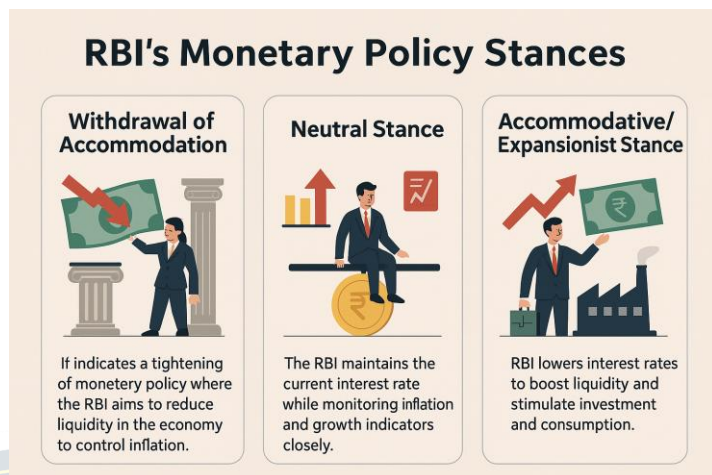# Today's Prelims Topics

Repo Rate

Context

Recently the Monetary Policy Committee (MPC) of RBI has decided to cut the repo rate by 25 basis points to 6%.

About Repo Rate

- **Repo Rate :** It is the rate at which RBI lends money to commercial banks.
- **Reverse Repo Rate:** It is the Interest paid by RBI to commercial banks when they park their excess cash with the central bank.
- **Impact of Repo Rate on Economy:**
  - **Decrease in Repo Rate:** Stimulates economic activity.
  - **Increase in Repo Rate:** Helps in controlling inflation.

RBI's Monetary Policy Stances

Withdrawal of Accommodation

If indicates a tightening of monetary policy where the RBI aims to reduce liquidity in the economy to control inflation.

Neutral Stance

The RBI maintains the current interest rate while monitoring inflation and growth indicators closely.

Accommodative/ Expansionist Stance

RBI lowers interest rates to boost liquidity and stimulate investment and consumption.

Monetary Policy Committee

- MPC was constituted in **2016 as a statutory body under the RBI Act** to formulate monetary policy in India **(on recommendation of Urjit Patel committee)**

- Composition **(Chairperson + 5 Members):** Quorum: 4 members.
  - RBI Governor - ex-officio chairperson
  - RBI Deputy Governor + 1 more member from RBI to be nominated by the Central Board of Directors.
  - 3 other members are appointed by the Central Government.

- Members of MPC hold office for a period of **4 years** and are **not eligible for re-appointment.**

- MPC is required to **meet at least four times in a year.**

- MPC takes decisions based on **majority vote** (by those who are present and voting. In case of a tie, the **RBI governor will have the second or casting vote.**

- **The decision of the committee is binding on the RBI.**

UPSC PYQ

Q. If the RBI decides to adopt an expansionist monetary policy, which of the following it would not do? **(2020)**

1. Cut and optimise the Statutory Liquidity Ratio
2. Increase the Marginal Standing Facility Rate
3. Cut the Bank Rate and Repo Rate

Select the correct answer using the code given below:

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

Answer: B

Source:

● **Indian Express - Repo Rate**

Rafale-M Jets

Context

The Cabinet Committee on Security (CCS), has approved a ₹63,000 crore deal with France for the purchase of **26** Rafale-M (Marine) fighter jets for the Indian Navy.

About Rafale-M Fighter Jets

- It is the naval variant of the Rafale multi-role fighter jet developed by Dassault Aviation (France). It is designed specifically for aircraft carrier operations.
- **Key Features of Rafale-M:**
    - **Tail hook** for arrested landings on aircraft carriers.
    - Strengthened landing gear for **ski-jump** or catapult launches.
    - **Folding wings** for compact storage on carriers.
    - It is equipped with Advanced avionics, radar and electronic warfare systems.
    - It can perform air-to-air, air-to-ground, reconnaissance and nuclear strike missions.
- These jets are to be deployed on **INS Vikramaditya** and **INS Vikrant** (India's two aircraft carriers).
    - Both carriers use **ski-jump launch systems** (STOBAR – Short Take-Off But Arrested Recovery).
- The Indian Navy currently uses **MiG-29K** fighters on both its aircraft carriers.
- Rafale is a **4.5 generation aircraft** with maximum speed **1.8 Mach** (1 Mach=1235km/hr). **(Asked in UPSC Prelims -2024).**

Cabinet Committee on Security (CCS)
- **Headed by:** Prime Minister.
- **Members:** Ministers of Defence, Home Affairs, Finance and External Affairs.
- **Functions:**
    - It makes all the important decisions on defence policy and expenditure.
    - It is the apex body regarding appointments of the officials in the national security bodies.
    - Deals with all issues related to the law and order and national security of India.

Source:
- **The Hindu - Rafale-M jets**

Carbon Emissions From Wildfires

Context
Wildfires across the world released **large quantities of carbon into the atmosphere**.

More in News
- According to the European Union's Copernicus Atmosphere Monitoring Service (CAMS), **wildfires** released approximately **800,000 tonnes of carbon** into the atmosphere in **January 2025 alone**.
  - This is **4x higher** than carbon emissions from wildfires **a decade ago.**
- Also, **Forest fires in India** emit approximately **69 million tonnes of CO_2 annually.**

Carbon Emissions from Wildfires
- The burning of forests, peatlands, and grasslands contributes to **significant atmospheric carbon levels**.
- Forests typically act as **carbon sinks**, absorbing CO_2.
- When they burn, they **release stored carbon** and **lose their carbon absorption capacity** for years or decades.
- **Implications:**
  - Contributes to **global warming** as they burn through the **natural carbon reservoirs** that have historically helped **regulate the earth's climate**.
  - Increases **public health risks** due to smoke and particulate matter.
  - Affects **biodiversity** and soil quality.

Feedback Loop Threat (Presented in NOAA's 2024 Arctic Report Card)
- **Wildfires → Carbon release → Global warming → More fires→ Further carbon release → Stronger feedback loop.**

Hotspots for Wildfires in India
- **In India:** As per **India State of Forest Report 2023**, **Uttarakhand** (alone witnessed 5,315 forest fires), **Odisha**, and **Chhattisgarh** reported the highest number of forest fires during the year.
  - The report also noted a **declining trend** in the number of fire hotspots across the country — from 2.23 lakh in 2021–22 to **2.12 lakh in 2022–23, and further down to 2.03 lakh in 2023–24.**


Fact
- **Van Agni Geo-portal** of Forest Survey of India acts as a **single point of information on forest fire.**


Arctic Boreal Zone Reversing Trend
- According to a **2024 study published in** *Nature Climate Change*:

- ○ **Over 30% of the ABZ has shifted** from absorbing carbon to **releasing it**, primarily due to **increasingly frequent and intense wildfires**.
  - ○ Researchers tracked carbon patterns across 200 sites (1990–2020), noting that while the ABZ remained a net sink from 2001–2020, one-third of the region has now become a **net source of CO₂**.
- This reversal is **driven by**:
  - ○ **Wildfires**: Events like the *Eastern Siberia fires (2003)* and *Timmins wildfire (Canada, 2012)* released more carbon than the ABZ could absorb.
  - ○ **Thawing permafrost**: Warming temperatures lead to soil drying, vegetation changes, and the **decomposition of organic matter**, releasing stored carbon.
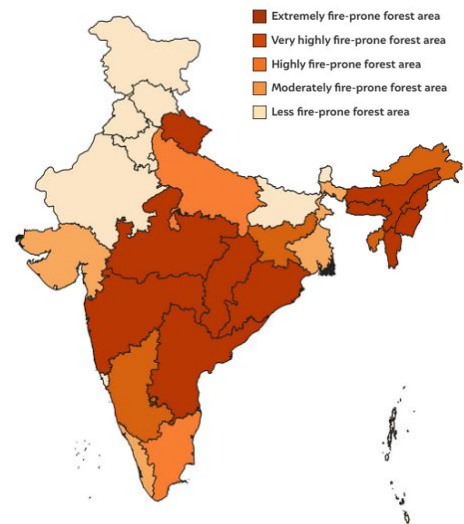
Source: The Hindu: As wildfires scorch the earth, the Arctic biome rejects more carbon
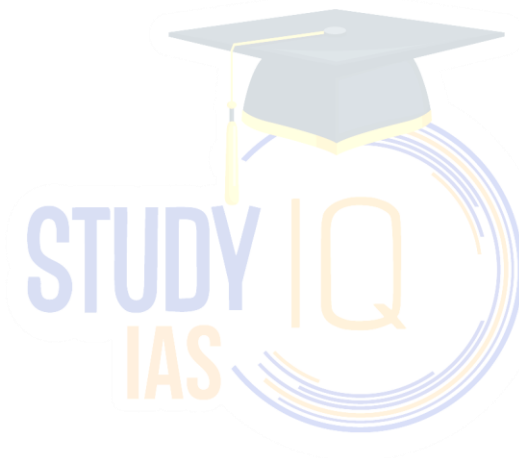
Nilgiri Tahr

- Kerala and Tamil Nadu have decided to carry out a joint population survey for Nilgiri Tahr.

About Nilgiri Tahr

- It is a mountain goat **endemic** to the Western Ghats of India. It is locally known as **"Varayadu"** in Tamil and Malayalam.
- It is the **only mountain ungulate** in southern India amongst the 12 species present in India.
  - **Ungulate:** A herbivorous hoofed mammal. E.g. cow, sheep, horse.
- It is also the **state animal of Tamil Nadu.**
- **Habitat:** Prefers **montane grasslands (Shola-grassland ecosystem)** at elevations of **1,200–2,600 meters**.
- **Eravikulam National Park** has the highest density and largest surviving population of Nilgiri tahr.
- A grown up male of Nilgi Tahr is known as **Saddle Back. (**Due to light colored patch on their back)
- **Horn Rings:** Its age is determined by counting the growth rings on its horns, which form annually, similar to tree rings.
- **Conservation Status:**
  - IUCN - Endangered
  - WPA, 1972 - Schedule 1
  - CITES - Appendix 1

Source:
- **The Hindu - Nilgiri Tahr**

Project ICE-CRUNCH

- **ICE-CRUNCH stands for:** Ice nucleating particles and Cloud Condensation Nuclei properties in the North-Western Himalayas.
- It is a collaborative **project between India & Switzerland** to study microphysical processes in clouds — particularly focusing on ice nucleating particles (INPs) and cloud condensation nuclei (CCN) — in the north-western Himalayas.
- **INPs** and **CCN** play a crucial role in **cloud microphysics** — they affect how clouds form, grow, and lead to precipitation.
- It will operate from the newly inaugurated **Himalayan High Altitude Atmospheric and Climate Research Centre**, Nathatop, Jammu & Kashmir.

Source:
- **PIB - ICE CRUNCH**

Chittorgarh Fort

- Rajasthan Govt. is considering a complete mining ban within 10 km of Chittorgarh Fort.

About Chittorgarh Fort

- It is located in Chittorgarh city, Rajasthan. It is one of India's **largest** forts.
- It was built by **local Mori Rajput ruler - Chitrangada Mori in 7th century A.D.**

- It was captured by the **Mewar rulers in 728 CE.** It later served as their **capital.**
- It has witnessed numerous sieges and battles, including those against **Alauddin Khilji (1303), Bahadur Shah (1533) and Akbar (1567-1568).**
- The fort is associated with the legendary figure of Rani Padmini and the concept of Jauhar.
- It was declared a **UNESCO World Heritage Site in 2013.**
- **Notable monuments inside:**
  ○ Vijay Stambh (Tower of Victory).
  ○ Kirti Stambh (Tower of Fame)

Source:
- **Indian Express - Chittorgarh Fort**

Soyuz Aircraft

- Recently Soyuz spacecraft safely delivered an American astronaut and two Russian cosmonauts to the International Space Station (ISS).

About Soyuz Aircraft
- It is a **Russian spacecraft** that has been used since the **1960s** to transport astronauts and cosmonauts to and from space.
- The Soyuz programme is the longest operational human spacecraft programme in the history of space exploration.
  ○ Its first crewed flight into space was on 23 April 1967.
- It can carry up to **three** astronauts.
- It is made up of **3 modules: Orbital Module, Service Module & Descent Module.**

Source:
- **NASA - Soyuz**

Biomass Satellite

- **Biomass** is a **European Space Agency (ESA)** Earth observation satellite.
- **It is the first satellite to carry a P-band radar**, a long-wavelength radar that penetrates deep into forest canopies.
- **Key Objectives of the Biomass Mission:**
  ○ Estimate Above-Ground Forest Biomass.
  ○ Provide **detailed 3D forest structure maps**.
  ○ Understand forest role in **carbon storage.**
  ○ Improve **climate change predictions** using accurate biomass data.

Source:
- **BBC - Biomass Satellite**

Slovakia

- Recently the President of India visited Slovakia.

About Slovakia
- **Location:** It is a landlocked country of central Europe.
- **Bordering Countries:** Poland, Ukraine, Hungary, Austria, and Czech Republic.
- Slovakia is a member of the **European Union & NATO.**
- It was part of **Czechoslovakia** until the **"velvet divorce" in January 1993.**
- **Topography:** Its northern part is dominated by the Carpathian Mountains. **(Highest Peak - High Tatras)**
- **Major Rivers:** Danube, Vah & Morava.

Source:
- **PIB - Slovakia**
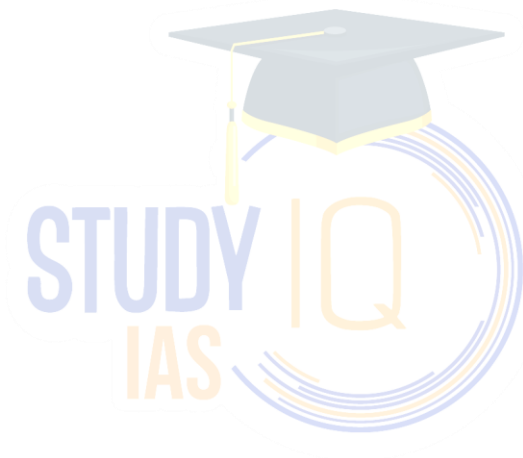
Editorial Summary

Understanding India's China conundrum

Context

Under Xi Jinping, China has increasingly shifted from Deng Xiaoping's pragmatic approach to assertive nationalism.

More in News

- Under his leadership, China is aiming to **restore Qing-era frontiers** which is **fueling tensions**, especially **along its borders like the Himalayas**.
- The border skirmishes with India in **Depsang (2013), Demchok (2016), Doklam (2017), and Galwan (2020)** serve to confirm this hypothesis.

Recent Developments In India- China Relations

- **De-escalation began towards the end of 2024**, with operations easing at several friction points along the LAC.
- Formal statements of progress came just before the **BRICS Summit in Kazan, Russia (October 2024)**.
- A tentative **India-China Border Patrolling Agreement** was introduced — though lacking full details, it indicated an intent to manage on-ground tensions.
- Talks are underway to **revive the Special Representatives (SR) Dialogue**, a high-level mechanism for resolving boundary issues.

Current Challenges In India-China Relation

- **Disengagement ≠ De-escalation:** While diplomatic overtures and **border patrolling agreements** suggest a thaw, the **realities on the ground remain tense**:
    - China continues to **station over 1 lakh troops in Ladakh**, backed by tanks, howitzers, and missile systems.
    - No full-scale de-escalation or troop pullback has occurred across the LAC.
- **China's Growing Military Superiority:** China **raised its defence budget by 7.2%** in March 2025 — almost **three times India's**.

- ○ China has advanced in AI-driven warfare, cyber capabilities, quantum technology, and nuclear weaponry (100+ new warheads per SIPRI).
- **Strategic Encroachment in India's Neighbourhood:** China is **gaining strategic ground in South Asia**:
  - ○ **Bangladesh's tilt toward Beijing** after the new leadership.
  - ○ **Inroads in West Asia & North Africa**, particularly in nuclear energy and infrastructure.
- **Energy Security and Africa:** China is **ahead in securing nuclear energy resources**, especially in **Africa**, while India lags behind.
  - ○ This has implications for **long-term strategic influence** and energy independence.
- **Global Power Flux & Unpredictable Alliances:** With the **global order becoming more fluid** because of **"rules-based international order" is weakening**, and **hard power is taking precedence**.,
  - ○ India must be cautious of potential diplomatic shifts, such as a possible U.S.-China rapprochement, which **could leave India diplomatically isolated.**

Recommendations for India
- **Increase Defense Spending and Modernization**: At least **2.5–3% of GDP**.
  - ○ Prioritize defense infrastructure along the LAC, including **mountain warfare capabilities**, **AI-driven intelligence gathering**, and **cyber-defense** measures.
  - ○ Collaborate with private defense firms and startups to enhance indigenous military technology.
- **Strengthen Border Vigilance**: Implement the **Border Patrolling Agreement** with transparent and verifiable protocols.
  - ○ Regularly conduct joint military exercises with strategic allies to maintain operational readiness.
- **Re-engage Neighbours**: Increase diplomatic engagement and offer strategic partnerships focusing on **infrastructure, energy, and technology** to countries like **Bangladesh**, **Nepal**, and **Sri Lanka**.
  - ○ India should also offer development assistance and ensure its influence remains central in the region.
- **Energy Security – Nuclear and Non-Nuclear**: Fast-track **nuclear energy expansion**, ensuring India secures **uranium supplies** from Africa and Central Asia.
  - ○ Emphasize **Small Modular Reactors (SMRs)** for decentralized energy production, especially in remote areas.
  - ○ Ensure that India's nuclear energy capabilities are competitive with China's growing lead in the sector.
- **Prepare for Global Geopolitical Shifts**: Safeguard India's interests amidst evolving global alignments.
  - ○ Maintain strong ties with **Quad members** (U.S., Japan, Australia) and ensure **diplomatic flexibility** in case of a U.S.-China détente.
  - ○ Strengthen India's **strategic autonomy** by expanding defense, trade, and technology partnerships with countries outside of China's influence.
- **Technology and Cyber Defense**: Close the technological gap with China in key areas.
  - ○ Increase investment in **AI, quantum technology, and cyber capabilities**.
  - ○ Establish a **military-tech innovation hub** to foster cutting-edge research in **cybersecurity**, **AI-enabled defense systems**, and **real-time data analytics**.

Source: The Hindu: Understanding India's China conundrum

India must improve research infrastructure to serve its students

Context
There is a **declining trend** in the number of students, particularly **Indian students, going to the U.S. for higher education.**

Recent Trends in Students Going Abroad for Studies
- **Decline in U.S. Popularity**: The U.S. is becoming less attractive due to:
  ○ Visa revocations tied to foreign policy protests.
  ○ Cancellation of programs like **Optional Practical Training (OPT)**.
  ○ Increasing xenophobia and tightening immigration policies, especially during and after the Trump era.
  ○ Defunding of research and pressures on universities, reducing academic freedom.
- **Rising Interest in Europe**:Countries like **Germany** are gaining popularity due to:
  ○ Lower tuition fees.
  ○ More flexible work-study options.
  ○ Welcoming policies toward foreign students and researchers.
- **Return to India**: Some Indian professionals and researchers are coming back, driven by a desire to contribute to the homeland.
  ○ However, **systemic challenges in India** often discourage them from staying or thriving.

Systemic Challenges in India
- **Bureaucracy & Red Tape:** Navigating administrative processes in academia, government, and industry is often **slow and inefficient**.
  ○ Delays in project approvals, grant disbursements, and institutional permissions can stall research and innovation.
- **Lack of Merit-Based Systems: Nepotism and favoritism** often outweigh merit in hiring, promotions, and funding.
  ○ Talented individuals may find it hard to progress unless they have the right connections.
- **Poor Research Ecosystem: Limited access to funding**, modern laboratories, and academic resources compared to Western countries.
  ○ Many institutions are **teaching-centric**, with little emphasis on cutting-edge research or innovation.
- **Rigid Institutional Hierarchies:** Indian academic institutions often follow a **strict seniority system**.
  ○ Young researchers or faculty members may find it hard to challenge outdated practices or propose bold new ideas.
- **Inadequate Collaboration Culture:** There is a **lack of collaboration** across disciplines or institutions.
  ○ Silos and competitiveness over cooperation can limit the impact of research efforts.
- **Social Constraints & Work Culture:** A **conservative work environment**, gender bias, and outdated norms can be jarring for returnees used to a liberal, inclusive atmosphere abroad.
  ○ Workplaces may not always encourage **independent thinking or dissent**.
- **Limited Industry-Academia Interface:** Collaboration between **universities and industries** is weak, which limits practical applications of research.
  ○ The startup and innovation ecosystem, while growing, is still developing compared to global standards.
- **Urban Infrastructure and Quality of Life: Traffic, pollution, power outages**, and unreliable public services in many cities impact quality of life.
  ○ These factors can make daily life frustrating, especially for those accustomed to more efficient systems abroad.

- **Academic Freedom & Political Interference:** Increasing concerns over **freedom of speech, censorship, and ideological control** in academic spaces.
  - Scholars may feel restricted in what they can research or teach.

How India Can Improve Its Stance for Students and Researchers

- **Boost Research Funding**: The government needs to **increase investment in research**, both directly and by incentivizing private institutions.
  - Establish grant systems and fellowships comparable to those in top global universities.
- **Strengthen Academic Collaboration**: Encourage **interdisciplinary work** and **collaboration across institutions**.
  - Create platforms and incentives for joint research and innovation.
- **Tackle Social and Institutional Rigidities**: Reform the **hierarchical and bureaucratic** academic structure.
  - Encourage **meritocracy, openness, and innovation**.
- **Protect Academic Freedom**: Ensure **freedom of thought and expression** in academic institutions.
  - Distance educational governance from political influence.
- **Support Student Mobility and Exchange**:Expand scholarship programs for Indian students going abroad and incentivize them to return.
  - Create **joint degree programs** with international universities.
- **Improve Infrastructure and Facilities**: Upgrade labs, libraries, and other research infrastructure to global standards.
  - Digitize learning environments and integrate modern teaching tools.
- **Rebrand India as a Knowledge Hub**: Promote Indian universities globally.
  - Invite foreign students and faculty through open and fair visa policies — reversing the "Trumpian" trend.

Source: The Hindu: Home and abroad

Recent SC Ruling On Governor's Assent Power

Context

The Supreme Court has delivered a strong judgment against Tamil Nadu Governor R.N. Ravi for inaction on 10 Bills passed by the Tamil Nadu State Legislature.

Challenges Associated with Governors

- **Partisan Behaviour**: Governors appointed by the central government have often interfered with the functioning of elected state governments, making them non-functional.
  - This is particularly evident when governors belong to the ruling party at the Centre and the state government is led by an opposition party.
  - This includes delays in giving assent to bills, meddling in the appointment of vice-chancellors, and involvement in the legislative processes, which are typically the domain of elected representatives.
- **Conflict with State Governments:** Governors have interfered in state matters by withholding or delaying assent to bills passed by state legislatures, summoning or proroguing assemblies arbitrarily, and editing customary addresses.
  - Recent examples include the Tamil Nadu governor withholding assent to bills for months and referring them for presidential reconsideration, which was deemed arbitrary and unconstitutional.
- **Lack of Security of Tenure:** Governors can be removed at the **discretion of the central government**, leading to a lack of independence.
  - This lack of security makes them susceptible to acting in favor of the Centre.
- **Discretionary Powers Misused:** Governors have been accused of misusing their discretionary powers under Article 200 (assent to bills) and Article 163 (aid and advice of the council of ministers).
  - Absolute discretion often leads to arbitrary decisions that undermine federalism.
- **Appointment Process:** Despite recommendations from bodies like the Sarkaria Commission, governors are often appointed without consulting state chief ministers or other stakeholders, leading to questions about their impartiality.

Supreme Court Stances

- The Supreme Court ruled that governor**s do not have absolute discretion under Article 200** regarding assent to bills.
  - It laid down **strict timelines** for governors to either assent, return for reconsideration, or reserve a bill for presidential assent.
  - The Court deemed all pending bills as **assented** if they were delayed arbitrarily by the governor, emphasizing that such delays are unconstitutional.
- **Reaffirmation of Constitutional Duties:** The Court highlighted that under **Article 159**, governors are obligated to **preserve, protect, and defend** the Constitution.
  - It criticized instances where governors acted in bad faith or delayed decisions for political reasons.
- **Federalism and Democracy**: The judgment emphasized that **elected representatives** should have **more authority than nominated governor**s in a federal system.
  - It upheld the principle that states should be **free to legislate on subjects under their exclusive jurisdiction** (7th Schedule).
- **Historical Precedents:** In *Raghukul Tilak v. State of Gujarat (1979)*, the Court held that governors are **not employees of the Centre** but hold high constitutional office.
  - The recent judgment builds on this precedent by curbing arbitrary actions by governors.

Implications

● **Strengthening Federalism**: The ruling reinforces federal principles by limiting governors' discretionary powers and ensuring they do not act as extensions of the central government.

● **Timely Legislative Processes:** By imposing strict timelines for assent or reconsideration of bills, legislative processes will become more efficient and less prone to political manipulation.

● **Curtailing Arbitrary Actions:** The judgment sets a precedent against arbitrary delays or misuse of discretionary powers by governors, ensuring they act within constitutional boundaries.

● **Increased Accountability:** Governors will now be held accountable for delays or actions that are not bona fide, reducing instances of partisan behavior.

● **Reforms in Appointment Process:** While not directly addressed in this judgment, the ruling may reignite discussions on reforming the process of appointing governors to ensure impartiality and independence.

● **Impact on Centre-State Relations:** The judgment could lead to a recalibration of Centre-state relations by reducing the scope for interference by centrally appointed governors in state matters.

Source: Indian Express: Raj Bhavan Boundaries