



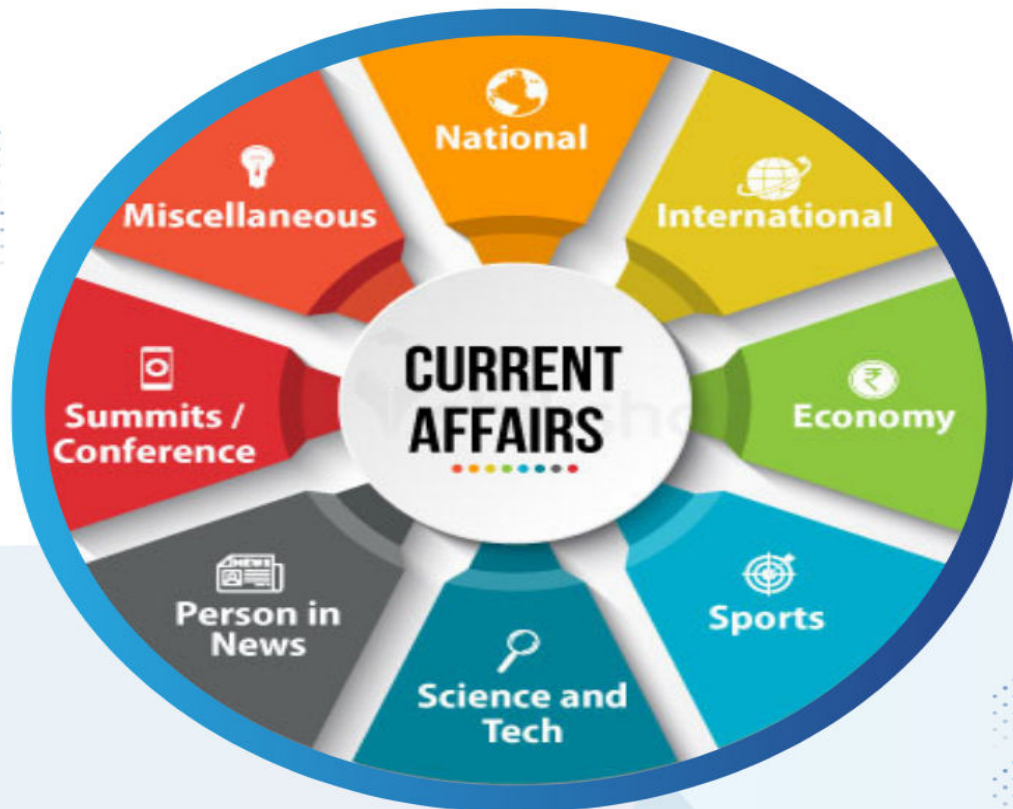
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VIDHVATH IAS KAS ACADEMY & STUDY CENTRE

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FOR UPSC CIVIL SERVICE EXAMINATION

DATE: 23/04/2026 (THURSDAY)



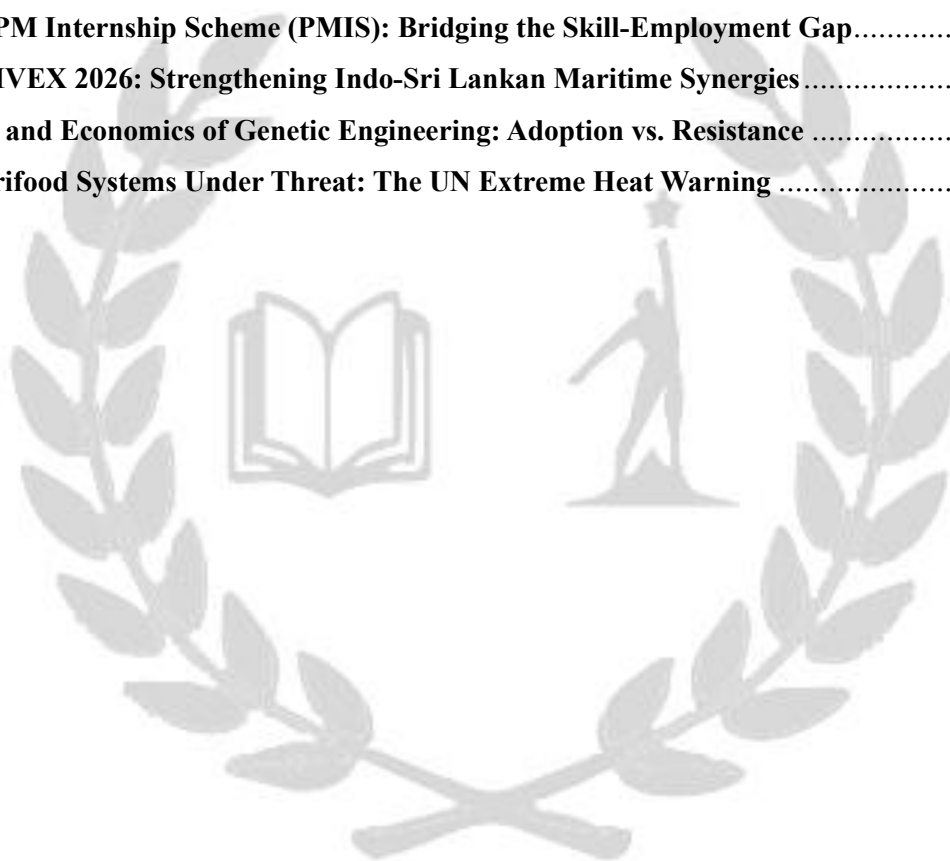
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VIDHVATH IAS ACADEMY



1. RBI's Consolidated Framework for E-Mandates and Recurring Payments

Definition: An e-mandate is a digital authorization provided by a customer to their bank or payment service provider, allowing for the automatic debit of funds from their account for recurring transactions such as OTT subscriptions, SIPs, or utility bills.

- **Unified Regulatory Framework:** The RBI has consolidated various piecemeal guidelines issued over the years into a single, comprehensive Master Direction to streamline domestic and cross-border recurring transactions via cards, UPI, and wallets.
- **Two-Factor Security (AFA):** Every e-mandate requires a one-time registration using **Additional Factor of Authentication (AFA)**. While subsequent transactions are automated, any modification or cancellation of the mandate mandates a fresh AFA to prevent unauthorized changes.
- **Enhanced Threshold Limits:** To promote ease of digital payments, the RBI has capped the AFA-exempt limit at **₹15,000** per transaction. However, for specific categories like insurance premiums, mutual fund subscriptions, and credit card bills, the limit is extended up to **₹1 lakh**.
- **Pre-transaction Notifications:** Issuers are legally bound to send a notification to the customer (via SMS or Email) at least **24 hours** before the actual debit occurs, providing the user an opportunity to opt-out or ensure sufficient balance.
- **Customer Autonomy and Redressal:** The framework grants users the right to withdraw or modify mandates at any time. Furthermore, it integrates these transactions under the RBI's **Grievance Redressal Mechanism**, ensuring liability protection against unauthorized digital transactions.
- **Continuity of Service:** To prevent payment failures during card replacements, the rules allow for the "mapping" of existing mandates to reissued cards, ensuring that utility and subscription services remain uninterrupted.

Key Constitutional and Legal Provisions

- **Section 10(2) read with Section 18 of the Payment and Settlement Systems Act, 2007:** These provisions empower the RBI to regulate and supervise payment systems in India, providing the legal basis for the e-mandate framework.
- **Consumer Protection Act, 2019:** The guidelines align with the right of consumers to be protected against unfair trade practices and the right to seek redressal against shady "dark patterns" in subscription billing.
- **Right to Privacy (Article 21):** By requiring explicit consent and notifications, the framework upholds the principles of informational privacy and financial autonomy as recognized by the Supreme Court in the *Puttaswamy* judgment.

Important Terminological Definitions

- **Additional Factor of Authentication (AFA):** A security process requiring more than one validation method (e.g., a password plus an OTP) to verify a transaction.
- **Payment System Operators (PSOs):** Entities authorized by the RBI to operate systems that enable payments between a payer and a beneficiary (e.g., NPCI, Mastercard, Visa).
- **Pre-debit Notification:** A mandatory alert sent to the user before funds are deducted, detailing the amount, the merchant name, and the date of debit.



Conclusion

The consolidation of e-mandate rules marks a significant shift from a fragmented regulatory landscape to a consumer-centric digital ecosystem. By balancing security through AFA with the convenience of higher transaction limits for essential services, the RBI is fostering a "less-cash" economy while mitigating the risks of digital fraud and hidden subscription traps.

UPSC Relevance

- **General Studies III (Economy):** Awareness of digital payment infrastructure, financial inclusion, and the role of the RBI as a regulator of the Payment and Settlement Systems.
- **General Studies II (Governance):** Regulatory bodies and their impact on consumer rights and the ease of doing business.
- **Prelims Perspective:** Specific limits (e.g., ₹15,000 and ₹1 lakh), the concept of AFA, and the legal statutes governing the RBI's power over payment gateways.

2. Regulation of E-Sports and Online Gaming in India (MeitY Rules 2026)

Definition: E-sports (Electronic Sports) are organized, competitive video gaming events where professional players or teams compete against each other, often involving high-stakes tournaments and standardized rules. Unlike casual gaming, it is recognized as a legitimate athletic and professional pursuit.

- **Mandatory Registration for E-Sports:** Effective **May 1, 2026**, the Ministry of Electronics and Information Technology (MeitY) has made registration mandatory for all e-sport games and the firms operating them. This distinguishes e-sports from "online social games," for which registration remains optional unless specifically notified by the Centre.
- **Establishment of OGAI:** The **Online Gaming Authority of India (OGAI)** has been established as a fully digital, attached office within MeitY. It will serve as the primary regulatory body, chaired by an Additional Secretary of MeitY and featuring representatives from the Ministries of Home Affairs, Finance, Law, and Sports.
- **Zero-Tolerance for Real Money Gaming:** The rules operationalize the **Promotion and Regulation of Online Gaming Act, 2025**, which explicitly prohibits all forms of online real-money gaming (betting/gambling) in India. The framework serves to filter and certify only non-money games and e-sports.
- **User Safety and Age Classification:** The framework introduces enabling provisions for mandatory **age-gating** and age classifications to address gaming addiction. It also mandates a "code of practice" for games involving microtransactions to protect users from predatory financial designs.
- **Financial Enforcement via Banks:** Banks and financial institutions are positioned as key enforcement arms. They are required to restrict financial flows to non-registered or prohibited gaming entities, ensuring that only legitimate, certified platforms can process user transactions.
- **Light-Touch Regulation for Social Games:** To foster innovation, the government has adopted a "regulation-light" approach for casual and social games. These titles can operate without prior





registration unless the Authority triggers a *suo motu* review based on risks like scale, addiction, or national security.

Key Constitutional and Legal Provisions

- **Promotion and Regulation of Online Gaming Act, 2025:** The parent legislation that provides the statutory basis for these rules and the total ban on online money gaming.
- **Section 69A of the IT Act, 2000:** Grants the government power to block access to offshore betting sites and non-compliant gaming platforms in the interest of public order.
- **Seventh Schedule (List II, Entry 34):** While "Betting and Gambling" is a State subject, the Centre regulates e-sports and online intermediaries under its powers over "Communication" and "Information Technology" (List I).

Important Terminological Definitions

- **Online Social Games:** Digital games played for recreation or social interaction that do not involve stakes, wagering, or the expectation of monetary winnings.
- **Microtransactions:** Small financial transactions within a game to purchase virtual goods, "loot boxes," or enhancements, now subject to a future "code of practice."
- **Additional Factor of Authentication (AFA):** Security protocols (like OTPs) required for registration and sensitive transactions within the gaming ecosystem to prevent fraud.

Conclusion

The 2026 rules mark a milestone in India's digital economy by decoupling professional e-sports from illegal gambling. By creating a dedicated digital regulator (OGAI) and focusing on user safety through age-gating and financial monitoring, India is attempting to build a safe, transparent, and globally competitive gaming ecosystem while mitigating the social risks of addiction and financial loss.

UPSC Relevance

- **GS III (Economy & Technology):** Regulation of the digital economy, growth of the AVGC (Animation, Visual Effects, Gaming, and Comics) sector, and the role of MeitY.
- **GS II (Governance & Polity):** Statutory bodies (OGAI), federal challenges in regulating "games of skill" vs. "games of chance," and executive rulemaking.

3. Beyond Trade Deals: Sectoral Plurilateralism and India's New Strategic Architecture

Definition: Sectoral Plurilateralism refers to a strategic approach where a small group of countries (middle powers) forms focused partnerships centered on specific critical sectors—such as AI, space, or digital infrastructure—to set technical standards and secure supply chains independently of major power rivalries.

- **Erosion of Rules-Based Trade:** The global trade system, once governed by economic efficiency and international rules, is increasingly dictated by "geopolitics over economics." Major powers like the U.S. and China now utilize critical supplies (semiconductors, minerals) as tools of political leverage.





- **The Trap of Bilateralism:** While the 2026 India-EU FTA and the U.S. tariff deal are significant tactical wins, they remain vulnerable to sudden political shifts in Washington or Beijing. Reliance on bilateral deals with volatile superpowers creates "unacceptable risks" for India's long-term economic security.
- **Weaponization of Supply Chains:** India's heavy dependence on China for Active Pharmaceutical Ingredients (APIs) and the U.S. use of tariffs to punish energy diversification (e.g., Russian energy) highlight the fragility of current trade lines. The weakening of Russia as a traditional counterweight further narrows India's maneuvering space.
- **Sectoral Coalitions as a Geopolitical Backstop:** India should transition from vague, value-based groupings toward smaller, high-authority partnerships. By linking supply chains in specific industries—modeled after the 1951 European Coal and Steel Community—middle powers can make conflict too costly and build practical trust.
- **Leveraging Digital Public Infrastructure (DPI):** India's strengths in DPI (UPI, DigiLocker, and identity systems) offer a unique "Digital Stack" that developing nations wish to replicate. By building shared, open-source digital standards with partners, India can provide a viable alternative to the US-China tech duopoly.
- **Strategic Pilot Partnerships:** The way forward involves establishing authoritative groups in AI, Space, and Digital Infrastructure. For instance, a coalition of India (talent/market), Japan (hardware), France (research), and the UAE (capital) could set global AI safety and technical standards for emerging markets.

Key Constitutional and Legal Provisions

- **Article 51 (Directive Principles of State Policy):** Mandates the State to promote international peace, security, and maintain just and honorable relations between nations. Sectoral plurilateralism aligns with this by creating stable, rule-based mini-lateral frameworks.
- **The Foreign Trade (Development and Regulation) Act, 1992:** Provides the executive branch with the power to develop and regulate foreign trade, which is the primary legal vehicle for implementing FTAs and plurilateral trade standards.
- **Digital India Act (Upcoming/Proposed):** This framework is essential for setting the domestic standards that India seeks to export globally through its digital infrastructure partnerships.

Important Terminological Definitions

- **Active Pharmaceutical Ingredients (APIs):** The chemical components of a drug that produce the intended health effect. India's reliance on China for these is a significant strategic vulnerability.
- **Open-Weight AI Models:** AI models where the underlying "weights" (parameters) are accessible to the public, allowing for transparency and customization, unlike "closed" proprietary models.
- **Middle Powers:** Nations that have significant diplomatic and economic influence (like India, Japan, France) but are not global superpowers; they often seek to balance the international system.

Conclusion

India's foreign policy is at a crossroads: it must move from merely "managing" its relationships with the U.S. and China to "shaping" a new global architecture. By leading sectoral plurilateral groups, India can transform its technical capabilities into lasting geopolitical leverage, ensuring its economic growth is no longer a hostage to the whims of superpowers.



UPSC Relevance

- **GS Paper II (International Relations):** Bilateral, regional, and global groupings and agreements involving India. Effect of policies of developed and developing countries on India's interests.
- **GS Paper III (Economy & Technology):** Effects of liberalization on the economy, industrial policy, and changes in industrial growth. Specifically, issues related to intellectual property rights and digital infrastructure.

4. RBI Monetary Policy Committee (MPC) Minutes: Stability Amid Geopolitical Volatility

Definition: The **Monetary Policy Committee (MPC)** is a statutory six-member body constituted by the Central Government under the RBI Act, 1936, tasked with determining the policy interest rate (Repo Rate) required to achieve the inflation target while keeping in mind the objective of growth.

- **Policy Stance and Interest Rates:** The MPC unanimously decided to maintain a "wait and watch" approach, holding the **Repo Rate at 5.25%**. This follows a period of monetary easing in 2025, where the RBI had cumulatively reduced the rate by **125 basis points (bps)** to support economic momentum.
- **Impact of West Asia Conflict:** Geopolitical tensions in West Asia have triggered significant **supply-side shocks**, disrupting global logistics and energy networks. The committee noted that these external factors pose a "double-edged risk"—increasing inflationary pressures (upside risk) while simultaneously threatening GDP growth (downside risk).
- **Supply-Side vs. Demand-Side Inflation:** Governor Sanjay Malhotra highlighted that current inflationary pressures are primarily driven by supply chain disruptions rather than overheating domestic demand. Since monetary policy is more effective at managing demand-side issues, the committee opted for status quo to avoid an unnecessary "growth sacrifice."
- **Inflation Expectations:** A protracted conflict makes it difficult for central banks to anchor inflation expectations. The MPC expressed concern that if supply shocks persist, they could seep into core inflation, making it harder to rein in prices without aggressive rate hikes that might stall the recovery.
- **Prudential Wait-and-Watch:** The announcement of a temporary ceasefire in the conflict zone provides a window for potential normalization. The MPC emphasized that making "decisive moves" (rate hikes or cuts) during such high-uncertainty periods could be counterproductive, preferring to observe the stability of supply chains first.
- **GDP and Inflation Projections:** Despite global headwinds, the RBI's projections for FY27 reflect a cautious optimism, though the minutes stress that the "underlying inflation pressures" (excluding the temporary shocks) remain within the tolerance band, justifying the current pause.



Key Constitutional and Legal Provisions

- **Section 45ZB of the RBI Act, 1934:** This section provides the legal mandate for the constitution of the MPC to ensure transparency and accountability in fixing monetary policy.
- **Flexible Inflation Targeting (FIT) Framework:** In 2016, the RBI Act was amended to provide a statutory basis for the FIT framework. The Centre, in consultation with the RBI, sets an inflation target (currently 4% with a +/-2% tolerance band).



- **Article 246 (Seventh Schedule):** While the Parliament has the power to legislate on "Banking" (List I, Entry 45), the MPC acts as a delegated regulatory authority to manage the nation's monetary stability.

Important Terminological Definitions

- **Repo Rate:** The benchmark interest rate at which the RBI lends short-term money to commercial banks against government securities.
- **Basis Points (bps):** A standard unit of measure for interest rates and other percentages in finance; 100 bps equals 1%.
- **Supply Shock:** An unexpected event that changes the supply of a product or commodity, resulting in a sudden change in its price (e.g., war-induced oil price spikes).
- **Growth Sacrifice:** The reduction in economic output or GDP growth that typically occurs when a central bank raises interest rates to curb inflation.

Conclusion

The MPC's decision to hold rates underscores a shift toward "geopolitical sensitivity" in monetary planning. By distinguishing between transitory supply shocks and persistent demand-side inflation, the RBI is attempting to shield India's domestic recovery from external volatility. However, the path ahead remains contingent on the swift normalization of global trade routes and the stabilization of energy prices

UPSC Relevance

- **GS Paper III (Economy):** Monetary policy instruments, the role of the MPC, and the impact of global supply chains on domestic inflation and GDP growth.
- **Prelims Perspective:** Specifics of the Repo Rate, the composition of the MPC (3 internal, 3 external members), the statutory basis under the RBI Act, and the definition of basis points.

5. Revamp of Sugarcane (Control) Order: Modernizing India's Sugar & Biofuel Sector

Definition: The **Sugarcane (Control) Order** is a central piece of subordinate legislation issued under the Essential Commodities Act, 1955. It provides the legal framework for the pricing of sugarcane, its distribution, and the operational regulation of sugar mills and downstream producers in India.

- **Strict Payment Timelines:** The draft order mandates that sugar mills must pay farmers for their cane delivery within **14 days**. Failure to comply will trigger a penal interest of **15% per annum**, a significant step aimed at resolving the perennial issue of sugarcane "arrears" (delayed payments).
- **Broadened Scope of 'Producer':** Moving beyond traditional sugar mills, the definition of 'producer' now includes entities using sugarcane juice, syrup, or molasses to manufacture downstream products. This ensures that the increasing number of standalone distilleries are also regulated.
- **Formal Inclusion of Ethanol:** In alignment with India's **Ethanol Blended Petrol (EBP) Programme**, ethanol is now formally within the regulatory ambit. The draft specifies a conversion metric where **600 litres of ethanol** is treated as equivalent to **1 tonne of sugar** for calculation purposes.





- **Economic Value of By-products:** The draft explicitly recognizes the economic importance of by-products such as **bagasse** (used for power), **molasses** (for ethanol), and **press mud** (for bio-CNG/fertilizer), reflecting the industry's shift from a sugar-only model to a "bio-refinery" model.
- **Enhanced Recovery Mechanisms:** To ensure farmer protection, unpaid dues can be collected as **arrears of land revenue** through local authorities. This gives District Collectors/Magistrates the power to attach mill properties to settle farmer payments.
- **Regulatory Continuity & Tech-Integration:** The system of **Fair and Remunerative Price (FRP)** and the **25-km distance rule** between mills are retained. However, the order introduces **digital reporting** via APIs, allowing the government to monitor production and payments in real-time.

Key Constitutional and Legal Provisions

- **Essential Commodities Act (ECA), 1955:** The Sugarcane (Control) Order is promulgated under **Section 3** of this Act. It allows the Centre to control production, supply, and distribution of essential commodities to ensure equitable availability.
- **Article 39(b) of the Constitution:** Directs the State to ensure that ownership and control of material resources are distributed to best subserve the common good—justifying the regulation of the sugar industry for the benefit of millions of farmers.
- **Seventh Schedule (List III, Entry 33):** "Trade and commerce in, and the production, supply and distribution of... agricultural products" falls under the **Concurrent List**, allowing both Centre and States to legislate, though Central Orders take precedence.

Important Terminological Definitions

- **Fair and Remunerative Price (FRP):** The minimum price that sugar mills are legally required to pay to farmers. It is fixed by the Centre on the recommendation of the **Commission for Agricultural Costs and Prices (CACP)**.
- **Khandsari:** A type of unrefined, raw white sugar common in India. The new rules bring stricter quality specifications (sucrose content) for this sector to ensure consumer safety.
- **Arrears of Land Revenue:** A legal term meaning that debt recovery can be conducted using the same stringent methods used for collecting land taxes, such as the seizure and sale of assets.

Conclusion

The proposed overhaul of the 1966 Order acknowledges the structural transformation of the sugar industry into a vital component of India's energy security. By linking ethanol to sugar pricing and enforcing strict interest penalties on payment delays, the government is attempting to balance the commercial viability of mills with the financial security of sugarcane farmers, while simultaneously furthering the nation's green energy transition.

UPSC Relevance

- **GS Paper III (Agriculture & Economy):** Issues related to direct and indirect farm subsidies and minimum support prices (FRP vs. SAP); Economics of animal-rearing and biofuels.
- **GS Paper II (Governance):** Statutory, regulatory and various quasi-judicial bodies; Government policies and interventions for development in various sectors.
- **Prelims Perspective:** Specifics of the 15% interest penalty, the 14-day payment rule, the role of CACP in fixing FRP, and the legal status of the Sugarcane (Control) Order under the ECA, 1955.



6. Fiscal Deficit Breach Projections for FY27: Impact of Geopolitical Volatility

Definition: Fiscal Deficit is the difference between the government's total expenditure and its total non-debt receipts (revenue receipts plus non-debt capital receipts). It indicates the total borrowing requirements of the government to bridge the gap between its spending and its income.

- **Projected Slippage in FY27:** Research firm BMI has projected that India's fiscal deficit is likely to hit **4.5% of GDP**, overshooting the government's budgeted target of **4.3%**. This follows a revised estimate of **4.4%** for the previous fiscal year (FY26), signaling a pause in the fiscal consolidation path.
- **Geopolitical Strain on Public Finance:** The primary driver for this potential breach is the government's policy response to the ongoing West Asia war. Escalating tensions have necessitated increased spending on energy subsidies and social safety nets to cushion the domestic economy from global supply shocks.
- **Increased Subsidy Burden:** Rising international crude oil and fertilizer prices typically expand the government's subsidy bill. To prevent retail inflation from hurting consumption, the Centre may have to absorb a larger share of these costs, thereby straining the fiscal math.
- **Impact of "Wait-and-Watch" Monetary Policy:** As the RBI maintains high interest rates to anchor inflation expectations, the government's cost of borrowing remains elevated. Higher interest payments on public debt further restrict the fiscal space available for capital expenditure.
- **Fiscal Consolidation Roadmap at Risk:** The government had previously aimed to reduce the fiscal deficit to below **4.5%** by FY26. While the budget target for FY27 was more ambitious, external shocks are making it difficult to maintain the downward trajectory without cutting essential productive spending.
- **Revenue Side Uncertainties:** While tax collections have remained robust, a slowdown in global growth could impact corporate earnings and export-related duties, potentially creating a shortfall in revenue receipts compared to budget estimates.



Key Constitutional and Legal Provisions

- **Fiscal Responsibility and Budget Management (FRBM) Act, 2003:** This statutory framework mandates the government to limit the fiscal deficit to ensure long-term macro-economic stability. The current projections highlight the challenges in adhering to the FRBM targets during global crises.
- **Article 112 of the Constitution:** Requires the President to lay the "Annual Financial Statement" (Budget) before Parliament. The fiscal deficit is a critical component of this statement, reflecting the government's borrowing policy.
- **Article 292:** Grants the Executive the power to borrow upon the security of the Consolidated Fund of India within limits fixed by Parliament, providing the constitutional basis for deficit financing.

Important Terminological Definitions

- **Primary Deficit:** The fiscal deficit minus interest payments on previous borrowings. It shows the government's borrowing requirements for current year expenditures excluding past debt obligations.
- **Revenue Deficit:** Occurs when the government's total revenue expenditure exceeds its total revenue receipts. It indicates that the government is borrowing to meet its day-to-day operational expenses.



- **Crowding Out Effect:** A situation where high government borrowing leads to higher interest rates, reducing the amount of credit available for private sector investment.

Conclusion

The projected breach of the 4.3% fiscal deficit target underscores the vulnerability of India's public finances to external geopolitical shocks. While the slippage to 4.5% remains manageable in the short term, prolonged fiscal expansion could lead to higher debt-to-GDP ratios and inflationary pressures. The challenge for the government lies in balancing short-term relief measures with the long-term goal of fiscal prudence and infrastructure-led growth.

UPSC Relevance

- **GS Paper III (Economy):** Government budgeting, fiscal policy, mobilization of resources, and the impact of global events on the Indian economy.
- **Prelims Perspective:** Definitions of Fiscal, Revenue, and Primary deficits; provisions of the FRBM Act; and the impact of oil price volatility on India's "Twin Deficit" (Fiscal and Current Account).

7. India-Germany Strategic Partnership: The P-75I Submarine Deal

Definition: Project-75 (India) or P-75I is a major defense acquisition project of the Indian Navy aimed at indigenously constructing six conventional attack submarines equipped with Air-Independent Propulsion (AIP) technology to enhance underwater endurance and stealth.

- **Strategic Defense Cooperation:** Germany and India are finalized to sign a landmark \$8 billion (approx. ₹66,000 crore) agreement for the construction of six advanced conventional submarines. This signals a major shift in Germany's defense export policy, positioning India as a key strategic partner in the Indo-Pacific.
- **Government-to-Government (G2G) Framework:** The deal is expected to be structured as a G2G agreement, involving Germany's ThyssenKrupp Marine Systems (TKMS) and India's Mazagon Dock Shipbuilders Limited (MDL). This framework reduces middleman risks and ensures high-level sovereign guarantees for technology transfer.
- **AIP Technology Integration:** A critical component of the deal is the transfer of **Air-Independent Propulsion (AIP)** technology. AIP allows conventional diesel-electric submarines to remain submerged for weeks rather than days, significantly narrowing the capability gap between conventional and nuclear-powered submarines.
- **Make in India & Strategic Partnership Model:** The project is being executed under the **Strategic Partnership (SP) Model** of the Defense Acquisition Procedure. It mandates that a foreign Original Equipment Manufacturer (OEM) partners with an Indian company to build the platforms domestically, fostering indigenous defense manufacturing.
- **Shift Away from Russian Dependency:** Historically, India has relied heavily on Russia for underwater platforms. This collaboration with Germany represents India's "Strategic Autonomy" in action, diversifying its high-end military hardware sources amid shifting global geopolitical alignments.





- **Regional Maritime Security:** The acquisition is vital for the Indian Navy to maintain a credible deterrent in the Indian Ocean Region (IOR), particularly in response to the rapid expansion of the Chinese PLA Navy's submarine fleet and its increasing forays into the deep waters of the IOR.

Key Constitutional and Legal Provisions

- **Article 73 of the Constitution:** Extends the executive power of the Union to all matters with respect to which Parliament has the power to make laws, including "Defense of India" and "Entering into treaties and agreements with foreign countries."
- **Defense Acquisition Procedure (DAP) 2020:** The governing regulatory framework that outlines the "Strategic Partnership Model," designed to encourage the participation of the Indian private/public sector in manufacturing high-tech defense platforms.
- **Seventh Schedule (List I, Entry 2):** "Naval, military and air forces; any other armed forces of the Union" is a strictly Union subject, giving the Centre exclusive jurisdiction over such international defense contracts.

Important Terminological Definitions

- **Air-Independent Propulsion (AIP):** A marine propulsion technology that allows non-nuclear submarines to operate without access to atmospheric oxygen (by surfacing or using a snorkel), enhancing their stealth and making them harder to detect.
- **Strategic Partnership (SP) Model:** A policy intended to institutionalize a transparent and objective process for identifying Indian enterprises that can partner with foreign OEMs to manufacture major platforms like submarines and fighter jets.
- **Original Equipment Manufacturer (OEM):** In this context, the foreign company (TKMS) that possesses the intellectual property and technical expertise for the submarine design.

Conclusion

The impending submarine deal with Germany marks a transformative moment for India's naval capabilities. Beyond the hardware, the transfer of critical AIP technology and the deep involvement of Mazagon Docks will strengthen the domestic defense industrial base. As the West and India find more common ground in the Indo-Pacific, such deep-tech military collaborations will be the bedrock of a stable maritime security architecture.

UPSC Relevance

- **GS Paper II (International Relations):** Bilateral agreements involving India and affecting India's interests; Strategic partnerships with European powers; Indo-Pacific maritime security.
- **GS Paper III (Internal Security & Science):** Indigenization of technology and developing new technology in the field of defense; Challenges to maritime security in the Indian Ocean Region.

8. Structural Barriers to Women's Political Representation in India

Definition: Political Representation refers to the descriptive and substantive presence of a group (such as women) in decision-making bodies. While descriptive representation focuses on the "numbers" (quotas), substantive representation ensures that their interests and voices effectively influence policy outcomes.

- **The Participation-Representation Paradox:** Data indicates a growing trend of women as a powerful electoral force (high voter turnout), yet this has not translated into proportional



representation. A majority of women (74%-84%) remain "not at all active" in political processes beyond the act of voting.

- **Party-Level Gatekeeping:** Political parties act as primary barriers through biased candidate selection. Approximately 44% of women perceive that parties prefer male candidates even when female counterparts are equally qualified, often using "winnability" as a justification for exclusion.
- **Domestic Autonomy as a Prerequisite:** The private sphere serves as the first site of exclusion. Nearly 66% of women report having no freedom to participate in political rallies or meetings, highlighting that household patriarchal dominance directly curtails political agency.
- **Intersectional Impact of Quotas:** The effectiveness of reservations is not uniform; it is shaped by existing socio-economic inequalities. Without addressing disparities in class, caste, and education, quotas may benefit only those from privileged backgrounds, leaving marginalized women further behind.
- **The "Willingness" Gap:** Only 28% of women express a desire to enter politics. This low willingness is not a lack of interest but a "cumulative effect" of restricted autonomy, fear of social backlash, and the daunting nature of exclusionary political structures.
- **Need for Substantive Reforms:** Reservations are a necessary but insufficient tool. Genuine empowerment requires parallel changes: internal democracy within political parties, gender-sensitization of the electorate, and the redistribution of household labor to provide women the "time-wealth" needed for political careers.



Key Constitutional and Legal Provisions

- **Article 15(3):** Empowers the State to make "special provisions" for women and children, providing the constitutional bedrock for gender-based reservations in legislatures.
- **73rd and 74th Amendments (1992):** Mandated 1/3rd reservation for women in Panchayats and Urban Local Bodies, which has successfully created a pipeline of over 1.4 million women leaders at the grassroots.
- **Nari Shakti Vandan Adhiniyam (128th Constitution Amendment Bill):** Seeks to reserve 33% of seats in the Lok Sabha and State Legislative Assemblies for women, though its implementation is linked to the post-census delimitation exercise.
- **Article 325 and 326:** Guarantee adult suffrage and non-discrimination in electoral rolls, ensuring women's formal right to participate as voters.

Important Terminological Definitions

- **Descriptive Representation:** The idea that elected bodies should "look like" the people they represent (e.g., having 33% women because they are half the population).
- **Winnability:** A political term used by parties to assess a candidate's likelihood of winning; it is often criticized as a gendered construct that favors male candidates with established muscle and money power.



- **Patriarchal Dominance:** A social system in which men hold primary power and predominate in roles of political leadership, moral authority, and control of property.

Conclusion

While the Women's Reservation Bill is a landmark step toward legislative parity, it cannot be a standalone solution. To move from "symbolic presence" to "substantive power," India must address the structural bottlenecks within households and political parties. True representation will emerge only when the political arena is de-masculinized and the socio-economic costs of participation for women are systematically reduced.

UPSC Relevance

- **GS Paper II (Polity & Governance):** Parliament and State Legislatures—structure, functioning, and conduct of business; mechanisms, laws, institutions, and Bodies constituted for the protection and betterment of vulnerable sections.
- **GS Paper I (Social Issues):** Role of women and women's organizations; effects of globalization on women; and social empowerment.
- **Essay/Ethics:** Discussion on "Equality of Opportunity" vs. "Equality of Outcome" and the ethical imperative of gender justice in a representative democracy.

9. Revamped PM Internship Scheme (PMIS): Bridging the Skill-Employment Gap

Definition: The Prime Minister's Internship Scheme (PMIS) is a flagship initiative designed to provide youth with exposure to real-world business environments in top Indian companies, enhancing their employability through hands-on experience and financial support.

- **Expansion of Eligibility:** The Ministry of Corporate Affairs has significantly broadened the scheme's scope in its third pilot phase, now allowing **final-year undergraduate (UG) and postgraduate (PG) students** to apply, ensuring students gain professional experience before entering the job market.
- **Enhanced Financial Support:** Interns will now receive a consolidated monthly stipend of **₹9,000**, up from previous slabs. The funding model is a public-private partnership where the **Government finances 90%** of the stipend, while the remaining 10% is contributed by the host company.
- **Corporate Participation:** The scheme targets the **Top 500 companies** (based on CSR spend) in India. These companies provide internships across diverse sectors, using their existing infrastructure to mentor the youth without utilizing their core CSR funds for the stipend portion.
- **Duration and Structure:** The internship typically spans **12 months**, providing a long-term engagement that goes beyond mere observation. At least half of the internship duration must involve actual "hands-on" work rather than just theoretical classroom training.
- **Skill Alignment:** The scheme is part of a broader government push to align the education system with the requirements of **Industry 4.0**. It focuses on sectors like manufacturing, banking, supply chain, and digital services to reduce the "employability gap" often cited by Indian industry leaders.





- **Inclusive Selection:** The portal uses a transparent, tech-driven selection process to ensure that candidates from diverse geographical and socio-economic backgrounds get equal access to India's premier corporate houses.

Key Constitutional and Legal Provisions

- **Article 41 (Directive Principles of State Policy):** Directs the State to ensure the "right to work" and "right to education" within the limits of its economic capacity. The PMIS acts as a functional extension of this principle.
- **Article 39(f):** Mandates the State to ensure that youth are protected against exploitation and are given opportunities to develop in a healthy manner, which includes economic self-reliance through skill-building.
- **The Companies Act, 2013 (Section 135):** While the stipend is government-backed, the scheme leverages the **Corporate Social Responsibility (CSR)** ecosystem. Companies can report the administrative costs of the internship under their CSR obligations.

Important Terminological Definitions

- **Stipend:** A fixed regular sum of money paid to a student or trainee to help cover basic costs, distinct from a salary as it is tied to a learning program.
- **Industry 4.0:** The ongoing automation of traditional manufacturing and industrial practices using modern smart technology like IoT, AI, and Big Data.
- **Employability Gap:** The difference between the skills a job seeker possesses and the skills an employer actually requires for a specific role.

Conclusion

The expansion of the PM Internship Scheme represents a strategic shift from passive education to active vocational immersion. By including final-year students and increasing the stipend, the government is lowering the barrier to entry for professional careers. If implemented effectively, this scheme could transform India's demographic dividend from a theoretical advantage into a practical economic powerhouse by creating a "job-ready" workforce.

UPSC Relevance

- **GS Paper III (Economy):** Issues relating to planning, mobilization of resources, growth, development, and employment. Specifically, the role of government schemes in tackling youth unemployment.
- **GS Paper II (Social Justice):** Human Resource Development and the role of the Ministry of Corporate Affairs in social engineering through skill initiatives.

10. IN-SLN DIVEX 2026: Strengthening Indo-Sri Lankan Maritime Synergies

Definition: DIVEX (Diving Exercise) is a specialized bilateral maritime engagement between the Indian Navy and the Sri Lankan Navy focused on underwater operations, salvage, and submarine rescue protocols to ensure safe and secure navigation in shared waters.

- **Bilateral Operational Drill:** The **fourth edition** of IN-SLN DIVEX 2026 is being conducted in Colombo from **April 21 to April 27, 2026**. This week-long exercise brings together elite diving units from both nations to undertake complex underwater tasks, enhancing interoperability and tactical cohesion.



- **Strategic Asset Deployment:** India has deployed **INS Nireekshak**, its premier Diving Support and Submarine Rescue Vessel (DSV). Built by Mazagon Dock Shipbuilders, the vessel is equipped with advanced saturation diving systems and a recompression chamber, making it a critical asset for deep-sea rescue and underwater inspection.
- **Humanitarian Outreach (Aarogya Maitri):** As a significant soft-power gesture, INS Nireekshak is handing over two **BHISM (Bharat Health Initiative for Sahyog Hita & Maitri) Cubes**. These are indigenously developed, state-of-the-art portable medical units capable of handling up to **200 emergency cases**, designed for rapid disaster response.
- **Defense Security Assistance:** To bolster the operational readiness of the Sri Lankan Navy, India is providing **50,000 rounds of 9 mm ammunition**. This highlights India's role as a primary security provider and a reliable partner in the Indian Ocean Region (IOR).
- **Alignment with Regional Visions:** The exercise operationalizes India's **MAHASAGAR (Mutual and Holistic Advancement for Security and Growth Across Regions)** and **SAGAR (Security and Growth for All in the Region)** policies, promoting collective maritime security and regional stability.
- **Soft Diplomacy and Camaraderie:** Beyond technical drills, the visit features social interactions, sports fixtures, and **joint yoga sessions**, aimed at fostering person-to-person bonds and "Goodwill Diplomacy" between the naval personnel of both neighbors.



Key Constitutional and Legal Provisions

- **Article 51 of the Constitution:** This Directive Principle mandates the State to promote international peace and security and maintain just and honorable relations between nations, which is reflected in these bilateral maritime exercises.
- **Section 3 of the United Nations Convention on the Law of the Sea (UNCLOS):** While a domestic naval drill, such exercises align with UNCLOS principles regarding the safety of navigation and international cooperation in maritime search and rescue.
- **Seventh Schedule (List I, Entry 2):** "Naval, military and air forces; any other armed forces of the Union" is a Union subject, granting the Central Government the exclusive authority to conduct such international military engagements.

Important Terminological Definitions

- **Saturation Diving:** A diving technique that allows divers to remain at pressure for long periods, enabling them to work at great depths without the risk of decompression sickness during every ascent.
- **Operational Turnaround (OTR):** A period where a ship docks at a foreign or friendly port for refueling, replenishing supplies, and minor maintenance while engaging in diplomatic and training activities.
- **BHISM Cubes:** Compact, modular medical kits developed under the 'Aarogya Maitri' project to provide life-saving medical aid in disaster-hit or remote areas.



Conclusion

The arrival of INS Nireekshak for DIVEX 2026 underscores the deepening of the "Neighborhood First" policy through practical defense cooperation. By sharing advanced diving expertise and providing humanitarian medical technology, India is cementing its position as the 'First Responder' in the Indian Ocean, ensuring that the maritime partnership with Sri Lanka evolves from simple surveillance to complex underwater strategic collaboration.

UPSC Relevance

- **GS Paper II (International Relations):** India and its neighborhood—relations; Regional and global groupings and agreements involving India and/or affecting India's interests.
- **GS Paper III (Security):** Role of external state and non-state actors in creating challenges to internal security; Security challenges and their management in border areas—maritime security.

11. The Ethics and Economics of Genetic Engineering: Adoption vs. Resistance

Definition: Genome Engineering is the deliberate laboratory-based modification of an organism's DNA to alter its characteristics. It is categorized into **Somatic Engineering** (non-heritable changes in body cells, widely accepted for therapy) and **Germ-line Engineering** (heritable changes in sperm/egg cells, largely prohibited due to ethical concerns).

- **The Acceptability Paradox:** Society demonstrates a stark dichotomy in biotechnology adoption. While **human gene therapies** for life-threatening diseases (e.g., cancer, sickle-cell) are welcomed due to clear individual benefits, **Genetically Modified (GM) crops** face intense resistance rooted in environmental, anti-monopoly, and safety apprehensions.
- **Biotechnology as a "Twin Horse" to AI:** Biotechnology is advancing at a pace comparable to Artificial Intelligence. However, unlike AI, which dominates public discourse, the "biotech chariot" lacks central societal debate. Without active policy steering, the direction of life-sciences innovation may be dictated by market forces rather than public value.
- **Synthetic Biology and Biologics:** Modern medicine increasingly relies on "engineered life," such as recombinant insulin and "biologics" (genetically engineered antibodies). Products like **Semaglutide** (synthetic yeast-grown GLP-1) demonstrate how synthetic biology provides superior efficacy over natural equivalents, yet these face far less social "lament" than modified foods.
- **Risks of "Regulatory Quicksand":** Over-regulation can lead to "regulatory quicksand," where excessive risk-aversion stifles original ideas and limits a nation to "reverse engineering" or low-value imitation. Conversely, under-regulation risks losing control over the technological "horses," potentially leading to unforeseen ecological or ethical crises.
- **Historical vs. Scientific Engineering:** Humanity has "engineered" life for 10,000 years through selective breeding (e.g., modern potatoes or wheat). The current scientific revolution differs only in **speed, intensity, and theory-driven precision**, moving from accidental adaptation to deliberate laboratory design.
- **The "Trofim Lysenko" Warning:** History shows that suppressing core scientific ideas due to ideological or political pressure (as seen in Soviet agriculture) can destroy a nation's capacity for





innovation for generations. True progress requires a balance between rigorous biosafety and an "enabling" framework that encourages daring ideas.

Key Constitutional and Legal Provisions

- **Article 51A(h) of the Constitution:** Fundamental Duty to "develop the scientific temper, humanism and the spirit of inquiry and reform," which supports the pursuit of biotechnological advancement.
- **Rules 1989 (under Environment Protection Act, 1986):** The primary legal framework governing the manufacture, use, import, export, and storage of Genetically Engineered Organisms or Cells in India.
- **BioE3 Policy (2026):** India's recent policy focusing on "Biotechnology for Economy, Environment and Employment," aimed at fostering high-performance biomanufacturing and synthetic biology.
- **The Biological Diversity (Amendment) Act, 2023:** Regulates access to biological resources and ensures fair and equitable benefit sharing, crucial for commercializing biotech innovations.

Important Terminological Definitions

- **Somatic Cells:** Body cells (skin, blood, organs) where genetic changes are **not** passed to offspring. Therapy here is viewed as a medical intervention.
- **Germ-line Cells:** Reproductive cells (sperm/eggs) where genetic changes **are** inherited by future generations. This is the "red line" of bioethics.
- **Recombinant DNA Technology:** The process of joining together DNA molecules from two different species to produce new genetic combinations.
- **Monoculture:** The agricultural practice of growing a single crop or variety in a field at a time, often criticized for reducing biodiversity.

Conclusion

The "chariot of the future" is pulled by the twin horses of fundamental and applied research. For a large country like India, avoiding biotechnology is not an option; the challenge lies in shifting from a "risk-averse" regulatory stance to a "wise regulation" model. Such a model must protect the environment and ethical boundaries while providing the "oxygen" needed for daring scientific ideas to flourish, moving India from a follower to a leader in the global "supply chain of ideas."

UPSC Relevance

- **GS Paper III (Science & Technology):** Developments and their applications and effects in everyday life; Achievements of Indians in science & technology; Indigenization of technology and developing new technology.
- **GS Paper II (Governance):** Regulatory bodies (GEAC, OGAI) and the impact of government policies on sectors like agriculture and healthcare.
- **Prelims Perspective:** Difference between Somatic and Germ-line therapy; the role of GEAC (statutory body under EPA 1986); and the significance of the BioE3 Policy.



12. Global Agrifood Systems Under Threat: The UN Extreme Heat Warning

Definition: Agrifood Systems encompass the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption, and disposal of food products that originate from agriculture, forestry, or fisheries.

- **Livestock and Productivity Loss:** Extreme heat triggers acute stress in livestock when the **Thermal Humidity Index** is breached. Dairy cattle experience a **15% to 25%** drop in milk production and significant fertility declines, while poultry faces mass mortality in non-climate-controlled environments.
- **Disruption of Plant Physiology:** High nighttime temperatures force crops to maintain high respiration rates, exhausting the energy stores gained via photosynthesis. This leads to stunted growth and **pollen sterility** in staples like rice and maize, particularly during the critical flowering window.
- **Marine and Aquatic Stress:** Marine heatwaves, which affected **91%** of the world's oceans in 2024, deplete oxygen levels and disrupt thermal niches for fish. This threatens the protein security of coastal communities and the viability of global fisheries.
- **Risk Multiplier Effect:** Extreme heat acts as a catalyst for other disasters, intensifying droughts, wildfires, and pest outbreaks. At 2°C of warming, the intensity of these events is expected to **double**, and every 1°C rise in average temperature can cut yields of major staples by approximately **6%**.
- **Labor and Livelihood Crisis:** Beyond biological impacts, heat dictates "if and when" farmers and fishers can work. It poses severe health risks to outdoor laborers, potentially displacing millions whose livelihoods depend on climate-sensitive agrifood sectors.
- **Need for Risk Governance:** The FAO and WMO emphasize that piecemeal efforts are insufficient. They advocate for robust early-warning systems and "risk governance" to enable preventive action, such as adjusting planting cycles or deploying heat-tolerant crop varieties.

Key Constitutional and Legal Provisions

- **Article 21 (Right to Life):** The Supreme Court has expanded this to include the right to food and a healthy environment, both of which are directly compromised by climate-induced food system failures.
- **Article 48A (Directive Principles):** Mandates the State to protect and improve the environment and safeguard the forests and wildlife of the country.
- **National Food Security Act (NFSA), 2013:** Provides a legal framework for food security in India. Breaches in the agrifood system due to heat stress pose a direct challenge to the statutory obligations under this Act.

Important Terminological Definitions

- **Thermal Humidity Index (THI):** A measure that combines air temperature and relative humidity to assess the total heat stress level on livestock.

Extreme heat threatening global agrifood systems, says UN report

The report said extreme heat acts as a "risk multiplier."

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- **Pollen Sterility:** A condition where high temperatures prevent the development of viable pollen, leading to crop failure even if the plant appears healthy.
- **Marine Heatwaves:** Periods of abnormally high ocean temperatures that persist for days to months and can span thousands of kilometers.

Conclusion

The FAO-WMO report underscores that extreme heat is no longer a peripheral weather event but a systemic threat to global stability. For a country like India, where agriculture employs nearly half the workforce, heat-induced yield gaps and livestock stress can lead to cascading effects on inflation, rural poverty, and nutritional security. Transitioning to "heat-resilient" agriculture through technology and policy is now a survival imperative rather than a choice.

UPSC Relevance

- **GS Paper III (Environment & Economy):** Environmental pollution and degradation; Impact of climate change on Indian agriculture; Food security and buffer stocks.
- **GS Paper I (Geography):** Changes in critical geographical features; Impact of global warming on flora and fauna.
- **Prelims Perspective:** Identifying the roles of FAO and WMO; understanding THI; and specific yield reduction statistics (6% per 1°C) cited by UN agencies