecting all major digital intermediaries.

Competition Law Dimension

The Competition Commission of India has also examined whether WhatsApp abused its dominant position by forcing users to accept revised data-sharing terms.Thus, the issue intersects:

- Constitutional law
- Data protection law
- Competition law
- Consumer rights

Key Challenges in Regulation

- **Balancing Privacy and Innovation**: Finding the right regulatory balance is difficult, as overregulation can slow innovation and increase compliance burdens, while under-regulation invites exploitation.
- **Cross-Border Data Flows:** Regulating data transfers and localization is complex within a global, borderless internet.
- **Enforcement Capacity**: Implementing an evolving data protection framework requires strong regulatory authorities, monitoring mechanisms, and technical expertise.
- **Economic Implications:** Dominant platforms like WhatsApp are deeply integrated into daily commerce and government communications, meaning regulatory disruptions could negatively impact the broader digital economy.
- **Constitutional and Ethical Questions:** The dominance of digital platforms raises fundamental issues regarding whether user consent can truly be voluntary, if these platforms should be regulated as public utilities, and how to balance corporate autonomy with constitutional morality.

Way Forward

- **Strengthen Legal Frameworks:** Ensure clear compliance standards, independent oversight, and transparent grievance redressal under frameworks like the Digital Personal Data Protection Act.
- **Privacy by Design**: Encourage platforms to minimize data collection, adopt encryption, and use anonymization.
- **International Cooperation:** Engage in global data governance frameworks and bilateral data transfer agreements.
- **Public Awareness:** Educate users on digital hygiene, consent mechanisms, and their data rights.

Conclusion

The Supreme Court's remarks represent a decisive moment in India's digital constitutionalism. The message is not anti-technology but pro-accountability.India, as one of the world's largest digital markets, is asserting that:

- Fundamental rights cannot be compromised for market access
- Digital platforms must respect sovereign regulatory frameworks
- Privacy is not a negotiable commodity

In an era where data is the new oil, safeguarding citizens' informational autonomy is essential to preserving democratic values in the digital age.

Manipur's Democratic Revival: Navigating the Path from Constitutional Crisis to Lasting Peace

Manipur has recently emerged from a prolonged phase of political instability and constitutional uncertainty, making a crucial transition back to an elected government. This pivotal shift ends a contentious period of President's Rule, which was imposed following a profound breakdown of law and order and severe ethnic violence.

The Anatomy of a Constitutional Crisis The roots of this crisis trace back to 2023, when the state was engulfed in intense, widespread ethnic clashes, primarily between the Meitei and Kuki-Zo communities. The ensuing unrest was catastrophic, resulting in large-scale displacement, the destruction of property, and deep ethnic polarization.

Faced with a paralyzed state administration and a collapse of law and order, the Union government determined that the state's constitutional machinery had failed. Consequently, it invoked Article 356 of the Constitution, imposing President's Rule.

Under this provision, state power is temporarily centralized, the State Assembly is often suspended, and the Governor administers the territory on behalf of the President. However, as underscored by the landmark S.R. Bommai v. Union of India (1994) judgment, such central intervention is designed with strict safeguards to prevent arbitrary misuse, serving only as a temporary mechanism rather than a long-term governance model.

Why the Ballot Matters

The restoration of an elected government is far more than a procedural milestone; it signals a vital return to democratic legitimacy and political accountability. Prolonged central rule inherently strains India's cooperative federalism. Returning power to local representatives strengthens state autonomy and ensures that peace-building efforts have genuine political ownership.

Furthermore, administrative control alone cannot heal deep social fractures. Political processes are absolutely essential for conflict resolution, allowing an elected government to initiate necessary dialogue and address core ethnic grievances. Beyond internal peace, Manipur holds immense strategic importance. As a border state with Myanmar, it acts as the gateway to ASEAN connectivity and is a linchpin in India's Act East Policy. Uninterrupted political stability is therefore crucial to maintaining infrastructure and security initiatives in the region.

Hurdles on the Horizon

Despite the return to democratic normalcy, the new government faces a labyrinth of challenges. Chief among them is the severe trust deficit and deep ethnic polarization that continues to divide communities.

Law and order remains a fragile balancing act, complicated by the continued presence of armed groups, the proliferation of weapons, and highly sensitive border dynamics. Additionally, the state faces the monumental humanitarian task of rehabilitating thousands of displaced persons. Successful resettlement will demand transparent processes, fair compensation, and ironclad security guarantees. Politically, the government must also ensure internal stability, as coalition fragility or internal dissent could easily destabilize the region once again.

Charting the Course Forward To transform this democratic restoration into sustainable stability, a multi-pronged approach is required:

- **Inclusive Political Dialogue:** The government must facilitate structured negotiations encompassing Meitei groups, Kuki-Zo representatives, and civil society organizations.
- **Empowering Local Governance:** Strengthening grassroots institutions, such as Autonomous District Councils and local peace committees, will be vital for decentralized healing.
- **Security and Justice**: Immediate priorities must include weapon recovery drives, community policing, and independent judicial oversight to ensure accountability and protect human rights
- **Equitable Development:** Long-term peace requires sensitive development strategies focusing on border infrastructure, youth employment, and the fair allocation of resources.

Conclusion

The revival of an elected government in Manipur is a critical step toward restoring constitutional normalcy. However, political revival alone is not a panacea for lasting peace. Manipur's recent journey offers a profound lesson for Indian federalism: in fragile, conflict-prone border states, democracy must not only exist procedurally but must function substantively. True stability will ultimately rely on inclusive governance, genuine reconciliation, and unwavering socio-economic justice.

Reclaiming the Ranks: Decolonising India's Military Identity

Context and Recent Developments

The Indian Army has recently initiated the renaming of 246 roads, buildings, and military facilities to eliminate colonial-era names and symbols. This development reflects a comprehensive endeavor to align India's military institutions with its indigenous historical legacy and post-independence identity. Over recent years, this initiative has been complemented by the replacement of colonial insignia, the renaming of prominent colonial-era locations, and an increased emphasis on Indian civilizational icons and military heroes.

Background

The Drive for Institutional Decolonization For decades following Independence, various national institutions retained British-era building names, colonial military traditions, and commemorative plaques honouring colonial officers. The recent renaming exercise signifies a deliberate policy direction aimed at shedding the colonial legacy across governance, law, and armed forces traditions. It specifically seeks to realign military spaces with indigenous values, national historical figures, and homegrown military heroes.

Significance of the Move

- **Assertion of National Identity:** This renaming represents symbolic sovereignty, acting as a psychological assertion that India's institutions must reflect its own history rather than that of its former colonial rulers. It significantly reinforces cultural self-confidence, national pride, and the consolidation of a post-colonial identity.
- **Civilisational Reclamation:** By increasingly commemorating indigenous war heroes, gallantry award winners, and freedom fighters, the armed forces are actively reshaping collective memory and institutional culture.
- **Alignment with Wider Reforms:** These symbolic shifts strategically complement ongoing structural reforms within the military, such as the integration of service commands, the push for indigenous defence production, and theatre command restructuring.
- **Psychological and Moral Boost:** Because military institutions rely heavily on tradition and symbolism, replacing colonial names with Indian icons enhances troop morale, strengthens cultural connection, and inspires younger personnel.

Constitutional and Governance Dimensions

Although India transitioned into a Republic in 1950, its institutional memory frequently retained deep colonial imprints. The removal of these remnants is viewed as a necessary step towards strengthening substantive sovereignty. However, this sparks an ongoing debate between cultural nationalism and historical continuity. It raises crucial questions regarding whether colonial history should be erased or simply contextualised, and whether this renaming constitutes corrective justice or selective memory.

Challenges and Criticisms

- **Administrative Burdens:** Executing this renaming entails logistical modifications, mapping updates, and extensive documentation changes.
- **Risk of Politicisation:** Symbolic actions carry the risk of becoming politically charged if the selection of new names appears partisan or if historical reinterpretation lacks a broader consensus.
- **Heritage Conservation Debate:** Many historians argue that colonial structures are a vital part of the historical record, and their complete erasure may diminish historical continuity. The core dilemma remains whether historical reform should replace or reinterpret the past.

Way Forward

The renaming of these 246 military assets suggests that decolonisation will likely expand into military doctrines, training institutions, educational curricula, and administrative frameworks. To ensure that these transformations strengthen both national unity and institutional excellence, a balanced approach is required:

- **Transparent Criteria:** The state must establish clear guidelines and engage in historical consultation to ensure the inclusion of diverse regional heroes.
- **Preservation of Historical Records:** It is vital to maintain archival documentation of old names and contextualise rather than erase history, potentially through museums and the preservation of military records.
- **Balancing Symbolism with Structural Reform:** Symbolic decolonisation must run parallel to the modernisation of the armed forces, administrative efficiency, and overall strategic preparedness.
- **Effective Public Communication:** The rationale behind the changes must be clearly explained to avoid partisan overtones, accompanied by educational outreach regarding the newly renamed figures.

Conclusion

The Indian Army's decision marks a crucial symbolic milestone in India's broader cultural and administrative transformation, mirroring similar steps like the revamping of colonial criminal laws and the reforming of military practices. While symbols fundamentally shape identity, memory, and institutional ethos, the long-term focus must progressively shift towards deeper procedural, strategic, and doctrinal transformations deeply rooted in the indigenous experience.

ECONOMY

The Iron Pulse: Revitalising West Bengal's Railway Infrastructure

The Big Move In a significant push to modernise eastern India's connectivity, the Union Government has allocated a historic ₹14,205 crore for West Bengal's railway infrastructure. This robust investment signals a renewed focus on the region, aligning seamlessly with national priorities like PM Gati Shakti, Vande Bharat expansion, and the decongestion of vital freight corridors.

Why It Matters

- **Economic Catalyst:** Railways serve as a massive growth multiplier. Enhanced connectivity to eastern ports like Haldia and Kolkata will drastically reduce logistics costs, supporting MSMEs and strengthening India's Act East Policy.
- **Urban Mobility:** West Bengal boasts one of India's busiest suburban networks. These funds will crucially help decongest Kolkata's urban transport systems.
- **Safety First:** Investments will target track renewals, station redevelopment, the elimination of unmanned crossings, and critical signalling upgrades to ensure passenger safety.

Roadblocks Ahead

Transforming infrastructure on paper to reality is not without hurdles. The primary challenges include Centre-State coordination especially regarding land acquisition and local clearances as well as time overruns and logistical constraints within highly dense urban environments. Furthermore, authorities must delicately balance funding new expansions while maintaining existing assets.

The Path Forward

For this ambitious vision to materialize, cooperative federalism is essential. By establishing institutionalised coordination, prioritising high-impact projects, and leveraging modern technologies like the Kavach signalling system, the state can overcome execution bottlenecks. Ultimately, this ₹14,205 crore allocation is more than just a budgetary figure; its true success will be measured by effective, on-the-ground delivery that genuinely boosts economic activity and everyday mobility for millions.

India's Digital Census: Mastering the Blueprint

India is gearing up for a logistically complex, digitally-driven Census. To guarantee operational readiness and pristine data quality, the government has launched a transformative administrative reform: a five-tier cascading training framework.

The Five-Tier Engine This top-down structure ensures national uniformity while adapting to diverse regional nuances:

- **National & State Trainers:** Formulate core methodologies and adapt content for linguistic relevance.
- **District & Block Supervisors:** Drive logistics and provide hands-on, managerial guidance to ground staff.
- **Enumerators:** The essential grassroots workforce executing the actual digital house-listing.

Why It Matters

Aligned with the 'Digital India' mission, this framework tackles the massive scale of the Census by building crucial digital literacy for app-based, real-time data entry. Highly trained enumerators minimize coverage gaps and misclassification, securing the integrity of data used for policy formulation, welfare targeting, and fiscal devolution.

Navigating Challenges

The model faces hurdles like the "transmission loss" of precise instructions down the chain, strict timelines, and an uneven digital divide across rural regions. Proposed solutions include hybrid video-based training, pre-deployment readiness assessments, and robust real-time feedback channels.

Looking Ahead

This structured training marks a vital evolution from ad-hoc preparation to systemic capacity building. Beyond the upcoming Census, it promises to be a foundational, reusable asset for India’s evidence-based governance and future large-scale exercises like the National Sample Survey.

Democracy’s Hidden Hand: The Rise of Citizen-Funded Politics

Recent income-tax analyses have revealed a surprising trend in India’s political finance ecosystem: individual taxpayers are the largest group of beneficiaries claiming tax deductions on political donations. While corporate funding typically dominates headlines, everyday citizens actually dominate the sheer volume of claims.

The Mechanics of Giving

Under Section 80GGC of the Income Tax Act, individuals can claim a 100% deduction on political donations, provided they use non-cash methods such as bank transfers or digital payments to ensure a paper trail. While this system promotes formalised public participation, it comes with a hidden cost known as "tax expenditure"—the revenue the state effectively foregoes to subsidise these exemptions.

The Catch: Transparency and Equity

Despite encouraging citizen involvement, this framework faces critical hurdles:

- **Transparency Deficits:** Public disclosure of smaller donor identities remains severely limited.
- **Regressive Benefits:** The system inherently favours higher-income individuals who are more likely to donate and claim deductions, raising alarms about unequal political influence.
- **Weak Oversight:** Monitoring whether these tax-exempt donations actually reach eligible entities poses significant administrative challenges. Furthermore, the lost tax revenue bypasses the rigorous legislative debate usually applied to direct budgetary spending.

Reforming Political Finance

To ensure tax incentives strengthen rather than distort India's electoral process, policymakers must implement robust oversight. Key reforms should include introducing reasonable caps on deductible amounts to prevent misuse and establishing improved data-sharing between tax authorities and election regulators. Additionally, promoting Electoral Trusts as transparent intermediaries can help route individual donations securely.Ultimately, balancing democratic engagement with strict fiscal accountability and transparency remains the defining policy challenge for India's evolving political landscape.

Sunset on Subsidies: Balancing India's Welfare and Wealth

The 16th Finance Commission has sparked a crucial debate: India's rapidly expanding cash transfer schemes urgently need "exit clauses". Without these sunset provisions, welfare programs risk becoming permanent fiscal liabilities that stifle efficient public spending.

The Fiscal Tightrope

Mounting revenue expenditures for welfare are actively crowding out crucial capital investments. By embedding exit clauses, governments ensure fiscal sustainability, freeing up resources for high-impact sectors like healthcare, education, and infrastructure. Furthermore, time-bound schemes compel leaders to focus on outcome-based welfare rather than continuing programs blindly for electoral gains.

The **Hurdles of Halting Handouts Transitioning** to temporary welfare schemes faces formidable obstacles:

- **Political Backlash:** Public perception often transforms temporary aid into entrenched, untouchable entitlements.
- **Complex Execution:** Defining objective benchmarks for ending a scheme requires robust data systems and administrative capacity, which are currently uneven across States.
- **Exclusion Risks:** Premature scheme exits could severely devastate vulnerable populations without adequate safety nets.

A Sustainable Blueprint

To balance populism with prudence, policymakers must design schemes with explicitly defined durations, requiring rigorous independent audits for any renewal. Most importantly, India must adopt graduation frameworks; cash transfers should be directly linked to skill development and asset creation to help beneficiaries structurally transition out of poverty. Supported by strong Centre-State coordination and shock-responsive flexibility for crises, this approach guarantees safety nets remain targeted and efficient.

Ultimately, India's maturing welfare architecture must meticulously balance social protection with fiscal prudence to empower its citizens, rather than entrenching them in systemic dependency.

The Yield Spike: India's Borrowing Boom and the Bond Market Backlash

India’s debt markets are feeling the squeeze as the government unveils a historic borrowing plan, pushing benchmark yields to new highs.

The Catalyst India’s benchmark 10-year government bond yield has hardened following the Centre's announcement of a record gross market borrowing programme. Designed to finance pressing fiscal consolidation needs, this unprecedented supply of government securities triggered an immediate market reaction. Because bond prices and yields share an inverse relationship, the anticipated excess supply has driven prices down and yields up.

The Ripple Effect The 10-year Government Security (G-sec) is the ultimate compass for long-term interest rates. This yield surge sends shockwaves across the macroeconomic landscape:

- **Fiscal Strain:** Higher yields inflate the government's interest burden, crowding out productive expenditure.
- **Costlier Credit:** Elevated yields can dilute the Reserve Bank of India's (RBI) accommodative stance, making credit more expensive despite stable policy rates.
- **Private & State Squeeze:** Rising sovereign yields increase corporate borrowing costs, potentially dampening private investment. Furthermore, state governments, which borrow at a premium over G-secs, face mounting financial stress.

Navigating the Turbulence

Policymakers face a delicate balancing act. They must manage the market absorption of frequent, large bond issuances without disrupting the RBI's liquidity operations. Global spillovers, such as US Treasury yields, further amplify these domestic pressures.

Conclusion

To secure macroeconomic stability, India must broaden its investor base to include more pension funds and foreign investors while actively smoothing out its borrowing calendar. Ultimately, adhering to a credible path of fiscal consolidation and utilizing RBI tools judiciously will be essential to anchor market expectations and prevent rising interest costs from stalling economic growth.

DISCOMS and the road ahead

Why it is in the News?

India's power distribution companies (DISCOMs) are back in focus due to their persistent financial losses, mounting dues to power generators, and the government's renewed push for reforms under schemes such as the Revamped Distribution Sector Scheme (RDSS). The performance of DISCOMs has also become critical in the context of renewable energy integration, smart metering, and 24×7 power supply commitments.

Why DISCOMs are Important

- DISCOMs are the last-mile link between electricity generation and consumers, directly affecting service delivery.
- Their financial health determines the viability of power generators, transmission utilities, and renewable energy projects.
- Efficient DISCOMs are essential for industrial competitiveness, rural electrification, and energy transition goals.
- They play a central role in achieving India's climate commitments by enabling grid stability and renewable integration.

Key Facts & Concepts for Prelims

- DISCOMs handle electricity distribution and retail supply.
- Major indicators of DISCOM performance include:
  - AT&C losses (Aggregate Technical & Commercial losses)
  - ACS–ARR gap (Average Cost of Supply vs Average Revenue Realised)

- High AT&C losses indicate power theft, billing inefficiencies, and technical losses.
- Electricity is a Concurrent List subject under the Constitution.
- Tariff determination is done by State Electricity Regulatory Commissions (SERCs).
- Smart meters help reduce losses by accurate billing and real-time monitoring.

Challenges

- Chronic financial losses due to high AT&C losses and tariff under-recovery.
- Political interference in tariff setting and delayed subsidy payments by states.
- Rising cost of power procurement, especially during peak demand periods.
- Weak governance, poor billing and collection efficiency.
- Difficulty in integrating renewable energy, which requires grid flexibility and forecasting.
- Dependence on repeated bailouts and restructuring schemes.

Way Forward

- Chronic financial losses due to high AT&C losses and tariff under-recovery.
- Political interference in tariff setting and delayed subsidy payments by states.
- Rising cost of power procurement, especially during peak demand periods.
- Weak governance, poor billing and collection efficiency.
- Difficulty in integrating renewable energy, which requires grid flexibility and forecasting.
- Dependence on repeated bailouts and restructuring schemes.

CONCLUSION

DISCOM reform is not merely a financial exercise but a structural necessity for India's energy security, economic growth, and clean energy transition. A sustained reform push beyond periodic bailouts is essential to put DISCOMs on a viable and future-ready path.

Driving Towards a Greener Future: India Axes Small Car Exemptions

In a bold move to align with global climate standards, the Indian government has officially scrapped regulatory concessions previously granted to small cars. Historically, vehicles weighing under 1,000 kg enjoyed lenient fuel efficiency targets and easier fleet-average compliance to maintain affordability for middle-class consumers. However, under the newly updated Corporate Average Fuel Efficiency (CAFE) norms, emission standards are now strictly technology- and fuel-neutral.

The Environmental Imperative

With road transport accounting for 12–13% of India's energy-related CO_2 emissions, this policy rationalisation is a crucial step. The reform ends a regulatory distortion that inadvertently incentivised vehicle downsizing over genuine emission reduction. By regulating emissions per kilometre rather than vehicle size, India is accelerating its commitment to achieving net-zero emissions by 2070 and slashing GDP emission intensity by 45% by 2030.

Roadblocks and the Route Ahead

While this transition champions cleaner engines, hybrids, and electric vehicles (EVs), it is not without its speed bumps. Small cars dominate the Indian mass market, and removing these "sops" will likely increase production costs, directly impacting affordability for price-sensitive buyers. Furthermore, smaller manufacturers may struggle with the financial burden of technological upgrades.

Conclusion

To successfully navigate these hurdles, a phased implementation is vital, alongside robust incentives for EVs, flex-fuel technologies, and improved charging infrastructure. Ultimately, this signals a mature shift toward outcome-based regulation, securing India's future in clean mobility.

India's Labour Codes: A New Dawn for the Workforce?

A recent report highlights a rare consensus: both employers and workers are embracing India’s four new Labour Codes as credible, forward-looking market reforms. By consolidating 29 complex central laws into four streamlined codes—covering Wages, Industrial Relations, Social Security, and Occupational Safety—this ambitious overhaul aims to balance the ease of doing business with enhanced worker welfare.

Formalising the Future

With over 90% of India's workforce currently in the informal sector, these changes are monumental. The codes mandate universal minimum wages and extend crucial social security benefits to previously vulnerable groups, including gig, platform, and unorganised sector employees. Furthermore, by establishing a predictable regulatory environment, the reforms are expected to boost investor confidence and drive job creation in labour-intensive manufacturing.

Hurdles on the Horizon

Despite the widespread optimism, significant challenges remain. State-level implementation delays are stalling progress, while trade unions continue to voice fears over job security. Additionally, small businesses (MSMEs) may struggle with new compliance norms, and a digital divide threatens to exclude informal workers from online registration platforms.

The Way Forward

Overcoming these barriers requires capacity-building for MSMEs, targeted awareness campaigns, and ongoing tripartite consultations with unions. Ultimately, effective implementation will be the linchpin for transitioning India into a truly inclusive, formalized, and globally competitive labour market.

The Great Cotton Pivot: Bangladesh Looks West

Bangladesh, a titan in the global ready-made garment sector, is making a strategic pivot that could reshape regional trade flows. Driven by the need for stable supply chains and high-quality fibre, Bangladesh is moving away from its traditional reliance on Indian raw cotton in favour of United States imports. This diversification effort aims to mitigate supply uncertainties and reduce overdependence on a single supplier.

For India, this realignment poses a significant economic challenge.

The potential loss of a crucial export market threatens to depress domestic cotton prices and squeeze farmer incomes in key producing states. Compounding this threat are issues surrounding the price competitiveness of U.S. cotton, alongside prevailing perceptions of Indian cotton quality and logistics

As global textile supply chains grow more complex, India must urgently adapt. The strategic path forward demands improved cotton productivity through technology, enhanced quality grading, and a robust pivot toward value-added textile exports. By embracing sustainable farming practices and strengthening trade diplomacy, India can turn this regional challenge into a global opportunity to climb the textile value chain.

Empowering India's Economic Engine: RBI's Push for Collateral-Free MSME Loans

The Reserve Bank of India (RBI) has issued a crucial directive advising banks and financial institutions against insisting on collateral security for loans extended to Micro, Small and Medium Enterprises (MSMEs). By reinforcing these existing policy norms, the RBI aims to ensure uninterrupted and improved credit flow to a sector that is critical to the nation's growth.

Breaking Down Barriers to Formal Credit

Traditionally, MSMEs face significant hurdles in accessing formal loans because they often lack tangible assets, formal financial records, and proper land ownership documents. Collateral-free lending actively encourages these businesses to move away from informal credit sources and embrace the formal banking system. This shift champions financial inclusion by integrating rural businesses, women-led enterprises, and small entrepreneurs into the formal economy.

The Backbone of the Economy

The MSME sector is undeniably India's economic powerhouse, contributing nearly 30% to the GDP and accounting for about 45% of the country's exports. Crucially, it provides employment to over 11 crore people. To safeguard lenders while empowering these businesses, the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)—launched jointly by the Government of India and SIDBI—provides a robust guarantee cover for loans up to ₹5 crore.

Navigating Challenges Ahead

Despite these supportive frameworks, challenges like banks' fears of higher Non-Performing Assets (NPAs), a severe lack of borrower credit history, and continued demands for informal guarantees still persist.

Moving forward, strengthening credit guarantee mechanisms, leveraging fintech-based credit assessments, and improving financial literacy will be vital. By embracing digital lending platforms, India can fully unlock the MSME sector's true growth potential, driving inclusive and employment-intensive economic development.

Securing the Digital Ledger: RBI’s Bold Move on Fraud Compensation

As India’s digital payment ecosystem rapidly expands through UPI and mobile banking, a significant shadow has emerged: the alarming rise of cyber frauds such as phishing and SIM swaps. To safeguard consumer trust, the Reserve Bank of India (RBI) is drafting a new framework to compensate victims of digital transactions, particularly when the customer is not at fault.

Why It Matters

This proposed framework is a game-changer for consumer protection and financial inclusion. If high fraud risks persist, vulnerable populations might revert to cash, slowing digital penetration. By institutionalizing compensation, the RBI aims to protect small depositors, bolster international credibility, and push banks to invest heavily in cybersecurity to avoid financial liabilities.

The Balancing Act

However, the framework faces hurdles. Experts warn of a "moral hazard"—if compensation is guaranteed, users might abandon basic digital caution. Furthermore, banks face increased operational costs and the complex challenge of differentiating genuine system failures from customer negligence in real time.

The Way Forward

To succeed, the RBI must implement a shared liability model that distributes costs among banks, fintech platforms, and payment operators. Coupling this with robust AI-driven fraud detection and nationwide cyber literacy campaigns will be crucial. Ultimately, a balanced, risk-sensitive framework will not just protect depositors; it will fortify the foundation of India's cash-lite digital economy.

The Frontline of Food: Inside India's Nutritional Satyagraha

The Silent Epidemic

As India faces a severe health crisis where Non-Communicable Diseases (NCDs) like diabetes and hypertension claim over 60% of lives, the complex "Back-of-Package" data filled with tiny fonts is proving inadequate. With the World Obesity Atlas predicting a staggering 83 million obese Indian children by 2035, public health experts are urgently demanding Front-of-Package Labelling (FOPL) to clearly identify High Fat, Sugar, and Salt (HFSS) products and prevent junk food from being marketed as healthy snacks.

The Legal Battle for Transparency

In the landmark PIL, 3S and Our Health Society v. Union of India, advocates argue that the fundamental right to health under Article 21 inherently includes the democratic "Right to Know" what is in our food. Recently, the Supreme Court expressed strong dissatisfaction with the Food Safety and

Standards Authority of India (FSSAI) over stalled progress. The court sharply criticized the industry-favored "Health Star Rating" system, noting it creates a deceptive "Health Halo" by allowing positive ingredients like added fiber to mask dangerously high sugar or salt levels. Instead, the judiciary urges the adoption of stark, nutrient-specific Warning Labels—such as the black hexagrams successfully mandated in Chile and Mexico.

Industry Pushback vs. Public Health

Large food corporations and MSMEs are fiercely resisting, arguing that strict warning labels will unfairly penalize traditional Indian "ethnic foods" naturally high in fat and sugar. Yet, advocates counter that visual warnings bridge the crucial information gap for consumers with low nutritional literacy and actively incentivize brands to reformulate their recipes.

The Way Forward

To achieve true "Nutritional Security," India must enforce a mandatory warning-based FOPL system, coupled with the Eat Right Movement and strict bans on junk food advertising during children's programming. Ultimately, the health and resilience of 1.4 billion citizens must eclipse corporate interests.

The Beedi Dilemma: Protecting Livelihoods or Fueling a Health Crisis?

In India's 2026 tobacco taxation overhaul, a stark disparity emerged: cigarettes face a 66% tax burden, while the humble beedi enjoys a mere 22% effective rate. Shielded by a reduced 18% GST and nominal excise duty to protect nearly five million unorganised workers—predominantly rural women—the "poor man's cigarette" remains highly accessible.

The True Cost of Cheap Smoke

This populist policy presents a catastrophic public health paradox. Beedis are India’s most consumed tobacco product, smoked by over 72 million adults. Lacking filters, they deliver more tar, nicotine, and carbon monoxide than conventional cigarettes.

Keeping taxes low encourages "down-trading," where price-sensitive smokers switch to these deadlier, low-tax options. Consequently, treating tobacco-related diseases costs India approximately 1.04% of its GDP, vastly outweighing collected tax revenues.

Paving a Healthier Path

To avoid an insurmountable "health debt," India must transition towards tax neutrality across all tobacco products. Policy experts recommend a gradual escalation of specific taxes based on stick count to prevent artificial price deflation. Crucially, revenue from the new Health Security Cess should fund Alternative Livelihood Programs, transitioning vulnerable beedi workers into safer sectors like food processing.

Lowering beedi taxes may offer a short-term economic cushion, but fiscal policy must align with public health goals. A "Health over Revenue" approach is essential to ensure the poor man's cigarette does not become the "poor man's grave".

Taking Flight: India's Private Aerospace Revolution

In a historic leap toward Atmanirbhar Bharat (self-reliance), India’s first private-sector helicopter Final Assembly Line (FAL) has officially opened in Vemagal, Karnataka. Inaugurated on February 17, 2026, by Prime Minister Modi and French President Macron, this landmark Tata-Airbus joint venture breaks the long-standing state monopoly on aerospace manufacturing.

The "Everest" Machine

For the first time, a private Indian company will handle the end-to-end manufacturing of a sophisticated rotary-wing aircraft.

The facility will produce the Airbus H125 famously the only helicopter to land on Mount Everest. Tailored for India’s demanding "hot and high" Himalayan terrains, it will be manufactured in both civil (H125) and military (H125M) variants.

Economic & Strategic Lift off

Driven by a ₹1,000 crore investment, this strategic project champions Atmanirbhar Bharat. It promises to integrate over 16,000 Indian MSMEs into the global supply chain and generate thousands of jobs. Beyond replacing the military's aging Cheetah and Chetak fleets, these "Made in India" choppers will boost the UDAN tourism scheme, provide vital emergency medical services, and transform India into a South Asian export hub.

Navigating the Turbulence

Despite establishing the line at "warp speed" in just two years, notable hurdles remain. The domestic civil market must grow rapidly, as India's current fleet sits at only ~250 units. Achieving true self-reliance also demands transitioning from mere assembly to "deep manufacturing," since high-tech components like engines still rely on imports. Additionally, the military variant faces stiff competition from legacy defense platforms built by Hindustan Aeronautics Limited.

Yet, the future roadmap is incredibly ambitious. Aiming to manufacture nearly 500 helicopters over the next 20 years, the first locally assembled aircraft is slated for delivery by early 2027. Starting at 10 units annually, this facility represents a massive leap for India's broader Indo-Pacific aviation goals.

ENVIRONMENT

Tigers Beyond Borders: A Conservation Triumph or a Risky Gamble?

Wild tiger populations are clawing their way back from the brink. After plunging to a mere 3,200 in 2010, global estimates now celebrate a remarkable recovery of up to 5,500 tigers in the wild, with India alone hosting about 75% of them. However, this rare environmental success story has sparked a new dilemma: tigers are increasingly being relocated or are naturally dispersing far beyond their traditional habitats.

The Logic of Relocation

As "umbrella species," protecting tigers indirectly safeguards vital watersheds, carbon sinks, and entire food chains. Yet, as reserves in strongholds like India expand and become overcrowded, dispersing tigers often spill into agricultural landscapes. To manage this, conservationists are utilizing translocation to reduce human-tiger conflict, strengthen genetic diversity against inbreeding, and restore ecological balance in forests lacking breeding tigers. Ambitious proposals even suggest exporting tigers to countries like Cambodia, where they are currently extinct.

The Hidden Dilemmas

Moving these apex predators, however, is not a guaranteed victory. Ecologically, relocated tigers face mismatched prey bases, stressful territorial clashes with resident carnivores, and the risk of disrupting subspecies adaptations when moved across different climates. Socio-politically, translocation is a massive undertaking. It requires millions of dollars for GPS collars and veterinary teams, and frequently faces fierce resistance from local communities terrified of livestock loss or attacks. Furthermore, fragmented wildlife corridors and climate change complicate their safe dispersal.

A Sustainable Path Forward

To ensure tigers genuinely thrive in a warming world, conservation must evolve beyond merely boosting numbers. True success requires landscape-level planning that connects protected areas through secure corridors. It demands science-based translocations, robust community incentives —like eco-tourism revenue sharing—and coordinated international cooperation across borders. Ultimately, the future of the tiger depends on balancing ecological integrity with human coexistence.

From Waste to Pride: Surat’s Circular Economy Tricolours

Ahead of major international sporting events, manufacturers in Surat are spinning a new narrative by producing Indian national flags from recycled plastic bottles (rPET polyester). This innovative endeavor is not just an industrial milestone; it is a profound model of sustainable manufacturing linked with national identity.

The "Waste to Wealth" Journey

The transformation begins in urban waste streams, where discarded PET bottles are collected, cleaned, and shredded into flakes.

These flakes are melted and spun into rPET yarn, which Surat's renowned synthetic textile hub weaves into flag-grade fabric. Crucially, the final printing adheres strictly to the standards set by the Flag Code of India.

Beyond Symbolism: Environmental and Economic Impact

This circular loop converts non-biodegradable waste into durable goods, directly supporting India's Extended Producer Responsibility (EPR) norms. Environmentally, it reduces landfill pressure, lowers carbon footprints, and saves the crude oil typically used in virgin polyester production. Economically, it adds significant value to Surat's polyester ecosystem, generating employment across the recycling and printing sectors.

Navigating the Hurdles

Despite the clear benefits of this "sustainable patriotism," challenges persist. Manufacturers must guarantee precise color accuracy and durability while competing with traditional cotton or khadi flags. Furthermore, even recycled polyester remains non-biodegradable, meaning improper disposal could trigger secondary pollution.

The Way Forward

To perfect this model, strengthening plastic waste management, promoting source segregation, and developing post-use collection systems for flags are essential. Ultimately, Surat's initiative brilliantly proves that industrial capability, environmental stewardship, and national sentiment can seamlessly converge.

Assam's Green Fusion: The Bamboo Bioethanol Revolution

Assam's historic tea gardens are undergoing a remarkable transformation by diversifying into bamboo cultivation to supply the world's first commercial-scale, second-generation (2G) bamboo-based bioethanol plant in Numaligarh. Recognising this green energy potential, the Assam government modified land-use regulations, permitting tea estates to allocate up to 5% of their land for non-tea crops. Dedicated by the Prime Minister in September 2025, the facility reached its stabilisation phase in early 2026, marking a powerful synergy between the traditional tea industry and the emerging energy sector.

Opportunities

Designed as a visionary "zero-waste" facility, the plant will process 5 lakh metric tonnes of green bamboo annually to yield 49,000 metric tonnes of high-purity ethanol alongside several valuable by-products. By prioritising the Bambusa tulda variety—celebrated for its rapid maturity and exceptionally high cellulose content—the project ensures higher yields compared to traditional crops like sugarcane. Relying on this non-food feedstock establishes a genuinely sustainable approach to domestic biofuel production.

Crucially, this breakthrough offers a vital new revenue stream for a tea sector facing numerous challenges. It is projected to economically empower over 30,000 local farmers and tribal communities, significantly bolstering the rural economy.

Challenges

However, the ambitious project must navigate several hurdles: insufficient registered farmers to meet supply demands, a four-year bamboo gestation period before harvest, and logistical transportation issues of bulky bamboo necessitating a network of decentralised chipping units.

Conclusion

Despite these obstacles, the outlook remains highly promising. Plans are currently advancing to distribute free bamboo saplings to local growers and radically expand cultivation across 12,500 hectares. As a pioneering global model, this integration aligns beautifully with India's broader ambitions of achieving carbon neutrality, supporting the vital E20 fuel blending target, and securing energy independence by reducing reliance on imported oil.

The Great Nicobar Dilemma: Balancing Ambition and Ecology

India is embarking on a monumental ₹72,000-crore transformation of Great Nicobar Island, aiming to build a global maritime hub. Yet, this strategic triumph may come at a staggering ecological cost.

The Strategic Blueprint

Situated a mere 90 kilometers from the Malacca Strait—a conduit for nearly 40% of India's maritime trade—the island is poised to become an economic powerhouse. The mega-project features an International Container Transshipment Terminal (ICTT) at Galathea Bay, a greenfield airport, and a modern township.

Beyond reducing dependence on foreign ports like Colombo and Singapore, it serves as a critical counterbalance to monitor Chinese naval presence in the Indian Ocean Region.

The Ecological Toll

However, conservationists warn of irreversible damage to this UNESCO-notified Global Biodiversity Hotspot. The development necessitates clearing 130.75 sq. km of pristine primary forest, felling nearly one million trees that serve as vital carbon sinks. Iconic species face existential threats: Galathea Bay's Giant Leatherback Turtle nesting sites risk destruction from foreshore dredging, while the endemic Nicobar Megapode faces massive coastal habitat loss. Furthermore, over 20,000 coral colonies are slated for risky translocation, a process scientists warn carries a high mortality rate.

Social and Geological Perils

The influx of migrants threatens to displace and culturally disrupt indigenous communities, including Particularly Vulnerable Tribal Groups (PVTGs) like the Shompen and Nicobarese. Geologically, the island rests in highly volatile Seismic Zone V, vulnerable to severe subsidence as witnessed during the devastating 2004 tsunami.

Paradoxically, the government proposes compensatory afforestation in semi-arid Haryana, a move expert argue cannot possibly replace a tropical ecosystem 2,000 km away. As India advances its maritime ambitions, navigating the fine line between national security and environmental stewardship remains its ultimate test.

Hydrological Divergence: The Indus-Ganga Climate Paradox

A recent study published in the American Geophysical Union's Earth's Future highlights a striking climate paradox in South Asia: water flows in the Indus basin have increased, while flows in the Ganga basin have declined over recent decades. This hydrological divergence underscores the deeply uneven impacts of climate change across the Himalayan river systems.

Drivers of the Hydrological Divergence

The increase in the Indus River's flow—a heavily glacier- and snow-fed system—is primarily driven by accelerated glacial melt in the western Himalayas and the Karakoram region. However, scientists warn that this surge is likely a temporary "peak water" phase, which will eventually lead to long-term decline due to permanent glacier mass loss.

Conversely, the Ganga River, which is dominantly monsoon-fed, is experiencing severely reduced discharge. This decline is directly linked to weakening monsoon rainfall, glacier retreat in the eastern Himalayas, land-use changes, and excessive groundwater extraction.

Critical Dimensions and Implications

These contrasting trends present complex, multi-dimensional challenges for the region:

- **Water Security and Agriculture:** The Ganga basin supports approximately 43% of India's population and is the backbone of the nation's food security. Declining surface flows threaten irrigation, drinking water, and rural livelihoods, driving an over-reliance on already stressed groundwater reserves in the Indo-Gangetic plains.

- **Disaster Risks:** The region is facing a dangerous flood-drought paradox. The rising Indus flows elevate the immediate risk of flash floods and Glacial Lake Outburst Floods (GLOFs). Meanwhile, decreasing Ganga flows heighten overall drought vulnerability and water scarcity during lean seasons.

- **Geopolitics:** Altered river flows threaten to complicate existing hydro-diplomatic frameworks. Variations in the Indus directly impact India-Pakistan relations under the Indus Waters Treaty, while declining Ganga flows affect water-sharing arrangements between India and Bangladesh.

The Way Forward

Addressing these asymmetrical hydrological shifts requires abandoning uniform Himalayan strategies in favor of region- and basin-specific adaptation planning. Essential interventions include expanding satellite-based cryosphere monitoring to track glacier loss and shifting toward Integrated River Basin Management (IRBM) rather than fragmented state-level governance.

INTERNATIONAL RELATIONS

The Twilight of New START: A Return to Nuclear Uncertainty?

The Era of Managed Competition Ends

The unravelling of the New Strategic Arms Reduction Treaty (New START)—the last remaining bilateral nuclear arms control agreement between the United States and Russia—has sent shockwaves through the global security landscape. With the treaty set to expire in 2026 and no replacement currently in sight, the breakdown of its vital verification mechanisms signals a dangerous pivot towards an unconstrained nuclear rivalry.

The Architecture of Trust

Signed in 2010 as a successor to START I, the agreement served as a critical guardrail for global stability. It strictly capped each superpower at 1,550 deployed strategic nuclear warheads and 700 deployed delivery systems, including ICBMs, SLBMs, and heavy bombers. More importantly, it maintained mutual trust through rigorous on-site inspections, data exchanges, and notifications. Today, the suspension of these measures has created a dangerous verification vacuum, heightening mutual suspicion and forcing militaries into worst-case scenario planning.

A Multiplying Threat Landscape

The erosion of these quantitative ceilings carries profound global ripple effects. The absence of arms control limits threatens to encourage other nuclear-armed states to rapidly expand their arsenals, fundamentally undermining international non-proliferation norms. This mounting volatility directly impacts deterrence dynamics and arms races in Asia, holding particular relevance for nations like India. Furthermore, modern arms control is no longer a simple bilateral equation; it is complicated by a multipolar world and rapid technological advances in hypersonics, missile defenses, space, and cyber domains.

Charting a Path Forward

To navigate this alarming transition from managed competition to strategic uncertainty, the international community must prevent a "hard expiry". Experts urge the adoption of interim confidence-building steps, including vital hotlines and data exchanges, while initiating framework talks for a technologically inclusive, post-New START architecture. Ultimately, prioritizing multilateral risk reduction, no-first-use dialogues, and revitalised global norms are essential to preserving security in our increasingly complex nuclear age.

The Reopening of the Rafah Crossing: A Structured Overview

Israel has reopened the Rafah border crossing—Gaza's only non-Israeli-controlled gateway to Egypt's Sinai Peninsula—to ease severe local shortages by allowing humanitarian aid, medical evacuations, and limited civilian movement.

Why It Matters?

This crucial lifeline is central to managing the conflict's humanitarian fallout and fulfilling international law obligations regarding aid access. Its operation relies heavily on coordination between Israel, international mediators, and Egypt, underscoring Egypt's vital role in regional diplomacy.

Operational Challenges: Despite the reopening, this temporary relief remains fragile. Operations face severe hurdles:

- **Capacity Issues**: Infrastructure damage and administrative bottlenecks heavily restrict the flow of aid.
- **Security Delays:** Strict security screenings to balance military objectives with humanitarian access consistently delay relief convoys.
- **Instability**: A deep trust deficit, the constant risk of attacks, and sensitive Sinai border dynamics constantly threaten to disrupt access.

The Way Forward

To move beyond episodic pauses, it is essential to institutionalize humanitarian corridors with clear protocols and scale up the crossing's operational capacity. Furthermore, implementing independent monitoring and maintaining sustained diplomatic engagement will be critical to ensure aid neutrality and systematically link emergency relief to long-term reconstruction.

A New Dawn: The India-Malaysia Digital and Industrial Leap

India and Malaysia are ushering in a renewed era of bilateral ties, signalling a qualitative shift from traditional trade to future-oriented cooperation. Recent high-level engagements have yielded critical agreements spanning semiconductors, digital technology, fintech, and renewable energy, perfectly aligning with India's Act East Policy and Malaysia's vision as a regional technology hub.

Beyond Traditional Trade

The partnership is anchored by a robust economic foundation. Bilateral trade reached approximately USD 20 billion in 2023–24, making Malaysia India's third-largest trading partner in the ASEAN region. With over 170 Indian companies operating in Malaysia and a strong two-million-person Indian diaspora, the foundation for deeper integration is already set. The new pacts heavily emphasise dynamic sectors, particularly digital public infrastructure (DPI), artificial intelligence, and knowledge sharing around systems like India's UPI and Aadhaar.

The Semiconductor and Green Energy Synergy

A standout feature of this modern collaboration is semiconductor manufacturing. Malaysia currently commands about 13% of the global semiconductor testing and packaging market.

Combining this expertise with the Semicon-India Programme offers a crucial opportunity for global supply-chain diversification amid ongoing chip shortages. Additionally, both nations are committed to sustainability, collaborating on green hydrogen, solar energy, and energy efficiency to support their respective climate goals, including India's Net Zero by 2070 target.

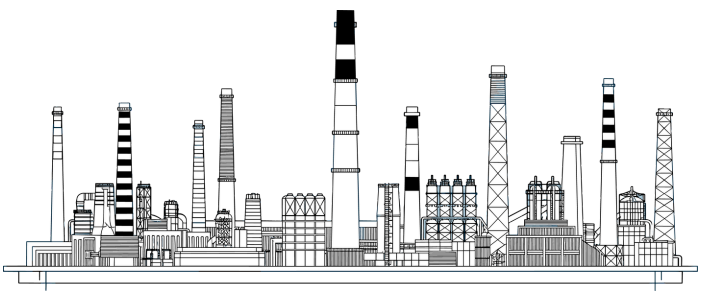
Strategic Significance and the Path Ahead

For India, these agreements bolster the "Make in India" and "Digital India" initiatives while enhancing its presence within ASEAN value chains. For Malaysia, the partnership provides crucial access to India's massive consumer market and digital prowess, alongside fresh investment inflows.

However, realising this potential requires navigating hurdles such as India's current trade deficit with Malaysia, differing data governance regulations, and logistical bottlenecks. Harmonising digital standards, establishing early harvest agreements in tech, and fostering deeper startup-to-startup engagement are essential next steps.

Conclusion

This strategic alliance holds immense geopolitical significance, promoting a rules-based Indo-Pacific order and strengthening South-South cooperation. If effectively implemented, this digital and industrial dawn will serve as a cornerstone for India's broader engagement with Southeast Asia.



India-Arab Delhi Declaration 2026

Introduction

The second India-Arab Foreign Ministers' Meeting, held in New Delhi on January 31, 2026, culminated in the comprehensive Delhi Declaration. This agreement signals a calibrated shift in India-Arab relations, moving beyond a traditional focus on energy security to embrace a multidimensional partnership encompassing strategic, economic, and people-centric cooperation. The declaration prioritizes "zero tolerance" on terrorism, targets doubling bilateral trade to $500 billion by 2030, supports UNSC reforms, and emphasizes regional stability in West Asia, including non-interference in sovereign states and securing maritime routes.

Economic and Energy Cooperation

Economic integration is a central pillar of the partnership, supported by robust annual bilateral trade exceeding USD 240 billion. While Arab nations remain vital to India's energy security—accounting for over 55% of its crude oil and 40% of its LNG imports—the declaration strongly emphasizes a transition toward renewable energy, green hydrogen, and green technologies. Both sides also committed to expanding cooperation in digital public infrastructure (DPI), startups, agriculture, and healthcare. To drive these goals, the Executive Program for 2026-2028 outlines multiple future engagements, including the first India-Arab Startup Conclave and Agriculture & Food Security Partnership Conference in 2027.

Geopolitical and Security Dimensions

The declaration reaffirmed a shared commitment to international peace, multilateralism, and United Nations Security Council reforms. Regionally, supported a two-state solution for Palestine, both sides advocated for a sovereign Palestinian state based on 1967 borders and welcomed the 2025 Gaza ceasefire agreement. They also voiced support for stability and sovereignty in Lebanon, Libya, Sudan, and Yemen. The declaration condemned Houthi attacks in the Red Sea. Crucially, the partners adopted a "zero tolerance" stance on terrorism, condemning the use of advanced technologies, such as drones, for terrorist financing and cross-border attacks. Furthermore, they highlighted the shared responsibility of protecting maritime navigation in the Red Sea and the Indian Ocean.

Diaspora and Cultural Ties

A vital asset to this bilateral relationship is the 9 million-strong Indian diaspora residing in the Arab world, which generates approximately USD 50 billion annually in remittances. The declaration prioritizes safeguarding workers' rights, fostering youth and cultural exchanges, and deepening cooperation in education and institutional capacity-building.

Challenges and Way Forward

Despite its vast potential, the partnership faces hurdles such as regional instability, external geopolitical pressures, and the challenge of translating declarations into actionable outcomes. To navigate these risks, the recommended path forward involves institutionalizing regular summits, leveraging Arab sovereign wealth funds for infrastructure financing, and accelerating cooperation in maritime security and green energy.

Conclusion

The 2026 Delhi Declaration reflects a maturing relationship rooted in shared security and economic interests. It successfully reinforces India’s role as a credible, non-prescriptive balancing power in West Asia while establishing a resilient framework for future collaboration.

The India–US Interim Trade Framework

Introduction

The newly announced framework for an Interim Trade Agreement (ITA) between India and the United States represents a historic and calibrated reset in bilateral trade relations. This agreement signifies a pivotal shift from transactional trade frictions toward a strategically mature economic partnership, creating a phased pathway for a comprehensive Bilateral Trade Agreement (BTA).

Tariff Reductions and Economic Relief

A cornerstone of the ITA is the US decision to lower reciprocal tariffs to 18% on over USD 30 billion of Indian goods exports, significantly reducing the prior 50% tariff burden. Additionally, the US has conditionally withdrawn a 25% surcharge linked to India’s energy imports from Russia. Upon the successful conclusion of the ITA, an estimated USD 44 billion of Indian goods—including generic pharmaceuticals, gems, and aircraft parts—could benefit from zero reciprocal tariffs. These concessions are expected to dramatically improve India's price competitiveness in labor-intensive sectors and introduce a moderate upside bias to India’s GDP growth projections.

Mutual Market Access and Strategic Commitments

In exchange, India has agreed to eliminate or reduce tariffs on a broad range of US industrial goods and agricultural products, while retaining calibrated safeguards for sensitive domestic sectors. The framework highlights India's aspirational intent to import up to USD 500 billion of US goods over the next five years, encompassing energy, aircraft, technology products, and coking coal. Furthermore, both nations have pledged to address long-standing non-tariff barriers (NTBs), including import licensing and testing requirements.

Technological and Geopolitical Alignment Beyond trade, the framework holds profound geopolitical significance. It acts as a counterweight to concentrated global supply chains and strengthens the broader India-US alignment in the Indo-Pacific region. The agreement strategically expands cooperation in advanced technologies, including artificial intelligence, data center infrastructure, and Graphics Processing Units (GPUs), leveraging India's talent pool and the US innovation ecosystem.

Conclusion

While residual challenges remain such as divergent economic priorities and the diplomatic sensitivities surrounding India's ongoing, albeit reduced, crude oil imports from Russia the ITA materially reduces market uncertainty. By easing pressures on foreign capital flows and stabilizing investor sentiment, this strategic partnership enhances mutual economic security and serves as a vital stabilizing force in the global balance of power.

The India-France Special Global Strategic Partnership and Defense Synergy

Introduction

India and France have significantly deepened their bilateral ties, recently elevating their relationship to a "Special Global Strategic Partnership" during French President Emmanuel Macron's February 2026 visit to India. This partnership underscores a multifaceted alliance that encompasses defense acquisitions, domestic manufacturing, technological innovation, and shared geopolitical objectives in the Indo-Pacific.

Strategic and Geopolitical Alignment

At its core, the India-France relationship is driven by a mutual pursuit of strategic autonomy and a commitment to a free, open, and rules-based Indo-Pacific region. In February 2026, the two nations renewed their Defence Cooperation Agreement for another ten years, moving beyond a traditional buyer-seller dynamic into a "sovereign alliance of conviction". This decade-long pact introduced reciprocal deployments of army officers for the first time, enhancing military interoperability alongside regular joint exercises like Varuna, Garuda, and Shakti.

Major Defense Acquisitions and Capabilities

To counter the rapidly modernizing and expanding air fleets of adversaries like China and Pakistan, India relies heavily on French aerospace platforms. Key acquisitions include:

- **The MRFA Programme:** India is advancing a $36 billion proposal to acquire 114 Rafale fighter jets for the Indian Air Force. Under this plan, 18 jets will be purchased off-the-shelf, while 96 will be assembled domestically.
- **The Rafale Marine Deal:** In April 2025, India and France signed a Rs 63,000 crore agreement for 26 Rafale-M jets to replace the Indian Navy's aging MiG-29K fleet, providing advanced maritime strike and reconnaissance capabilities for India's aircraft carriers.
- **Naval Submarines:** The partnership includes the Project 75 Scorpène-class submarine program, with the sixth submarine delivered in early 2025 and a proposal for three additional advanced submarines featuring 60% indigenous content.

Indigenization and Technology Transfer

A critical dimension of this partnership is India's "Make in India" push. The upcoming 114-Rafale deal aims to achieve up to 60% indigenous content, with assembly planned at the Dassault Reliance Aerospace Limited facility in Nagpur. Furthermore, joint ventures are flourishing, such as Bharat Electronics Limited and Safran partnering to manufacture HAMMER missiles in India, and cooperation on helicopter and fighter jet engine development.

Despite these successes, technology transfer challenges remain. France's refusal to share the core source codes for the Rafale's radar and mission computers restricts India's ability to independently integrate new weapons, forcing reliance on API-level workarounds. Additionally, the premium cost of French hardware and the complexity of moving manufacturing ecosystems to Indian soil pose ongoing hurdles.

Innovation, Climate, and Future Outlook

Beyond defense, the two nations launched the 2026 India-France Year of Innovation, prioritizing secure Artificial Intelligence, healthcare, and cyberspace. They are also deepening cooperation on climate action and nuclear energy, including the exploration of Small and Advanced Modular Reactors to support India's goal of 100 GW of nuclear capacity by 2047.

Conclusion

The elevated India-France partnership provides a vital strategic bridge. While large-scale acquisitions like the Rafale serve as necessary interim measures to address urgent operational gaps, they buy India the crucial time needed to design and produce indigenous future platforms, such as the Advanced Medium Combat Aircraft (AMCA) and the Twin Engine Deck Based Fighter (TEDBF).

SECURITY

Pathways to Peace: Inside the Proposed Kuki-Zo Accord in Manipur

As Manipur navigates deep-rooted ethnic tensions, the Central Government is at an advanced stage of finalising a crucial peace agreement with the Kuki-Zo-Hmar tribes. Modelled closely on the recently signed Frontier Nagaland Territorial Authority (FNTA) pact, this proposed framework aims to bring armed insurgent groups—currently under the Suspension of Operations (SoO) agreement —into the constitutional fold through dialogue and governance reforms.

The Framework of Autonomy

At the heart of the negotiations is a plan to grant enhanced administrative, financial, and legislative powers to Manipur's hill districts. While the Kuki-Zo groups have historically demanded a separate administration in the form of a Union Territory, this proposed deal is expected to fall short of that, focusing instead on significant empowerment. The government is exploring negotiations to amend Article 371C of the Constitution, allowing for self-governance and proportionate financial devolution within the framework of the State Assembly. Crucial dimensions of the talks also include council jurisdiction over land, job protection, and the preservation of local customs.

Overcoming Historical Hurdles

Implementing this peace deal requires navigating significant historical hurdles. Article 371C, which currently governs Manipur’s hill councils, offers far less autonomy than Nagaland’s Article 371A; it relies merely on committee-based oversight rather than broad legislative veto power. Over the decades, the powers of Manipur's Autonomous District Councils (ADCs) have been systematically weakened by the state Assembly, rendering them practically non-functional and chronically underfunded. Previous attempts to amend these structures for greater autonomy either fizzled out or were stalled.

A Strategic Imperative

Beyond local reconciliation, restoring stability in Manipur is a vital national security imperative. Peace in the region is essential for securing international borders, mitigating cross-border insurgency, and advancing India’s Act East Policy. Furthermore, an improved security environment will naturally pave the way for stalled infrastructure, investment, and connectivity projects in the Northeast.

The Road Ahead

Finalizing the accord may be strategically delayed until after the upcoming Assembly elections to ensure that the Meitei-dominated Imphal Valley is brought on board with the terms. Ultimately, the success of this peace framework hinges on transparent implementation, inclusive dialogue involving all ethnic communities, and the genuine empowerment of ADCs. If balanced carefully, this accord could mark a historic turning point, fostering long-term stability without deepening existing ethnic fault lines.

Integration of Indigenous Canine Breeds in the Assam Rifles

Introduction

In a significant shift from traditional reliance on foreign breeds such as German Shepherds, Belgian Malinois, and Labradors, the Assam Rifles has initiated the induction of indigenous Indian dog breeds into its canine squad. The Assam Rifles, which functions under the Ministry of Home Affairs and operates under the control of the Indian Army, is India's oldest paramilitary force. Specifically, the Tangkhul Hui and the Kombai breeds are being integrated for counter-insurgency, surveillance, and tracking operations in the Northeast region.

Operational Suitability and Significance

The induction of these native breeds provides substantial operational advantages. Indigenous dogs are naturally adapted to local climatic conditions, dense forest terrains, and high humidity environments. This natural adaptation makes them highly suitable for jungle warfare, border surveillance, and counter-insurgency operations in the Northeast. Economically and sustainably, native dogs require lower maintenance, exhibit higher endurance in extreme conditions, and are less prone to tropical diseases when compared to foreign breeds. Strategically, this initiative reinforces the Atmanirbhar Bharat vision in defence by reducing dependence on imported canine breeds and strengthening self-reliance in logistics. Furthermore, it promotes biodiversity conservation by preserving native livestock genetic diversity and recognizing traditional knowledge systems.

Key Breed Profiles

- Tangkhul Hui: Native to Manipur, this breed has been traditionally used by the Tangkhul Naga tribes for hunting. It is particularly known for its agility and adaptability to the local terrain.
- Kombai: Native to Tamil Nadu, the Kombai is renowned as one of India’s oldest working dog breeds. It is highly regarded for its strength and immense loyalty.

Current Challenges

Despite the advantages, several challenges hinder the seamless integration of these breeds. There is currently an absence of structured breeding infrastructure and a lack of standardized training protocols for indigenous dogs. Additionally, there is limited scientific documentation on their behavioral traits, compounded by a persistent institutional preference for established foreign breeds in security roles.

Way Forward

To successfully integrate indigenous breeds, it is necessary to establish scientific breeding and training centres, and develop standardized evaluation frameworks. Collaboration with veterinary research institutions and integration into national livestock conservation schemes are also recommended steps. With systematic training and institutional support, these native breeds can serve as reliable force multipliers in India’s security architecture while promoting ecological sustainability.

SCIENCE AND TECHNOLOGY

Strategies for Cancer Prevention and Risk Reduction in India

Overview and Significance

Recent WHO findings indicate that 40% of cancer cases in India are preventable through modifiable risk factor mitigation. This is critical as India undergoes a rapid epidemiological transition, with non-communicable diseases (NCDs) driving catastrophic health expenditure and household poverty. Shifting from hospital-centric care to population-level prevention is essential to achieve sustainable outcomes and align with Universal Health Coverage goals.

Key Risk Factors and Preventable Cancers

One-third of global cancer deaths are attributed to five factors: tobacco use, high body mass index, alcohol consumption, low fruit/vegetable intake, and physical inactivity. In India, primary modifiable drivers include:

- Tobacco Use: The single largest preventable risk factor (smoking and smokeless).
- Infections: Significant contributions from HPV, Hepatitis B, and Hepatitis C.

Common preventable malignancies include lung, cervical, breast, and colorectal cancers. Notably, India maintains one of the world's highest oral cancer burdens, primarily linked to areca nut and smokeless tobacco consumption.

Current Challenges in Prevention

Current preventive frameworks are constrained by public health spending imbalances favouring curative care over risk reduction. Late-stage diagnoses persist due to social stigma and inadequate screening access. Additionally, socio-economic disparities and weak regulation of environmental carcinogens and occupational risks complicate the preventive landscape.

Strategic Roadmap (The Way Forward)

Beyond local reconciliation, restoring stability in Manipur is a vital national security imperative. Peace in the region is essential for securing international borders, mitigating cross-border insurgency, and advancing India’s Act East Policy. Furthermore, an improved security environment will naturally pave the way for stalled infrastructure, investment, and connectivity projects in the Northeast.

- **Primary Prevention:** Enforce tobacco and alcohol control laws while institutionalising community-level behavioural change regarding diet and activity.
- **Clinical Interventions:** Scale population-based screening for oral, breast, and cervical cancers and expand HPV/Hepatitis B vaccination coverage.
- **Systemic Approach:** Implement "whole-of-government" policies across health and environment sectors, leveraging digital health technology for national programme tracking.

Conclusion

Shifting toward a primary healthcare-centric model is imperative to institutionalise prevention and ensure sustainable public health outcomes. This transition will allow India to mitigate its rising cancer burden through effective risk reduction and expanded early detection.

The Sodium-Ion Blueprint for Indian Energy Sovereignty

Introduction

India is actively re-evaluating its battery strategy to meet the rising demand for electric vehicles (EVs), renewable energy storage, and grid stability. Amidst advances in indigenous research, sodium-ion technology is gaining significant traction as a viable alternative to traditional lithium-ion batteries.

Significance and Advantages

Batteries are pivotal to India's EV push and renewable energy transition. Currently, India is highly dependent on imports for lithium and cobalt, exposing the nation to geopolitical and supply-chain risks. Sodium-ion technology aligns perfectly with the Atmanirbhar Bharat initiative because sodium is the sixth most abundant element on Earth and is widely available within India. These batteries are generally more affordable, safer due to lower fire risks, and perform better at low temperatures. They provide a crucial pathway for affordable energy storage, making them highly suitable for stationary storage and two- or three-wheeler EVs.

Current Challenges

The primary limitation of sodium-ion batteries is their lower energy density, which currently makes them less effective for long-range EVs. Additionally, a technology maturity gap exists; lithium-ion batteries benefit from established economies of scale, whereas sodium-ion cells currently face limited industrial-scale manufacturing and underdeveloped supply chains. Ongoing R&D is required to improve charging efficiency and cycle life, alongside efforts to overcome market hesitation.

Strategic Way Forward

Sodium-ion batteries should be viewed as a complement to, rather than a full replacement for, lithium-ion technology. To capitalize on this, India must increase public and private investments in R&D, testing facilities, and pilot plants. Furthermore, explicitly integrating sodium-ion technology into national battery policies, fostering industry-academia collaboration, and developing early safety and recycling standards are essential steps.

Conclusion

Adopting a diversified battery ecosystem that includes sodium-ion technology offers India a pragmatic path towards energy security, self-reliance, and an affordable clean energy transition while reducing dependence on imported critical minerals.

> ***Sodium-ion (Na-ion) battery technology is emerging as a critical blueprint for India's energy sovereignty, offering a locally sourceable, cost-effective, and safe alternative to lithium-ion batteries.***

The Impact of Anaemia and Blood Disorders on HbA1c Diagnostics

Introduction

HbA1c (Glycated Haemoglobin) is a globally recognised diagnostic tool that measures the percentage of glucose-bound haemoglobin, reflecting average blood sugar levels over the past 2–3 months. While prized for its convenience—as it requires no fasting—a recent study highlights that exclusive reliance on HbA1c can be deeply problematic, as anaemia and various blood disorders can significantly distort the test results.

Key Findings and Mechanisms

The HbA1c test fundamentally assumes a normal red blood cell (RBC) lifespan of approximately 120 days. Any condition that alters RBC survival or haemoglobin structure biases the results. For example, iron-deficiency anaemia can falsely elevate HbA1c readings despite normal actual blood glucose levels. Conversely, disorders that shorten RBC lifespan—such as haemolytic anaemia, thalassemia, sickle cell disease, and chronic kidney disease—can produce falsely low or unreliable results.

Public Health Significance

These distortions carry critical clinical risks, including the misdiagnosis of diabetes and the subsequent over-treatment or under-treatment of patients. This is particularly alarming in India, a country battling a dual burden: over 100 million diabetic individuals alongside a staggering anaemia prevalence affecting ~57% of women and ~25% of men. Overdependence on HbA1c in such populations could cause systemic diagnostic errors, especially among pregnant women and the elderly.

Way Forward

To ensure diagnostic accuracy and equity, HbA1c should not be treated as a one-size-fits-all metric. Medical protocols must integrate routine screening for anaemia prior to interpreting HbA1c results. Additionally, healthcare systems should complement HbA1c testing with Fasting Plasma Glucose (FPG) or Oral Glucose Tolerance Tests (OGTT) and update national guidelines to address these population-specific risks.

India’s New Frontier in Astronomy: The Ladakh Deep Space Observatories

India is entering a transformative era in astronomical research, driven by the Union Budget's recent sanctioning of two major telescopes in Ladakh. These projects signify a substantial national investment aimed at understanding both our closest star and the farthest reaches of the cosmos.

Key Projects

- **National Large Solar Telescope (NLST)**: To be located in Merak near Pangong Tso Lake, this high-altitude observatory will study solar magnetic fields, coronal mass ejections, and solar flares. Understanding these phenomena is vital for predicting space weather, which directly impacts satellite communications, GPS systems, power grids, and astronaut safety. The NLST will also act as a vital complement to India’s Aditya-L1 solar mission.

- National Large Optical Telescope (NLOT): Proposed for Hanle globally recognised as an exceptional astronomical site due to its ~4,500-metre altitude, low atmospheric moisture, and minimal light pollution the NLOT will focus on deep space. It aims to explore the origins of galaxies, observe black holes and exoplanets, and investigate cosmic expansion and dark matter.

Strategic Significance

These observatories elevate India's position among global scientific leaders in astrophysics. Beyond pure science, they will drive the development of indigenous optical technologies, encourage STEM education, and attract international collaborations. Crucially, advancing solar research supports India's satellite-heavy economy by enhancing space weather preparedness.

Challenges and the Way Forward

Building and maintaining these facilities in Ladakh presents significant logistical hurdles due to the harsh, extreme climate. Furthermore, scientists must carefully balance infrastructure development with the preservation of the fragile Himalayan ecology. Ensuring sustained funding and developing a highly skilled workforce of engineers and astronomers are also critical challenges.

Conclusion

The establishment of the NLST and NLOT is a bold leap for India. By integrating ground-based solar and optical research, India is poised to lead space-weather monitoring in the Indo-Pacific and make profound contributions to global cosmology.

Pediatric Oncology in Karnataka: Rising Trends and Policy Reforms

Karnataka is facing a concerning surge in pediatric oncology cases, with the 2025-2026 Cancer Registry estimating nearly 1,900 new childhood cancer diagnoses annually. Bengaluru alone accounts for 340–350 new cases each year, and childhood cancers now represent 3.8% to 4.6% of the total cancer workload at KMIO.

Key Drivers

Experts attribute this statistical rise to two main factors. First, there is improved detection driven by better public awareness and ASHA workers who are now trained to refer suspected rural cases. Second, underlying environmental triggers (such as pollution), urbanization, and genetic predispositions are active drivers. Unlike adult cancers, childhood cancers—with Leukaemia being the most common—are heavily influenced by these genetic and environmental factors rather than lifestyle choices.

Public Health Challenges

This trend places a significant burden on public health systems. Treatment is long-term and expensive, leading to immense financial strain on affected families. Uneven infrastructure and weak rural screening networks contribute to late-stage diagnoses and a stark survival divide between urban and rural populations. Additional hurdles include a shortage of pediatric oncology specialists, cancer surveillance data gaps, and social stigma.

Governance and Way Forward

To combat this crisis, the Karnataka government is formulating a Comprehensive State Childhood Cancer Policy intended to act as a national model. Effectively managing this requires integrating state efforts with national frameworks like Ayushman Bharat and the NPCDCS. Moving forward, the state must expand Regional Cancer Centres, enhance early screening via school health programs, integrate environmental monitoring with health policies, and boost public-private partnerships to ensure equitable pediatric care.

The Multilingual World of Bacteria: Mastering Microbial Communication

Introduction

Bacteria communicate through a process known as quorum sensing, using chemical languages to detect population density and coordinate collective behaviors like biofilm formation, virulence activation, and antibiotic resistance. Remarkably, some bacteria are considered "multilingual" because they possess the ability to understand signaling molecules from entirely different species.

Recent Breakthroughs

This field has seen major advancements in 2026. Prof. Bonnie Bassler's "Bengaluru Lecture" renewed global interest in microbial communication, alongside newly published "Anti-Quorum" or Quorum Quenching (QQ) strategies. In a major breakthrough, researchers engineered phages that specifically degrade bacterial communication molecules. This effectively disarms pathogens such as Pseudomonas aeruginosa without killing them, intentionally avoiding the evolutionary trigger for antibiotic resistance.

Significance & Applications

Understanding this multilingual network offers a revolutionary approach to combating Antimicrobial Resistance (AMR). By "deafening" bacteria, these targeted therapies prevent coordinated bacterial attacks, serving as a powerful alternative to traditional antibiotics. Beyond medical innovation, this knowledge can be applied to environmental and industrial processes, such as optimizing wastewater treatment and agricultural bio-control mechanisms.

Challenges and Future Outlook

Translating these laboratory findings into clinical therapies faces hurdles, including rapid bacterial mutation, complex microbial ecosystems, and limited funding. However, the future is promising: by the end of this decade, the first Quorum-Sensing Inhibitors could enter clinical trials for chronic infections like Cystic Fibrosis. Ultimately, medicine is shifting from a "search and destroy" tactic to the "social manipulation" of the microbial world, aiming to turn deadly infections into disorganized, harmless individual cells.

India's Digital Health Revolution: The Dual Architecture of SAHI and BODH

On February 17, 2026, India took a monumental step in healthcare technology by launching two transformative digital initiatives, SAHI and BODH, at the India AI Impact Summit. This launch establishes a formal "dual architecture" for health AI, effectively creating a structured framework to ensure AI tools are safe, ethical, and effective before reaching patients.

The Dual Architecture The framework is built on two foundational pillars:

- SAHI (Strategy for Artificial Intelligence in Healthcare for India): Serving as the National Governance Framework or "Rulebook," SAHI acts as a policy compass for the responsible adoption of AI across hospitals and public health programs. To ensure AI remains "People-Centric," SAHI mandates a "Human-in-the-Loop" approach, meaning AI is intended to assist rather than replace doctors. It also strictly enforces consent-based data use and algorithmic transparency.
- BODH (Benchmarking Open Data Platform for Health AI): Serving as the Technical Validation Layer or "Testing Lab," BODH was developed by IIT Kanpur and the National Health Authority. It functions as a privacy-preserving "flight simulator" for AI models, allowing developers to test their tools against anonymized, real-world health datasets. This "Privacy First" approach lets developers benchmark for bias, accuracy, and reliability without ever downloading sensitive patient data.

Significance and Impact

These platforms are critical for establishing trust and safety, ensuring only clinically relevant and reliable AI tools are deployed to the public. By institutionalizing benchmarking, BODH actively reduces geographic and demographic bias, verifying that AI models perform equally well for a rural patient as they do for an urban one. Furthermore, this structured strategy establishes India's strategic autonomy, positioning the country as a leader in the Global South.

Challenges and Future Outlook

Despite this strong blueprint, implementation faces hurdles. Data quality remains a massive challenge, as AI requires high-quality, standardized digital records across thousands of hospitals. Policymakers must also resolve the liability ambiguity regarding who is responsible if an AI-assisted diagnosis is incorrect. Finally, improving digital literacy to train frontline ASHA workers to use these multilingual interfaces is a major hurdle.

Looking ahead, the integration of SAHI and BODH is projected to significantly lower Out-of-Pocket Expenditure (OOPE) by 2030 through the early detection of diseases like cancer and tuberculosis at primary health centers. Ultimately, this shift toward a structured, evidence-based "Sovereign AI" model paves the way for a "Viksit Bharat," making precision medicine accessible to every citizen.

AI-Powered Cancer Screening Innovations in India

Indian Institutes of Technology (IITs) are transforming preventive healthcare by developing low-cost, AI-powered portable diagnostic devices for early cancer detection in rural settings.

Key Innovations

Various IITs have introduced groundbreaking point-of-care technologies. IIT-Madras is building a portable ultrasound screening system for breast cancer, while IIT-BHU has created a rapid bioelectronic device to detect osteosarcoma without chemical reagents. Additionally, IIT-Indore designed a highly affordable photoacoustic device, and IIT-Kanpur developed a wearable breast-health monitoring patch.

Significance

These tools enable timely, community-level mass screening by frontline health workers, reducing the need for specialized oncologists and expensive infrastructure. Crucially, they aim to improve survival rates; for instance, India's breast cancer survival rate (66%) currently lags behind developed nations largely due to late diagnosis. Furthermore, these indigenous devices support precision medicine and help bridge the urban-rural healthcare divide.

Challenges and Way Forward

Despite their potential, widespread adoption faces hurdles like algorithmic bias, regulatory delays, data privacy concerns, and skill gaps among healthcare workers. Successfully deploying these decentralized diagnostics requires establishing a National AI-Cancer Imaging Biobank, accelerating regulatory pathways, and integrating the devices with public health frameworks like the Ayushman Bharat Digital Health Mission.

The Evolution and Impact of GPUs

A Graphics Processing Unit (GPU) is a specialized electronic circuit built for massive parallelism, utilizing thousands of cores to handle multiple calculations simultaneously. Originally designed to accelerate image creation using dedicated Video RAM, GPUs have evolved into the backbone of modern Artificial Intelligence, high-performance computing, and financial markets.

Current Crisis and Challenges

The GPU market is currently facing a strategic shift and severe scarcity. Manufacturers are cutting consumer GPU production by up to 30–40% due to a global memory shortage.

Furthermore, NVIDIA may pause releasing new gaming graphics cards in 2026 to prioritize its highly lucrative AI division. This scarcity threatens global AI ambitions, including India's "AI moment," which faces a hard physical limit on GPU availability. Additionally, the industry is plagued by vulnerable, concentrated supply chains, immense energy consumption, and rising prices that make hardware unaffordable for average users.

Future Outlook

To address these challenges, the industry is shifting towards alternative accelerators like TPUs and FPGAs, which are seeing significant growth. Future designs will also heavily focus on "Green Infrastructure" to improve energy efficiency and cooling. As AI demand continues to cannibalize the consumer market, market stabilization is only expected by 2027–2028 when new global foundries begin production.

IIT Madras have developed a groundbreaking technique to accurately measure blood clotting (coagulation) time

The Breakthrough Researchers at IIT Madras have developed a groundbreaking technique to accurately measure blood clotting (coagulation) time using Laser Speckle Contrast Analysis (LASCA). This technology directly addresses the precision issues of traditional measurement methods by monitoring the minute movements of red blood cells as clots form on the surfaces of medical implants.

Significance and Applications

This innovation allows manufacturers to test how human blood reacts with materials used in stents, heart valves, and joint replacements in real-time. By generating highly accurate data, it helps prevent life-threatening implant failures like thrombosis, strokes, or heart attacks, and aids in the development of custom "thrombo-resistant" coatings. Furthermore, the laser-based method has significant point-of-care potential, as it can be miniaturized for quick bedside testing rather than relying on bulky lab equipment. Strategically, this aligns with the "Atmanirbhar Bharat" initiative and the National Medical Devices Policy, 2023, addressing India's current reliance on importing 70-80% of its high-end medical devices.

Implementation Challenges Despite its immense potential, the transition to widespread use faces key hurdles. Standardising the technology across diverse clinical settings with varying blood types and temperatures remains complex. Additionally, small-scale Indian manufacturers may struggle with the high initial costs of adopting laser-based testing. Finally, gaining regulatory clearance from the Central Drugs Standard Control Organisation (CDSCO) requires rigorous and time-consuming clinical trials.

Future Perspectives

Looking forward, this technique could be integrated with AI algorithms to predict patient clotting risks even prior to surgery, or combined into microfluidic "Organ-on-a-Chip" devices to study artificial blood flow. By equipping Indian implant manufacturers with this high-precision tool, the "Made in India" label stands to gain immense global trust, successfully shifting medical engineering from "trial and error" towards a safer, data-driven future.

Childhood cancer: 94.5% five-year survival rate

The Historic Triumph and a New Focus Childhood cancer treatment has achieved a historic milestone with a 94.5% five-year survival rate, a massive leap from under 50% in the 1970s. Advancements in targeted therapy, precision surgery, and supportive care have transformed pediatric oncology. Consequently, the medical focus is shifting from "cure at any cost" to ensuring the "quality of survival".

The "Double-Edged Sword"
Despite the high survival rate, life-saving early treatments like traditional chemotherapy and cranial radiation leave a toxic legacy on developing tissues.

- Chronic Conditions: Researchers flag that 60-70% of survivors develop at least one chronic health condition by age 45, such as cardiovascular diseases, infertility, cognitive impairment, and secondary cancers.
- Treatment De-escalation: To combat this, doctors are prioritizing the minimum effective dose of treatments to save lives while protecting long-term organ function.

The Indian Context and Persistent Challenges: India faces a deeply complex landscape, accounting for roughly 20% of the global childhood cancer burden with about 50,000 new cases annually.

- Socio-economic Barriers: While urban areas see high survival rates, rural India suffers from significantly lower survival due to delayed diagnoses.
- Follow-up Attrition: Many Indian patients drop out of the medical system once the initial tumor is cured, missing the crucial window to detect late-onset complications.

Support Initiatives: Programs like Ayushman Bharat (PM-JAY) help reduce out-of-pocket expenses, and the National Cancer Grid (NCG) works to standardize care.

The Way Forward

To ensure survivors live with dignity and longevity, the medical community must adapt:

- Advanced Technologies: Innovations like Proton Beam Therapy, liquid biopsies, and genetic counseling offer more precise, "gentler" treatment protocols that spare healthy tissue.
- Dedicated Care: Healthcare systems must establish life-long survivorship clinics to track patients into adulthood and implement standardized, low-toxicity protocols universally.

The Biotechnological Revolution in Personalised Medicine

Biotechnology is rapidly transforming healthcare by driving the evolution of personalised medicine. Moving away from the traditional “one-size-fits-all” approach, this revolution integrates data analytics, molecular biology, and genomics to tailor treatments specifically to an individual’s genetic makeup, environment, and lifestyle. Driven by global investments and recent breakthroughs in targeted therapies and gene sequencing, highly individualised treatment is becoming a feasible reality.

Significance of Precision Healthcare

The shift toward personalised medicine offers several critical advantages that improve both clinical practice and patient well-being:

- Targeted Treatment: By selecting therapies based on a patient’s specific genetic profile, doctors can significantly increase treatment effectiveness while reducing adverse side effects.
- Early Disease Detection: Biotechnological tools, including biomarker analysis and genetic screening, allow for the early identification of severe conditions such as heart disease, diabetes, and cancer.
- Efficient Drug Development: Biotechnology accelerates the creation of targeted drugs and biologics, which drastically reduces the need for trial-and-error prescribing.
- Improved Outcomes: Ultimately, these customised therapeutic approaches enhance overall recovery rates and significantly improve the patient's quality of life.

Challenges and Limitations

Despite its immense promise, the widespread adoption of precision healthcare faces notable hurdles. The advanced targeted therapies and genetic tests are often highly expensive, rendering them inaccessible to a large portion of the population. Furthermore, managing sensitive genetic information introduces serious ethical, privacy, and security concerns. There are also severe infrastructure gaps, particularly in developing nations that currently lack the trained personnel and advanced laboratories required to support these technologies.

Conclusion

Biotechnology is poised to fundamentally redefine how diseases are prevented, diagnosed, and treated by placing the individual patient at the centre of medical care. While significant challenges regarding affordability, data privacy, and global infrastructure remain, continued innovation and inclusive policies will likely cement personalised medicine as the cornerstone of future healthcare systems.

PUBLIC DISCOURSE

Wetlands are not just ecological curiosities; they are critical natural infrastructure and a strategic national public good.

Wetlands are often misunderstood as mere wastelands waiting to be drained, filled, and developed for economic progress. Yet, they are among the most valuable and ecologically fragile ecosystems on our planet. From acting as natural sponges that absorb destructive floodwaters to serving as vital carbon sinks, wetlands—which include marshes, peatlands, swamps, and mangroves—are indispensable to our survival. Today, we must fundamentally shift our public discourse: wetlands are not just ecological curiosities; they are critical natural infrastructure and a strategic national public good.

For centuries, human activities have decimated these environments. In settled areas of Canada, wetlands now cover only thirty percent of their former extent. Similarly, India has lost nearly forty percent of its natural wetlands over the last three decades to infrastructure, real estate, and road networks. The root of this ongoing crisis lies in a fundamental economic disconnect. About eighty-two percent of wetlands in the contiguous United States are privately owned. While the benefits of wetlands—such as flood control, water quality improvement, and wildlife habitat—are heavily enjoyed by the wider public, private landowners often find it significantly more profitable to convert these lands into farms or housing developments.

Historically, governments actively encouraged this by offering incentives to drain wetlands for agricultural expansion. This conversion deprives society of essential ecological services, creating negative externalities where the public ultimately bears the severe costs of lost environmental protections and increased vulnerability.

We must begin viewing wetlands as core infrastructure, just as we do concrete bridges, dams, and storm sewers. The devastating 2013 floods in Calgary, which caused over five billion dollars in damages, highlighted the severe consequences of historical wetland loss. Alberta has lost roughly 133,000 hectares of wetlands, eliminating an estimated 379 million cubic meters of natural water storage capacity. Restoring these ecosystems is remarkably cost-effective.

Research in Inver Grove Heights, Minnesota, demonstrated that utilizing natural wetland infrastructure to manage stormwater required less than twenty-five percent of the upfront capital cost of a traditional "grey" sewer system, making the long-term life-cycle cost nearly half that of traditional engineered alternatives.

Furthermore, investing in wetlands yields massive economic returns; every dollar invested in protecting wetlands around the Great Lakes generates an economic return of thirty-five dollars. Wetlands also provide profound co-benefits, including filtering heavy metals, recharging groundwater, and sequestering carbon. Peatlands alone represent only three percent of global land area but sequester an astonishing forty-two percent of all soil carbon.

To safeguard these invaluable assets, robust legal and international frameworks are required. Globally, the Ramsar Convention

remains the principal multilateral treaty aimed at protecting wetland habitats, particularly for migrating waterfowl, emphasizing the "wise use" and conservation of these globally significant areas. However, international treaties must be enforced by strong national laws.

Legal mechanisms like the public trust doctrine empower states to protect wetlands by asserting that these lands and waters are held in trust for the public's enduring benefit. This doctrine provides authorities with the jurisdiction to prevent private landowners from altering the hydrologic features of public trust areas—such as dredging or filling tidal wetlands—without facing unconstitutional "takings" claims from property owners.

Moving forward, society must fully embrace a policy goal of "no net loss," ensuring that any converted wetland is offset by restoring or creating another, ultimately stabilizing our critical wetland base. Beyond mere stabilization, treating wetlands strictly as a "national public good" is paramount.

A public good is defined as non-excludable and non-rivalrous; the climate resilience and disaster risk reduction provided by wetlands benefit everyone equally across state and national boundaries. To secure this public good, governments must implement comprehensive national wetland registries, integrate wetland preservation into global climate policies like Nationally Determined Contributions, and mandate strict wetland buffers in urban master plans.

Ultimately, wetlands are not wastelands; they are vital life-support systems. By recognizing their immense economic value, respecting their ecological necessity, and engaging local communities in their preservation, we can transition from a legacy of environmental exploitation to one of responsible stewardship.

Protecting our wetlands is not merely an environmental choice it is a strategic necessity for securing a resilient, sustainable future for generations to come.

Safeguarding the Digital Generation: A Global Public Health Mandate

Today’s youth are the first generation to grow up entirely immersed in a digital ecosystem. With the vast majority of teenagers engaging regularly with social media and online platforms, digital technology has become an inescapable currency of youth culture. Consequently, the public discourse has rightly shifted from asking whether children should use social media to asking how we can make these digital environments safer. We are currently facing a national and global youth mental health crisis, necessitating swift and decisive action to protect our most vulnerable population.

The risks our youths face are systemic and deeply embedded in the design of digital platforms. Many social media and gaming applications utilize reward-based algorithms that stimulate dopamine release, driving compulsive engagement and problematic use. Companies often employ "dark patterns"—deceptive user interfaces designed to manipulate user behavior, making it exceedingly difficult for youth to log off or disconnect from their devices. Features such as infinite scrolling, autoplay, and relentless push notifications exploit cognitive vulnerabilities and universal human tendencies. The consequences of this excessive, unchecked screen time are profound, contributing to chronic sleep deprivation, anxiety, depression, and a heightened "Fear of Missing Out" (FoMO).

Research demonstrates a strong positive correlation between FoMO and social media addiction, as individuals constantly compare themselves to curated online personas, leading to feelings of inadequacy and distress. Furthermore, youth face severe online safety threats, including cyberbullying, harassment, and the rapidly escalating danger of online child sexual exploitation, such as financial sextortion. These harms often disproportionately affect marginalized communities, including LGBTQI+ youth, youth of color, and those with disabilities, who may already be seeking safe havens online.

For too long, the burden of protecting children online has fallen disproportionately on parents and caregivers. While parents play a critical role in fostering open communication and establishing boundaries such as utilizing the "5 Cs" framework of child-centred, content, calming, crowding out, and communication they are often outmatched by the sophistication of tech platforms. Parents frequently express feeling ill-equipped to combat addictive algorithms and express a strong desire for solutions that offer both protection and guidance. We cannot expect parents to single-handedly mitigate harms engineered by multi-billion-dollar industries.

True progress requires holding the technology industry accountable. Platform developers must fundamentally shift their approach by embedding "privacy-by-design" and "safety-by-design" directly into their product development lifecycles. This means that the highest safety and privacy settings should be the default for all minor accounts. It requires abandoning engagement-maximizing features like infinite scroll and the public display of "likes," which fuel toxic social comparison.

Furthermore, strict limitations must be placed on data collection, including a complete ban on targeted advertising directed at children. We are already seeing regulatory models emerge globally, such as the European Union's Digital Services Act (DSA), which enforces bans on targeted advertising for minors and mandates user-friendly systems to report cyberbullying and illegal content.

Addressing this multifaceted crisis requires a whole-of-society approach involving policymakers, tech manufacturers, researchers, educators, and the youth themselves. From a technological standpoint, innovative AI-powered digital well-being applications can serve as collaborative tools, using intelligent monitoring and behavioral nudges to help adolescents develop self-regulation skills rather than simply imposing rigid surveillance.

At the infrastructure level, advanced privacy-preserving methods like federated learning and edge computing can protect youth data while still allowing platforms to function effectively. Moreover, educational institutions must integrate comprehensive digital literacy into their curricula to empower students with critical thinking skills and privacy awareness. Clinical research also shows that dedicated guidance and counseling programs are highly effective in significantly reducing both FoMO and social media addiction among students, emphasizing the need for robust mental health support within schools.

Finally, tech platforms must be required to provide independent researchers with privacy-preserving access to data, allowing society to truly understand and measure the impacts of these technologies

MISCELLANEOUS

The Crisis of Contractual Staffing in Indian Schools

Introduction

According to the UDISE+ survey conducted by the Ministry of Education, nearly half of the teaching workforce in approximately 1.5 lakh Indian schools is employed on a contractual basis. This workforce includes guest teachers, para-teachers, and shiksha mitras, reflecting the increasing reliance of states on temporary staff to manage a nationwide shortage of over 10 lakh teachers amidst fiscal limitations.

Impact on Educational Quality and Professionalism

This heavy reliance on contractual hiring significantly affects student learning outcomes. Contract teachers typically earn 30–70% less than regular teachers, experience severe job insecurity, and have limited access to formal training. Consequently, this hinders classroom effectiveness, long-term engagement, pedagogical innovation, and the realization of Foundational Literacy and Numeracy (FLN) targets under NEP 2020.

Equity Concerns

The staffing crisis disproportionately impacts marginalized areas. Schools in rural regions, tribal areas, and aspirational districts are highly dependent on contractual teachers. This dependency threatens to widen existing educational inequalities and heavily compromises equity in public education.

Key Systemic Challenges

Several major challenges persist in the current educational system:

- **Attrition and Skill Gaps**: Job insecurity drives high attrition, while limited training leaves a persistent skill gap among educators.
- **Accountability:** Weak monitoring mechanisms reduce overall systemic accountability.
- **Legal and Fiscal Issues:** States avoid permanent hiring due to the heavy salary burden, which leads to frequent legal disputes over demands for staff regularisation.

Data Masking: While Pupil-Teacher Ratios (PTR) might appear compliant on national databases, they are often artificially maintained through these temporary hires.

Conclusion

Although contractual staffing provides short-term administrative flexibility, excessive dependence on it jeopardizes institutional continuity and education quality. To align with the NEP 2020 vision, it is essential to strengthen regular teacher recruitment and capacity-building to ensure equitable, high-quality schooling.

The Restoration of Chola Bronzes

Context

The Smithsonian Institution recently repatriated three illegally trafficked Chola-period bronze sculptures to India.

The Returned Sculptures

- **Shiva Nataraja**: A lost-wax metallurgy masterpiece symbolizing Shiva as the cosmic dancer responsible for creation, preservation, and destruction.
- **Somaskanda:** Depicting Shiva, Parvati, and Skanda, this piece reflects the devotional culture of the Bhakti movement and Tamil temple traditions.
- **Saint Sundararar with Parvati:** Features one of the 63 Nayanmars (Shaivite saints), a figure crucial to South Indian religious and literary traditions.

Significance

- **Cultural & Diplomatic**: The return reclaims sacred objects of worship, strengthening India's cultural identity and enhancing India-US diplomatic cooperation.
- **Ethical Shift:** It sets a global precedent, highlighting a transition in museums from colonial possession to ethical provenance verification and restitution-based justice.

Challenges

Restitution efforts face severe hurdles, including provenance documentation gaps (especially pre-1970), differing international legal frameworks, museum defenses of "good faith" purchases, and weak local temple security.

The Way Forward

- **Digital Documentation:** Implement 3D scanning, AI tracking, and a comprehensive national database for temple idols.
- **International & Legal Action:** Forge bilateral MoUs, strictly implement UNESCO norms, and modernize antiquities laws to combat organized smuggling.
- **Domestic Capacity**: Upgrade museum infrastructure and encourage community vigilance in temple regions.

Conclusion

This repatriation is a profound restoration of historical justice and faith, signaling a powerful move toward ethical global heritage governance.

Core Discovery: The Valley of the Kings

Recent 2024–2025 reports highlight an extraordinary discovery of nearly 30 Indian language inscriptions, including 20 in Tamil-Brahmi, found deep inland inside six rock-cut tombs within Egypt's Valley of the Kings. Dated between the 1st and 3rd centuries CE, these rock-cut graffiti provide definitive proof of the physical presence of Tamil speakers in the heart of the Roman Egyptian empire, proving they were high-status visitors or tourists rather than just coastal sailors.

Key Inscriptions & Earlier Finds

- **Cikai Ko̲rra̲n̲**: This name appears eight times, frequently alongside "vara kanta" ("came and saw"), and links directly to a Sangam-era Chera king or leader.
- **Kopā̲n̲:** Documented with "varata kantan", matching historical names found in Tamil Nadu.

- Prior discoveries in Red Sea ports include a 1st-century BCE jar at Quseir al-Qadim inscribed with "paanai oRi" (pot in a rope net) and a 4th-century CE Sanskrit stone slab at Berenike.

Historical Significance

- **Validating Sangam Literature:** The findings provide solid archaeological proof of extensive Tamil merchant networks, confirming that Sangam poems detailing "Yavana" (Western) pepper trade ships were not poetic exaggeration.
- **Ancient Globalisation**: They demonstrate that South India was a central pillar of the global economy long before the European Age of Discovery.
- **Widespread Literacy:** Everyday merchants leaving graffiti implies a high level of cultural literacy among the trading classes, beyond just the elite.

Future Research Perspectives

Archaeologists now plan systematic surveys of the Nile Valley to locate overlooked South Asian scripts. The Berenike discoveries also inspire the "Temple Hypothesis," suggesting Indian communities were permanent settlers with distinct places of worship. Finally, future ancient DNA analysis of local cemeteries may soon biologically confirm the lives of South Indians in Roman Egypt.

Govt launches New National Counter Terrorism policy and strategy ‘PRAHAR’ To tackle Evolving terror threats with Proactive Approach

The Ministry of Home Affairs (MHA) launched PRAHAAR, India’s first comprehensive National Counter-Terrorism Policy and Strategy. This doctrine shifts India from a reactive to a proactive, intelligence-led security posture, aiming to dismantle the entire ecosystem of terrorism through a unified "whole-of-government" approach.

Why It Is in the News

- **Doctrine Formalisation:** It marks the first time India has consolidated its anti-terror tactics into a single, official policy document.
- **Modern Threats**: The strategy specifically addresses 21st-century challenges like drone-based smuggling, cryptocurrency terror funding, and cyber-attacks on critical infrastructure.
- **Zero Tolerance:** It reaffirms India's "Zero Tolerance" stance, identifying state-sponsored cross-border terrorism as a primary national security threat.

The Seven Pillars of PRAHAAR

The policy uses the acronym PRAHAAR to define its operational core:

- **P (Prevention):** Intelligence-led pre-emption of attacks.
- **R(Responses):** Swift, military-grade retaliation across central and state units.
- **A (Aggregating Capacities):** Modernizing forces with advanced tech and Standard Operating Procedures (SOPs).
- **H(Human Rights):** Conducting operations within the rule of law.
- **A (Attenuating Conditions):** Tackling root causes via counter-radicalisation and community engagement.
- **A (Aligning International Efforts):** Strengthening global cooperation through extradition and legal treaties.
- **R (Recovery and Resilience):** Ensuring rapid rehabilitation and societal stability post-incident.

Relevance

- Institutional Framework: Formalises the Multi-Agency Centre (MAC) for real-time data sharing between states and the centre.
- Legal & Tech Edge: Mandates legal experts in investigations to increase conviction rates and prioritizes the protection of Critical Information Infrastructure (CII).

Conclusion

PRAHAAR is a watershed moment that transitions India's security apparatus into a future-ready force. By targeting the digital and financial lifelines of terror alongside physical threats, the policy aims to institutionalise a permanent state of high-readiness across the nation.

PREP ZONE

PRACTICE QUESTIONS

From Deep Dive

Q1.In the context of India–EU trade negotiations, which of the following are major areas of contention?
1. EU's Carbon Border Adjustment Mechanism (CBAM)
2. Geographical Indications (GI) protection
3. Data protection and cross-border data flows
4. Agricultural export subsidies by India

Select the correct answer:
(a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

Q2.Consider the following statements regarding Geographical Indications (GIs):
1. GIs are protected under the WTO's TRIPS Agreement.
2. The EU strongly advocates enhanced GI protection in its FTAs.
3. India has a separate domestic legislation for GI registration.

Which of the above statements are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) 1 and 3 only

Q3.The European Union (EU) can be best described as:
(a) A free trade area only
(b) A customs union with elements of a single market
(c) A political confederation without economic integration
(d) A monetary union only

Q4.Consider the following statements about the Union Budget 2026–27:
1. It sets the fiscal deficit target at 4.3% of GDP.
2. The debt-to-GDP ratio is estimated to rise above 60% in 2026-27.
3. A significant increase in capital expenditure was proposed.

Which of the statements given above are correct?
(a) 1 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Q5.With reference to Budget documents, consider the following statements:
1. Finance Bill contains taxation proposals.
2. Appropriation Bill authorizes expenditure from Consolidated Fund.
3. Demands for Grants are voted only by Lok Sabha.
4. Rajya Sabha can amend a Money Bill.

Which of the statements given above are correct?
(a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

Q6.With reference to FRBM (Fiscal Responsibility and Budget Management) framework, consider the following statements:
1. FRBM Act mandates fiscal discipline and reduction of deficit levels.
2.The Act prohibits government borrowing under all circumstances.
3. Escape clauses allow deviation during exceptional circumstances.
4. The Act applies only to revenue deficit targets.

Which of the statements given above are correct?
(a) 1 and 3 only
(b) 1, 2 and 3 only
(c) 2 and 4 only
(d) 1, 3 and 4 only

Q7.With reference to taxation proposals in recent Union Budgets, consider the following statements:
1. Direct taxes generally have progressive incidence.
2. Indirect taxes are collected irrespective of income levels.
3. GST is a destination-based tax.
4. Corporation tax contributes to non-tax revenue of the government.

Which of the statements given above are correct?
(a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

From Deep Dive

Q8.With reference to constitutional provisions related to the Union Budget, consider the following statements:

1. The Annual Financial Statement is laid before Parliament under Article 112.
2. A Money Bill can be introduced only in the Rajya Sabha.
3. The Consolidated Fund of India is mentioned under Article 266.
4. No money can be withdrawn from the Consolidated Fund without parliamentary authorization.

Which of the statements given above are correct?

(a) 1, 3 and 4 only
(b) 1 and 2 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Q9.With reference to Pax Silica, consider the following statements:

1. Semiconductor manufacturing is highly concentrated geographically.
2. Advanced chip fabrication requires extreme ultraviolet (EUV) lithography.
3. Rare earth minerals are irrelevant to semiconductor supply chains.
4. Chip supply chains have become a major strategic concern in global geopolitics.

Which of the statements given above are correct?

(a) 1, 2 and 4 only
(b) 1 and 3 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Q10.With reference to Artificial Intelligence (AI) governance discussed in recent global AI Summits, consider the following:

1. AI governance frameworks focus on ethical deployment and risk mitigation.
2. Frontier AI models raise concerns regarding misinformation and autonomous weaponization.
3. AI regulation discussions are limited to developed countries only.
4. Data sovereignty is emerging as a core issue in AI diplomacy.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 1, 2 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

Q11.The strategic link between Pax Silica and AI development lies in the fact that:

(a) AI does not require advanced semiconductor infrastructure
(b) AI capability depends heavily on high-performance computing chips
(c) AI governance replaces semiconductor manufacturing
(d) AI Summits regulate silicon mining

Q12.With reference to Pax Silica, consider the following statements:

1. Semiconductor manufacturing is highly concentrated geographically.
2. Advanced chip fabrication requires extreme ultraviolet (EUV) lithography.
3. Rare earth minerals are irrelevant to semiconductor supply chains.
4. Chip supply chains have become a major strategic concern in global geopolitics.

Which of the statements given above are correct?

(a) 1, 2 and 4 only
(b) 1 and 3 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Q13.India's semiconductor and AI push is linked to which of the following policy initiatives?

1. India Semiconductor Mission
2. Production Linked Incentive (PLI) scheme
3. National AI Strategy
4. Green Revolution 2.0

Select the correct answer:

(a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

From Deep Dive

Q14.With reference to Artificial Intelligence (AI) governance discussed in recent global AI Summits, consider the following:

1. AI governance frameworks focus on ethical deployment and risk mitigation.
2. Frontier AI models raise concerns regarding misinformation and autonomous weaponization.
3. AI regulation discussions are limited to developed countries only.
4. Data sovereignty is emerging as a core issue in AI diplomacy.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 1, 2 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

ANSWER CODE: 1A , 2C , 3C , 4B, 5A, 6A, 7A , 8A , 9A , 10B, 11B, 12A , 13A, 14B

From News Gist

Q1. With reference to the University Grants Commission (UGC), consider the following statements:

1. The UGC is a statutory body established under an Act of Parliament.
2. It functions under the Ministry of Education.
3. It has constitutional status similar to the Election Commission of India.
4. It coordinates and determines standards of higher education in India.

Which of the statements given above are correct?

(a) 1, 2 and 4 only
(b) 1 and 3 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Q2.Which of the following reforms are typically associated with recent UGC regulatory changes?

1. Multiple entry-exit options in degree programs
2. Academic Bank of Credits
3. Mandatory uniform syllabus across all universities
4. Online and distance learning framework strengthening

Select the correct answer:

(a) 1, 2 and 4 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2, 3 and 4

Q3.With reference to higher education governance in India, consider the following statements:

1. Education is listed under the State List in the Seventh Schedule.
2. Parliament can legislate on education under the Concurrent List.
3. Entry 66 of Union List deals with coordination and determination of standards in higher education.
4. States have no role in university regulation.

Which of the statements given above are correct?

(a) 2 and 3 only
(b) 1 and 4 only
(c) 1, 2 and 3 only
(d) 2, 3 and 4 only

Q4.With reference to the proposed UGC Regulations 2026, consider the following:

1. Greater institutional autonomy to universities.
2. Increased emphasis on digital and online education standards.
3. Centralization of appointment of all Vice-Chancellors by the Union Government.
4. Alignment with the objectives of National Education Policy (NEP) 2020.

Which of the statements given above are correct?

(a)1, 2 and 4 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2, 3 and 4

From News Gist

Q5.With reference to intermediary liability under Indian law, consider the following statements:

1. Intermediaries are granted safe harbour protection under the IT Act, 2000.
2. Safe harbour protection is absolute and unconditional.
3. Due diligence requirements must be complied with to retain safe harbour.
4. Courts can direct intermediaries to modify policies if fundamental rights are affected.

Which of the statements given above are correct?

(a) 1 and 3 only
(b) 1, 3 and 4 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

Q**6.In the context of digital platforms like WhatsApp and Meta, consider the following:**

1. Data localization mandates that certain data be stored within India.
2. Cross-border data transfer is completely prohibited under Indian law.
3. Competition law may be invoked in cases of abuse of dominant position.
4. The Competition Commission of India (CCI) can examine digital platform conduct.

Which of the statements given above are correct?

(a) 1, 3 and 4 only
(b) 2 and 3 only
(c) 1 and 2 only
(d) 1, 2, 3 and 4

Q7.With reference to the Right to Privacy in India, consider the following statements:

1. The Right to Privacy is explicitly mentioned in the Constitution of India.
2. The Supreme Court declared privacy a fundamental right under Article 21.
3. The judgment recognizing privacy as a fundamental right was delivered by a nine-judge bench.

Which of the statements given above are correct?

(a) 2 and 3 only
(b) 1 and 2 only
(c) 1, 2 and 3
(d) 3 only

Q8. With reference to Manipur's socio-political context, consider the following:

1. The State has both hill and valley administrative divisions.
2. Autonomous District Councils (ADCs) operate in certain tribal areas.
3. The Sixth Schedule of the Constitution fully applies to Manipur.
4. Ethnic tensions in the region have both historical and land-related dimensions.

Which of the statements given above are correct?

(a)1, 2 and 4 only
(b) 1 and 3 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

Q9.With reference to peace-building in conflict-prone States, consider the following measures:

1. Inclusive political dialogue
2. Strengthening local self-governance institutions
3. Military solution alone
4. Rehabilitation and confidence-building measures

Which of the statements given above are correct?

(a) 1, 2 and 4 only
(b) 1 and 3 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

Q10) Frontiers: Indian Railways & Infrastructure — Consider the following statements:

1. Dedicated Freight Corridors (DFCs) aim to decongest existing rail lines by segregating freight traffic.
2. High-speed rail corridors in India are designed solely for passenger travel and do not include freight movement.
3. Station redevelopment schemes aim at enhancing passenger amenities and urban integration.

Which of the statements given above is/are correct?

a) 1 and 3 only
b) 2 only
c) 1 and 2 only
d) 1, 2 and 3

From News Gist

Q11) With reference to the strategic significance of rail infrastructure in West Bengal, consider the following:

1. Improved rail connectivity can strengthen trade corridors linking eastern India with the rest of the country.
2. Railway infrastructure has implications for regional economic integration.
3. Railway projects have no impact on socio-economic development in hinterland regions.

Which of the statements given above is/are correct?

A. 1 and 2 only
B. 2 and 3 only
C. 1 only
D. 1, 2 and 3

Q12) With reference to the House Listing Phase of Census in India, consider the following statements:

1. The House Listing Phase is conducted prior to the Population Enumeration Phase.
2. It collects data on housing conditions, amenities, and household assets.
3. It includes biometric data collection of all residents.

Which of the statements given above is/are correct?

A. 1 and 2 only
B. 2 and 3 only
C. 1 only
D. 1, 2 and 3

Q13) Which of the following best explains the term "Crowding Out Effect"?

(a) RBI printing money to finance deficit
(b) Excessive government borrowing raising interest rates and reducing private investment
(c) Foreign investors withdrawing capital
(d) Decline in exports due to currency appreciation

Q14) With reference to Government Securities (G-Secs), consider the following statements:

1. The 10-year Government bond yield is considered a benchmark for long-term interest rates in the economy.
2. When government borrowing increases significantly, bond yields tend to rise.
3. Bond prices and bond yields move in the same direction.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

Q15) A sharp rise in the 10-year benchmark bond yield may lead to:

1. Increase in home loan interest rates
2. Increase in corporate borrowing costs
3. Decline in fiscal deficit

Select the correct answer:

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

Q16) Which of the following best explains the term "Crowding Out Effect"?

(a) RBI printing money to finance deficit
(b) Excessive government borrowing raising interest rates and reducing private investment
(c) Foreign investors withdrawing capital
(d) Decline in exports due to currency appreciation

Q17) With reference to agricultural trade between India and the United States, consider the following statements:

1. Agricultural trade between two countries necessarily requires a Free Trade Agreement (FTA).
2. Trade can increase even without a formal trade agreement due to tariff rationalisation and market demand.
3. Sanitary and Phytosanitary (SPS) measures are governed under the WTO framework.

Which of the statements given above are correct?

(a) 2 and 3 only
(b) 1 and 2 only
(c) 1 and 3 only
(d) 1, 2 and 3

From News Gist

Q18) The Agreement on Agriculture (AoA) under the WTO primarily deals with:

1. Domestic support
2. Market access
3. Export subsidies
4. Intellectual property rights in agriculture

Select the correct answer:
(a) 1 and 2 only
(b) 1, 2 and 3 only
(c) 2 and 4 only
(d) 1, 3 and 4 only

Q19) A sustained increase in agricultural imports may have which of the following macroeconomic consequences for India?

1. Pressure on Current Account Deficit
2. Downward pressure on domestic farm gate prices
3. Rise in food inflation in the short term
4. Improvement in consumer welfare

Select the correct answer:
(a) 1, 2 and 4 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2, 3 and 4

Q20) A sustained surge in agricultural imports from the US may have which of the following consequences for India?

1. Pressure on Minimum Support Price (MSP) operations
2. Potential increase in Current Account Deficit
3. Structural reduction in rural wages
4. Improvement in food inflation management

Select the correct answer:
(a) 1, 2 and 4 only
(b) 1 and 3 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

Q21) Which of the following would most likely lead to an increase in US farm exports to India?

1. Domestic crop failure in India
2. Appreciation of the Indian Rupee
3. Reduction in India's bound tariff rates under WTO
4. Lower freight costs due to global shipping normalization

Select the correct answer:
(a) 1, 2 and 4 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

Q22) With reference to federal dynamics in railway expansion, consider the following statements:

1. Railways fall under the Union List.
2. Land acquisition for railway projects often involves State governments.
3. Inter-governmental coordination is essential for timely execution.
4. States have no role in railway project implementation.

Which of the statements given above are correct?
(a) 1 and 4 only
(b) 1, 2 and 3 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

Q23) Which of the following are major uses of Census data?

1. Delimitation of constituencies
2. Allocation of funds to States
3. Determination of reservation in local bodies
4. Preparation of National Population Register (NPR)

Select the correct answer:
(a) 1, 2 and 3 only
(b) 1 and 4 only
(c) 2 and 3 only
(d) 1, 2, 3 and 4

Q24) In the Indian context, which of the following mechanisms promote transparency in political funding?

1. Electoral Bonds Scheme
2. Mandatory disclosure of donations above a specified threshold to the Election Commission of India
3. Right to Information (RTI) applicability to political parties

Select the correct answer using the code below:
a) 1 and 2 only
b) 2 only
c) 2 and 3 only
d) 1, 2 and 3

From News Gist

Q25) Consider the following impacts of high subsidy expenditure:

1. Crowding out of capital expenditure
2. Inflationary pressures in certain sectors
3. Improvement in long-term fiscal sustainability

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q26) With reference to government bond yields, consider the following statements:

1. Bond yields and bond prices move in opposite directions.
2. An increase in government borrowing generally puts upward pressure on bond yields.
3. Rising bond yields always reduce inflation in the short term.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q27) Consider the following measures for improving DISCOM performance:

1. Smart metering
2. Direct Benefit Transfer (DBT) of electricity subsidies
3. Reduction of cross-subsidy surcharge
4. Free electricity to all consumers

Which of the above can improve financial sustainability of DISCOMs?

A) 1 and 2 only
B) 1, 2 and 3 only
C) 2 and 4 only
D) 1, 2, 3 and 4

Q28) Removal of small car exemptions may have which of the following effects?

1. Encourage shift towards electric vehicles (EVs)
2. Increase short-term automobile prices
3. Reduce fiscal deficit automatically

Select the correct answer:

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q29 . Under the Industrial Relations Code, which of the following reforms were introduced?

1. Provision for fixed-term employment
2. Changes in threshold for prior government approval for layoffs and retrenchment
3. Complete removal of trade unions

Select the correct answer:

A) 1 and 2 only
B) 2 and 3 only
C) 1 only
D) 1, 2 and 3

Q30) With reference to the global cotton trade, consider the following statements:

1. Cotton is a key raw material for Bangladesh's ready-made garment (RMG) exports.
2. A change in cotton sourcing patterns can impact regional trade balances.
3. Cotton imports directly determine a country's foreign exchange reserves.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q31) With reference to collateral-free lending to MSMEs, consider the following statements:

1. Collateral-free loans increase credit access for first-generation entrepreneurs.
2. Such lending completely eliminates credit risk for banks.
3. Credit guarantee mechanisms can partially offset default risk.

Which of the statements given above is/are correct?

A) 1 and 3 only
B) 1 only
C) 2 and 3 only
D) 1, 2 and 3

From News Gist

Q32) With reference to digital payment frauds in India, consider the following statements:

1. Zero-liability protection applies to customers if unauthorized transactions are reported within a stipulated time.
2. Banks are required to reverse the amount within a specified time frame in certain fraud cases.
3. The Reserve Bank of India (RBI) directly compensates customers for all digital payment frauds.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q33) Which of the following schemes aim directly at improving nutritional outcomes?

1. POSHAN Abhiyaan
2. Integrated Child Development Services (ICDS)
3. Mid-Day Meal Scheme (PM POSHAN)
4. Pradhan Mantri Fasal Bima Yojana

Select the correct answer:

A)1, 2 and 3 only
B) 1 and 4 only
C) 2 and 3 only
D) 1, 2, 3 and 4

Q34) Under the National Food Security Act (NFSA), which of the following are legally entitled beneficiaries?

1. Antyodaya Anna Yojana (AAY) households
2. Priority households identified by states
3. All Above Poverty Line (APL) households

Select the correct answer:

A) 1 only
B) 1 and 2 only
C) 2 and 3 only
D) 1, 2 and 3

Q35) Tobacco taxation is considered a "sin tax" primarily because it:

A)Targets luxury goods consumed only by the rich
B) Seeks to correct negative externalities associated with consumption
C) Is levied exclusively by state governments
D) Is imposed only during fiscal crises

Q36) With reference to recent space sector reforms in India, consider the following statements:

1. Private companies are now allowed to undertake end-to-end space activities, including launch and satellite operations.
2. IN-SPACe functions as a regulatory and facilitation body for private space players.
3. ISRO has been converted into a commercial public sector enterprise.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q37). With reference to tiger conservation in India, consider the following statements:

1. Project Tiger was launched in 1973 to protect tiger habitats and ensure viable populations.
2. Tiger reserves in India are notified under the Wildlife (Protection) Act, 1972.
3. Core areas of tiger reserves allow commercial forestry operations.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q38)Which of the following principles are associated with circular economy practices?

1. Designing products for durability and recyclability
2. Extended Producer Responsibility (EPR)
3. Linear "take–make–dispose" production model

Select the correct answer:

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

From News Gist

Q39)With reference to bamboo in India, consider the following statements:

1. Bamboo was removed from the definition of “tree” under the Indian Forest Act (for non-forest areas) to promote its cultivation.
2. Bamboo is classified as a minor forest produce.
3. Harvesting of bamboo from private land requires forest transit permits in all states.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q40)With reference to the Great Nicobar Island project, consider the following statements:

1. The proposed development includes a transshipment port and airport.
2. The island falls within a seismically active zone.
3. The project area includes parts of designated biosphere reserve regions.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 and 3 only
C) 1 and 3 only
D) 1, 2 and 3

Q41)Which of the following mechanisms promote decentralized waste governance?

1. Community composting
2. Material Recovery Facilities (MRFs)
3. Waste-to-energy plants processing mixed waste

Select the correct answer:

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q42)With reference to the New START Treaty, consider the following statements:

1. It is a bilateral nuclear arms reduction treaty between the United States and Russia.
2. It places limits on deployed strategic nuclear warheads and delivery systems.
3. It includes China as a formal signatory.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q43)The reopening of the Rafah Crossing is strategically significant primarily because it:

1. Facilitates humanitarian aid and evacuation of civilians
2. Alters maritime boundaries in the Eastern Mediterranean
3. Impacts regional security dynamics involving Egypt and Israel

Select the correct answer:

A) 1 only
B) 1 and 3 only
C) 2 and 3 only
D) 1, 2 and 3

Q44)India–Malaysia cooperation in the digital and industrial sectors aligns most closely with which of the following policy frameworks?

1. Act East Policy
2. Indo-Pacific Oceans Initiative (IPOI)
3. Look West Policy

Select the correct answer:

A) 1 only
B) 1 and 2 only
C) 2 and 3 only
D) 1, 2 and 3

Q45)With reference to India’s engagement with the Arab world, consider the following statements:

1. The Gulf region is a major source of India’s crude oil imports.
2. The Indian diaspora in West Asia contributes significantly through remittances.
3. India is a member of the Arab League.

From News Gist

Which of the statements given above is/are correct?
A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q46)With reference to India–US trade relations, consider the following statements:
1. The United States is among India's largest trading partners.
2. Trade disputes between India and the US have been addressed through the WTO dispute settlement mechanism.
3. Both countries are members of the Regional Comprehensive Economic Partnership (RCEP).

Which of the statements given above is/are correct?
A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q47)France's support for India in multilateral forums has included backing for:
1. India's bid for permanent membership in the UN Security Council
2. India's membership in the Nuclear Suppliers Group (NSG)
3. India's accession to NATO

Select the correct answer:
A) 1 and 2 only
B) 2 only
C) 1 only
D) 1, 2 and 3

Q48)With reference to the ethnic composition of Manipur, consider the following statements:
1. Meiteis predominantly inhabit the valley region.
2. Kuki-Zo and Naga communities largely reside in the hill districts.
3. All communities in Manipur are listed under the Sixth Schedule of the Constitution.

Which of the statements given above is/are correct?
A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q49)Which of the following are considered indigenous Indian dog breeds?
1. **R**ajapalayam
2. Mudhol/Caravan Hound
3. Belgian Malinois

Select the correct answer:
A) 1 and 2 only
B) 2 only
C) 1 only
D) 1, 2 and 3

Q50) With reference to cancer risk factors in India, consider the following statements:
1. Tobacco use is one of the leading preventable causes of cancer.
2. Human Papillomavirus (HPV) infection is linked to cervical cancer.
3. Air pollution has no established association with cancer risk.

Which of the statements given above is/are correct?
A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q51)With reference to Sodium-ion batteries, consider the following statements:
1. Sodium is more abundant in the Earth's crust than lithium.
2. Sodium-ion batteries eliminate the need for critical minerals like cobalt and nickel in all designs.
3. Sodium-ion batteries are generally considered safer in terms of thermal runaway compared to conventional lithium-ion batteries.

Which of the statements given above is/are correct?
A) 1 and 3 only
B) 1 only
C) 2 and 3 only
D) 1, 2 and 3

From News Gist

Q52) Iron deficiency anaemia may affect HbA1c readings because:

1. Reduced hemoglobin concentration increases glycation rate.
2. Altered red blood cell lifespan may falsely elevate HbA1c levels.
3. HbA1c measurement is independent of red blood cell biology.

Select the correct answer:

A) 1 only
B) 2 only
C) 1 and 2 only
D) 3 only

Q53) With reference to optical and radio telescopes, consider the following statements:

1. Optical telescopes are affected by atmospheric turbulence.
2. Radio telescopes can operate effectively during daytime.
3. Radio astronomy is unaffected by human-made electromagnetic interference.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q54) With reference to quorum sensing, consider the following statements:

1. It involves the production and detection of signaling molecules called autoinducers.
2. It can regulate virulence factor expression in pathogenic bacteria.
3. It occurs only in Gram-positive bacteria.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q55) The concept of "Digital Public Infrastructure (DPI)" in health most closely implies:

A) Privatization of hospital management
B) Creation of interoperable, scalable digital platforms accessible to public and private actors
C) Complete digitization of only government hospitals
D) Elimination of paper-based prescriptions

Q56) With reference to AI-assisted screening in India, consider the following statements:

1. AI algorithms can assist in detecting cancers such as breast, cervical, and oral cancer.
2. AI systems are completely free from diagnostic bias.
3. AI-enabled screening may improve access in low-resource settings.

Which of the statements given above is/are correct?

A) 1 and 3 only
B) 1 only
C) 2 and 3 only
D) 1, 2 and 3

Q57) With reference to parallel computing, consider the following statements:

1. GPUs are highly efficient for data-parallel tasks.
2. CPUs are better suited for complex control-flow operations.
3. Parallel computing eliminates the need for memory optimization.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q58) Which of the following laboratory tests are commonly used to assess blood coagulation?

1. **P**rothrombin Time (PT)
2. Activated Partial Thromboplastin Time (aPTT)
3. Hemoglobin concentration test

Select the correct answer:

A) 1 and 2 only
B) 2 only
C) 1 only
D) 1, 2 and 3

Q59) The "five-year survival rate" in cancer epidemiology refers to:

A) Percentage of patients completely cured within five years
B) Percentage of patients alive five years after diagnosis
C) Probability of cancer recurrence within five years
D) Mortality rate within the first five years

From News Gist

Q60) In India, advancements in genomics and biotechnology align with which of the following national initiatives?

1. Biotechnology Industry Research Assistance Council (BIRAC) support
2. National Biopharma Mission
3. Ayushman Bharat Digital Mission

Select the correct answer:

A)1 and 2 only
B) 1, 2 and 3
C) 2 only
D) 1 only

Q**61) With reference to the Indus and Ganga river systems, consider the following statements:**

1. The Indus basin is more dependent on glacial and snowmelt contributions than the Ganga basin.
2. The Ganga basin receives a larger proportion of its flow from monsoon rainfall compared to the Indus.
3. Both basins are equally dependent on winter precipitation from Western Disturbances.

Which of the statements given above is/are correct?

A) 1 and 2 only
B) 2 only
C) 1 and 3 only
D) 1, 2 and 3

Q**62) The Subansiri Lower Hydroelectric Project (SLHEP) is located between which of the following states?**

A) Assam and Meghalaya
B) Arunachal Pradesh and Assam
C) Sikkim and West Bengal
D) Nagaland and Manipur

Q**63)Consider the following statements regarding the horticulture economy of Jammu & Kashmir:**

1. Apple production contributes significantly to the Union Territory's Gross State Domestic Product (GSDP).
2. The majority of apple growers in Kashmir are small and marginal farmers.
3. Apple exports from Kashmir are entirely dependent on international markets.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

Q64.Consider the following statements regarding the impact of contractual staffing on school education outcomes:

1. High turnover among contractual teachers may adversely affect learning continuity.
2. Contractual staffing can reduce long-term pension liabilities of state governments.
3. Contractual appointments are mandated by the National Education Policy (NEP) 2020.

Which of the statements given above is/are correct?

A.1 and 2 only
B. 1 only
C. 2 and 3 only
D. 1, 2 and 3

Q65)The restoration and repatriation of stolen Chola bronzes to India are primarily facilitated by which of the following legal frameworks?

1. Antiquities and Art Treasures Act, 1972
2. UNESCO 1970 Convention
3. Biological Diversity Act, 2002
4. Indian Forest Act, 1927

Select the correct answer using the code below:

A. 1 only
B. 1 and 2 only
C. 2 and 3 only
D. 1, 2, 3 and 4

Q66)Tamil-Brahmi inscriptions are associated with which of the following periods in Indian history?

A. Vedic Period
B. Mauryan and Post-Mauryan Period
C. Delhi Sultanate Period
D. Mughal Period

ANSWER CODE: 1A, 2A, 3A, 4B, 5B, 6A, 7A, 8A, 9A, 10A, 11A, 12A, 13B, 14A, 15A, 16B, 17A, 18B, 19A, 20A, 21A, 22B, 23D, 24B, 25A, 26A, 27B, 28A, 29A, 30A, 31A, 32A, 33A, 34B, 35B, 36A, 37A, 38A, 39A, 40D, 41A, 42A, 43B, 44B, 45A, 46A, 47A, 48A, 49A, 50A, 51A, 52C, 53A, 54A, 55B, 56A, 57A, 58A, 59B, 60B, 61A, 62B, 63A, 64A ,65B, 66B, 67B, 68B

CA MAINS QUESTIONS

Q1). Discuss the potential impact of the India-European Union Free Trade Agreement on bilateral trade relations, economic growth, and geopolitical dynamics. What challenges might India face in the negotiation and implementation phases of the deal?

Q2). The India–EU trade deal represents a shift from traditional tariff negotiations to regulatory and standards-based negotiations. Critically examine.

Q3). Examine the potential impact of the India–EU trade agreement on India's services sector, especially IT and skilled mobility.

Q4). Critically examine the emphasis on manufacturing and strategic sectors in Union Budget 2026–27. How will initiatives like Biopharma SHAKTI and India Semiconductor Mission 2.0 contribute to India's global competitiveness?

Q5). Examine the role of capital expenditure and infrastructure investment in Union Budget 2026–27. How can these allocations enhance long-term economic potential and employment generation?

Q6). The India–France Special Global Strategic Partnership goes beyond defence procurement to encompass geopolitical coordination, climate diplomacy, and maritime security. Discuss.

Q7). Discuss the potential impact of the India-European Union Free Trade Agreement on bilateral trade relations, economic growth, and geopolitical dynamics. What challenges might India face in the negotiation and implementation phases of the deal?

Q8). Analyse the significance of the India-Malaysia partnership in the context of digital and industrial transformation. What are the key areas of collaboration between the two countries, and how can they address challenges related to technology transfer, sustainable development, and economic resilience?

Q9). The decline of bilateral arms control agreements marks the return of great-power nuclear rivalry. Discuss in the context of New START and contemporary geopolitics.

Q10). Evaluate whether the Labour Codes adequately balance labour flexibility with workers' rights.

Q11). Analyse the potential impact of collateral-free MSME loans on employment generation, innovation, and economic growth in India. What measures can be taken to ensure the successful implementation of this policy?

Q12). Analyse the effectiveness of integrated approaches such as ICDS, Mid-Day Meal Scheme, and PDS in combating malnutrition.

Q13). "Political economy constraints are at the heart of DISCOM inefficiencies."
Critically analyse in the context of free power, cross-subsidization, and regulatory independence

Q14). The proposed Kuki-Zo Accord represents both an opportunity for peace and a test for India's federal structure. Critically examine.

CA MAINS QUESTIONS

Q15). Evaluate how the integration of native breeds into armed forces contributes to biodiversity conservation and cultural heritage preservation.

Q16). "Conservation without cooperation is incomplete." Discuss in the context of tiger corridors across India, Nepal, Bhutan, and Bangladesh.

Q17). "Urban innovation holds the key to India's environmental transformation."
Discuss with reference to circular economy experiments like Surat's initiative.

Q18). Examine the potential impact of the India–EU trade agreement on India's services sector, especially IT and skilled mobility.

Q19). The proposed infrastructure development in Great Nicobar Island has ignited debates between strategic imperatives and ecological sustainability. Discuss the key environmental concerns associated with the project and suggest mitigation measures.

Q20). Evaluate the role of bamboo bioethanol projects in the Northeast as a tool for climate change mitigation, waste-to-wealth generation, and import substitution in India's energy economy.

Q21). India is transitioning from end-of-pipe waste disposal to decentralised, source-based waste governance. Examine the institutional, behavioural, and technological challenges in implementing this shift at the urban local body level.

Q22).Sodium-ion batteries are emerging as a viable alternative to lithium-ion technology for energy storage. Discuss their potential role in enhancing India's energy security and reducing import dependence.

Q23). The intersection of communicable, non-communicable, and genetic disorders complicates diagnostic strategies in developing countries. Evaluate how the prevalence of anaemia and haemoglobin variants can influence diabetes surveillance and policy planning in India.

Q24). High-altitude cold desert regions such as Ladakh are emerging as ideal sites for deep space observation. Discuss the scientific and strategic significance of establishing astronomical observatories in such locations.

Q25). Increasing incidence of Pediatric cancers demands robust policy interventions at both state and national levels. Examine the role of health infrastructure, cancer registries, and insurance schemes in improving childhood cancer treatment outcomes in Indi**a.**

Q26). Bacterial communication through quorum sensing plays a critical role in microbial survival and pathogenicity. Discuss its implications for antimicrobial resistance and infection control strategic.

Q27). Digital Public Infrastructure in healthcare has the potential to transform India's health governance landscape. Evaluate the opportunities and challenges associated with integrating digital health platforms like SAHI and BODH within the broader framework of universal health coverage.

CA MAINS QUESTIONS

Q28). Originally designed for graphics rendering, GPUs have evolved into critical enablers of artificial intelligence and high-performance computing. Discuss their role in accelerating technological innovation in India.

Q29). Advances in early diagnosis and treatment have improved five-year survival rates for childhood cancers. Examine the challenges in translating these medical gains into equitable healthcare outcomes across India's socio-economic landscape.

Q30). While personalised medicine promises improved treatment outcomes, its widespread adoption raises ethical and economic concerns. Critically evaluate the implications of precision medicine for healthcare equity, data privacy, and regulatory frameworks in India.

Q31). The emerging Indus–Ganga hydrological paradox poses challenges to sustainable water resource management. Evaluate its impact on agriculture, transboundary water governance, and climate resilience strategies in India .

Q32). Large hydroelectric projects often face regulatory and environmental challenges. Discuss the key issues associated with the Subansiri Lower Hydroelectric Project.tigers in India.

Q33). The expansion of railway infrastructure in Kashmir aims to improve connectivity but may impact the region's horticulture economy. Examine the socio-economic implications of such projects on local farmers and agricultural sustainability.

Q34). Ensuring equitable and quality education requires both adequate staffing and institutional stability. Evaluate the long-term impact of contractualisation of teaching staff on the objectives of the Right to Education Act, 2009.

Q35). The return of illegally trafficked Chola bronzes highlights the role of cultural diplomacy in heritage conservation. Examine the institutional and legal mechanisms available to India for reclaiming its stolen artefacts.

Q36). Epigraphic discoveries beyond national boundaries often reshape historical narratives. Examine how the presence of Indian language inscriptions in inland Egyptian tombs may alter our understanding of Indo-Mediterranean trade and cultural exchange.

Q37). Treating wetlands as strategic national public goods requires a shift in governance frameworks. Examine the economic and ecological services provided by wetlands and the challenges in their conservation.

Q38). Excessive digital exposure among children and adolescents is emerging as a public health concern. Discuss its potential impact on mental health and cognitive development

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