UPSC Daily Current Affairs| Prelimbits 23-06-2025

AC Control Bill, 2025

Why in News?

Union Ministry of Power has plans to restrict the temperature range of new air conditioners in homes, hotels and cars.

- **Short title -** This Act may be called the Ease of Cooling (Regulation and Control) Act, 2025.
- **Extent -** It extends to the ***whole of a residential property's*** super built-up area, and area encroached using flower pots.
- **Commencement -** It shall come into force on such date as any air-conditioner (AC) is appointed to serve in a residence.
- **Definitions**
  - **'Individual resident'** – It means any government-approved ID proof such as Aadhaar card, voter ID, or PAN, preferably linked to a carbon-based life form.
  - '**Permissible Temperature Range' (PTR)** - Means ***20-28 degrees Celsius.***
  - '**Temperature Rakshak Sangh' (TRAKS) -** Means any volunteer group of vigilantes equipped with government-issued thermal scanners.
- **Aim -** To promote a climate-friendly approach to perspiration management and put more money in the hands of citizens by reducing their electricity bills.
- **Mandatory provisions -** All AC manufacturers and retailers shall ensure that:
  - Temperature controls are configured to prevent manual settings outside the PTR.
  - Customers complete Know Your AC (KYAC) formalities before taking possession of the AC.
- Individual residents, at the time of AC installation, must download ***DigiTapMan app*** and create an account using Aadhaar.
- **Enforcement and penalties -** Any TRAKS vigilante can enter any house, including the bedrooms, bathrooms, kitchen, and the utility area that has

no utility except as a potty zone for pigeons, to inspect the ambient temperature and the cooling devices installed.
- TRAKS vigilantes are authorised to enter an AC-enabled home at any time of the day or night, and
    - If they find either that the AC settings have been tampered with, or the ambient temperature is outside the PTR, or if the residents are found to be not sweating at all, then they shall:
    - Seize all non-compliant equipment.
- Have the option to seek voluntary donation to a political party of their choice, in exchange for letting the offender go scot-free.
- **Appeals -** Individual residents aggrieved by an order passed under this Act may prefer an appeal before an Appellate Authority as may be notified by the Central Government.

Reference

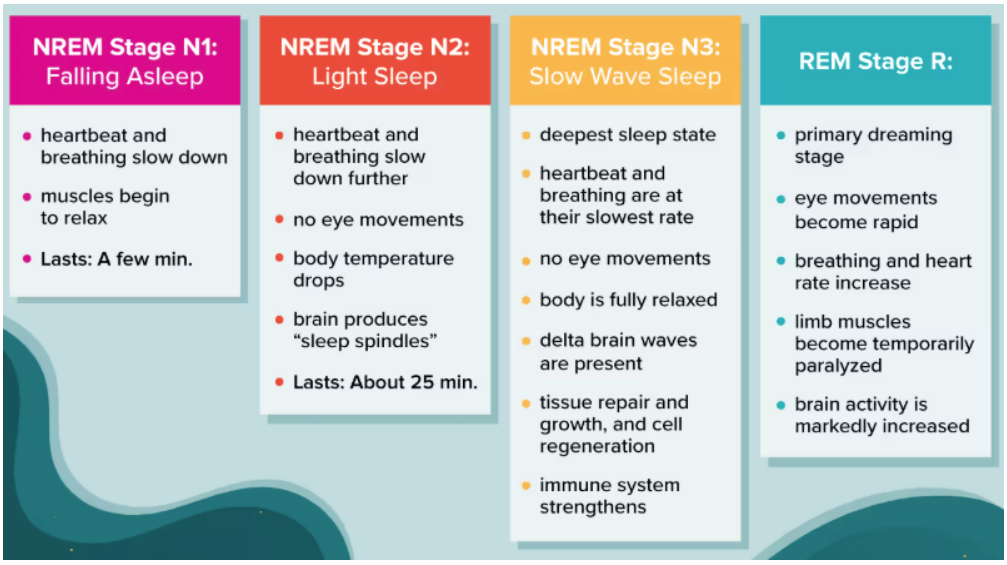
The Hindu | AC Control Bill, 2025

Hypnic Jerks

Why in news?

A recent study estimated that 80% or more people experience hypnic jerks at some point in life.

- **Hypnic Jerks** – They are **involuntary muscle twitches or spasms** that occur as a person transition from wakefulness to sleep.
- They are not a medical disorder but a normal physiological response.
- **Occurrence** – Most commonly during the first or second stage of sleep.
- The brain interprets the body's muscle relaxation as a sign of falling, triggering a sudden contraction.

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- **Prevalence** – Their frequency and intensity can vary from person to person and more than 80% experience it.
- **Evolutionary origins** – Theories suggests that hypnic jerks are evolutionary leftovers.
- Which means our ancestors who slept on trees may have benefited from these spasms as a safety check against falling.
- **Body-Brain disconnect theory** – During sleep transition, the brain slows down while muscles relax.
- Sometimes, mixed signals from the brain lead to muscle twitching as a false alarm.
- **Common triggers** – Stress and anxiety are significant contributors.
- Caffeine, sleep deprivation, and intense physical activity close to bedtime can also trigger jerks.
- **Typical sensation experienced** – Often feels like falling, tripping, or jerking awake suddenly.
- It can be accompanied by vivid dream-like imagery, like falling off a cliff or stumbling.
- **Implications** – No, hypnic jerks are harmless and normal.
- However, frequent or intense jerks might disrupt sleep quality or cause sleep anxiety in some individuals.
- **Management** – Stress management through meditation, yoga, deep breathing and avoid caffeine late in the day.
- **Sleep hygiene –** Maintain a regular sleep schedule and limit screen time before bed.

Reference

The Hindu| Hypnic Jerks

Management of Agricultural Residues

Why in news?

Recently, CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad has developed a method to convert crop residue into nutrient-rich cattle fodder.

- **Crop residue burning –** India faces a major challenge with agricultural residue, especially paddy straw and wheat husk, often burned by farmers.
- **Contribution to pollution -** This contributes significantly to air pollution and greenhouse gas emissions.
- **Ecofriendly Cattle Fodder** – Over the past few years, scientists at the premier institute have been working on converting rice straw and other crop residue into nutrient rich fodder for the livestock.
- Scientists have now shown that rice straw when treated with a relatively simple chemical process could effectively help bridge the gap in the country's fodder needs.
- **Delignification** – The process involves removing lignin (a complex polymer in plant cells) using a simple chemical method.
- Treated rice straw becomes more palatable and digestible for cattle.
- **Field trials and results** – The fortified fodder was tested at ICAR-National Research Centre on Meat, Hyderabad.
- Buffalo calves and sheep showed better food intake, digestion, and up to 3.7 times higher weight gain.
- Methane emissions dropped, making it climate-friendly.
- **Testing in dairy cattle** – The field trials of the fortified fodder showed "remarkable" improvements in digestibility of buffaloes as palatability (acceptability of a food) increased from 20% to 60%.
- It is also a cost-effective and sustainable cattle nutrition.
- **Compressed Biogas (CBG) from crop residue** – CSIR-IICT also developed a ***Dry Anaerobic Digester*** with Unique Hydrodynamics (DAD-UH) to produce CBG and Fermented Organic Manure (FOM) from rice husk/straw.

An anaerobic digester is a system that uses microorganisms to break down organic matter in the absence of oxygen, producing biogas (a renewable energy source) and digestate (rich in nutrients).

- From 1 tonne of biomass, about 100–140 kg of CBG can be generated.
- **Viable business model** – Under the Centre's SATAT (Sustainable

Alternative Towards Affordable Transportation) programme, 2-tonne CBG plants can be established.

'*SATAT*' *scheme on CBG encourages entrepreneurs to set up CBG plants, produce & supply CBG to Oil Marketing Companies (OMCs) for sale.*

- It ensures market linkage and guaranteed purchase.
- **Government support and industrial application** – Telangana's Agriculture Secretary supports the model for setting up Agri-based CBG plants on government land which aims to prevent stubble burning and promote Agri-industrial development.
- **Economic benefits for farmers** – The process helps address fodder shortages and reduces feed costs.
- Farmers become direct beneficiaries by increasing income through better livestock productivity.
- **Circular economy & environmental sustainability** - "Waste to value" concept: residue becomes fodder, gas, and manure.
- It promotes eco-friendly farming, supports clean energy goals, and strengthens the rural bioeconomy.

Reference

The Hindu| How Crop Residue Can Provide Nutritious Cattle Fodder

Gender Based Antibiotic Resistance

Why in news?

A recent study conducted by researchers at the University of Turku, Finland, analysed 14,600+ gut genomes and gave insights into how gender affects antibiotic resistance.

- **Antibiotic Resistance** – Antibiotic resistance occurs when bacteria evolve to survive antibiotics that would normally kill them.
- It is a major global health challenge, projected to cause over 39 million deaths in the next 25 years.

Key Findings

- **Gender differences** – The study found that antibiotic resistance trends

differ by gender, particularly in adulthood.
- These differences may arise due to lifestyle, biological, or healthcare-related factors.
- **HIC vs. LMIC Trends** – In High-Income Countries (HICs): Women had more antibiotic resistance genes (ARGs).
- In Low- and Middle-Income Countries (LMICs): Men had more ARGs.
- **Higher ARG load in women (HICs)** – On average, women in HICs had a 9% higher ARG load than men.
- They also showed slightly more diversity in resistant genes in the gut microbiome.
- **Possible reasons for gender disparity** – Women may be more exposed to antibiotics, resistant bacteria, or are frequent carriers of such bacteria.
- Differences may also stem from healthcare-seeking behaviour, biological makeup, or microbiome composition.
- **Effect on age** – The number and diversity of ARGs were highest in infants and the elderly.
- **Role of Antibiotic usage** – High antibiotic usage was directly associated with higher resistance gene load and greater diversity.
- This was especially noticeable in regions with poor hygiene and sanitation.
- **Importance of the study** – Highlights the need for gender-sensitive public health interventions.
- Helps design equitable antibiotic policies and personalized treatments for different populations.
- It aligns with global efforts to tackle antibiotic resistance through precision health strategies.

Reference

The Hindu| Gender Based Antibiotic Resistance

Razor Blade Variant

Why in News?

The variant NB.1.8.1 (Nimbus) is under the spotlight due to its unique 'razor blade' throat symptom and increasing global spread.

- **Razor Blade variant** – The variant is officially named NB.1.8.1, which is a descendant of the Omicron variant.
- The term "razor blade" comes from patients reporting an extremely

painful sore throat, like “swallowing a razor blade.”

- **WHO classification** – On May 23, 2025, the World Health Organization (WHO) listed NB.1.8.1 as a Variant Under Monitoring (VUM).

A Variant Under Monitoring (VUM) is a term used to signal to public health authorities that a variant may require prioritized attention, monitoring and investigate if this variant may pose an additional threat to global public health.

- Existing COVID-19 vaccines are expected to remain effective against this variant for symptomatic and severe disease.
- **Symptoms** – Similar to other Covid variants,
  - Fever
  - Severe sore throat (razor-blade-like)
  - Cough
  - Runny nose
  - Tiredness
- **Current Global spread** – NB.1.8.1 is increasing in proportion globally, while other variants like LP.8.1 are declining.
- It has shown higher transmissibility due to **spike protein mutations**.
- **India’s situation** – As of May 2025, 1 case of NB.1.8.1 was detected in Tamil Nadu and 4 cases of LF.7 were found in Gujarat.
- However, the dominant variant remains JN.1, comprising 53% of samples.
- A newer recombinant variant, XFG (Originated from two variants LF.7 + LP.81.2), has emerged since May 2025.
- **Surveillance & genome sequencing** – Genomic studies attribute recent surges to evolving Omicron sub-lineages.
- **Severity and hospitalizations** – So far, there is no evidence that NB.1.8.1 causes more severe disease than other circulating variants.
- Hospitalizations have increased in some countries, but not dramatically.
- **Expert view in India** – Indian doctors say COVID-19 is co-circulating with other seasonal infections and can expect spikes and dips, but no massive waves like in 2021.
- **Recommended safety measures**
  - Hand hygiene
  - Avoiding crowded places
  - Wearing masks, especially in vulnerable populations
  - Vaccination boosters as per national advisories
- **Public health measures recommended –** Continued emphasis on personal hygiene, masking in crowded areas, hand washing, and protecting the vulnerable population.
- The government advises vigilance but not panic, as health systems are

better prepared.

Reference

The Hindu| Razor Blade Covid Variant

History, Art and Culture

Yoga Sangam 2025: A Nationwide Celebration

Ministry of Ayush's Yoga Sangam 2025 will transform the 11th International Day of Yoga into a massive, synchronized health festival.

• **Unprecedented Scale -** Over one lakh locations across India, from schools to remote villages, will participate simultaneously, engaging millions.

• **"Unity through Breath" -** The theme emphasizes synchronized breathing for collective consciousness and national unity.

• **Inclusive Reach -** State governments, educational institutions, armed forces, and NGOs are collaborating to ensure participation across all demographics, including tribal and border regions.

• **Digital Integration -** A central digital dashboard, live broadcasts, and social media will coordinate and unify the nationwide event.

• **Global Inspiration –** Building on India's 2015 UN initiative, Yoga Sangam 2025 aims to inspire similar global collective yoga events.

Goa's Ghumot a Heritage Instrument's Revival

The Ghumot, Goa's traditional mud-based percussion instrument, made from clay and historically animal skin, is central to the state's folk music and cultural identity.

• **Declared the** - State Heritage Instrument in 2019.

• **Traditional Craftsmanship** - Ghumots are crafted from refined clay, sun-dried, and kiln-fired. Traditionally, monitor lizard skin was used, but due to legal prohibitions, goat, buffalo, or synthetic materials are now used for the membrane.

• **Unique Features** - Handmade from a pumpkin-shaped clay pot and a tuned skin membrane, the Ghumot produces sharp, earthy beats. Skilled tapping is required for perfect resonance.

• **Legal Shift** - Since 2019, the use of monitor lizard skin is prohibited under the Wildlife Protection Act, 1972, leading artisans to adopt legal alternatives.

• **Cultural Significance** -The Ghumot is a cultural symbol of Goa, played in festivals like Sao Joao, Ganesh Chaturthi, and Shigmo, and in Catholic pre-wedding rituals, bridging communities.

• **Revival Efforts** - Artisans and cultural curators are actively promoting Ghumot through new designs and international showcases, aiming to support local artisans and preserve Goa's intangible heritage.

Polity & Governance

UPSC's Pratibha Setu: Bridging Talent Gaps

UPSC has recently launched Pratibha Setu on June 20, 2025, enabling verified employers to recruit qualified, non-recommended candidates.

• **Background -** Previously, the Public Disclosure Scheme offered limited, static disclosure of candidates who cleared UPSC exams.

• **Pratibha Setu -** An upgraded, rebranded digital platform that connects deserving, non-recommended UPSC candidates with hiring organizations via a secure portal.

• **Key Features -** Covers candidates who cleared all UPSC stages but weren't recommended; participation is voluntary, accessible to verified government and private employers.

• **Objective -** Enhance employability for UPSC aspirants, build a talent pipeline for organizations, and foster public-private synergy.

• **Significance -** A win-win, it offers job opportunities to candidates and top talent to companies, preventing post-exam disillusionment.

India Post Payments Bank (IPPB) Bags Digital Payments Award 2024-25

India Post Payments Bank (IPPB) received the Digital Payments Award 2024-25 from the Ministry of Finance for its significant contributions to digital payments and financial inclusion.

• **About the Award** - Instituted by the Department of Financial Services (DFS), this award recognizes excellence in promoting India's digital payment ecosystem, open to various financial service providers.

• **Key Features** - The award acknowledges inclusive digital banking, financial literacy, accessibility, secure payments, and benchmarks innovation and outreach.

• **IPPB** - Established on September 1, 2018, IPPB is a government-owned payments bank under the Ministry of Communications.

• **Core Objectives** - IPPB aims to drive financial inclusion, provide affordable and accessible banking services, and bridge the urban-rural banking gap.

• **Key Functions** - It offers paperless, cashless banking through a doorstep model via postmen, provides multilingual interfaces, and facilitates various digital financial services.

International Relations and Issues

UN Declares 2026: International Year of the Woman Farmer

The UN General Assembly declared 2026 as the International Year of the Woman Farmer, aiming to spotlight women's agricultural contributions and challenges, particularly in countries like India, where women form 80% of active agriculture workers but own only 8.3% of farmland.

• **Key Challenges -** Women farmers face a double burden, limited land ownership, the digital divide, climate vulnerability, and insufficient financing.

• **Government Initiatives -** Include Mahila Kisan Sashaktikaran Pariyojana, Sub-Mission on Agricultural Mechanisation (50-80% subsidy), and the National Food Security Mission.

• **ENACT Project (Assam)** - A World Food Programme and Assam Government collaboration, funded by Norway, uses mobile advisories to empower women in climate-resilient agriculture.

• **Policy Recommendations -** The UN advocates **gender-sensitive policies**, improved access to resources, support for women-led value chains, capacity building, and breaking gender biases.

• **Significance -** This declaration will promote inclusive growth, climate-resilient food systems, address structural inequalities, and enhance global food security.

Iran-US Tensions Escalate

The recent conflict between the United States, Israel, and Iran intensifies over Iran’s Fordow nuclear facility, known for its advanced uranium enrichment capabilities.

• **Facility Details** - Constructed in 2007 and operational by 2009, Fordow houses 2,000 centrifuges enriching uranium to 60%, a significant step towards weapons-grade. Its deep burial makes it resilient to conventional attacks.

• **US Military Options** - The US possesses the GBU-57 A/B Massive Ordnance Penetrator, a 30,000-pound bunker buster, deliverable by the B-2 Spirit stealth bomber, capable of reaching Iran within 15 hours.

• **Recent Escalations** - Despite recent Israeli airstrikes on other Iranian nuclear sites like Natanz and Isfahan, Fordow remains operational. The IAEA reports increased uranium production, raising concerns.

• **International Response** - The IAEA is concerned about potential JCPOA violations. The US and allies are closely monitoring, amidst increasing military engagements between Israel and Iran.

• **Escalation Risks** -The ongoing conflict risks broader military confrontation. US intervention could destabilize the region, with Iran warning of severe retaliatory consequences.

Israel's Samson Option

Israel's Samson Option is an undeclared nuclear deterrence doctrine, signaling massive retaliation if the nation faces an existential threat, ensuring mutual destruction of the aggressor.

• **Key Features** - It involves strategic ambiguity regarding Israel's nuclear arsenal, a massive retaliation policy for existential threats only, and multi-platform delivery capabilities.

• **Psychological Warfare** - More than an operational plan, it's a psychological deterrent, named after Samson, symbolizing Israel's readiness for ultimate retaliation.

• **Significance** - The Samson Option reinforces Israel's strategic depth in a volatile region, where it remains the sole nuclear-armed state.

• **Regional Impact** - It introduces uncertainty into conflicts like the Iran-Israel standoff, Hezbollah's mobilization, and Red Sea tensions, shaping regional military planning.

• **Current Focus** - The doctrine is back in focus amid escalating strikes on Iran's nuclear facilities during "Operation Rising Lion."

Economy

RBI: India's House Price Index (Q4 FY25)

The All-India House Price Index (HPI) saw a 3.1% year-on-year growth in Q4 FY25, maintaining the previous quarter's rate, as reported by the Reserve Bank of India (RBI).

• **Source -** The RBI's HPI is derived from transaction data across ten major Indian cities, offering a reliable assessment of urban housing trends.

• **National Uptick -** Quarter-on-quarter, national average house prices rose 0.9%, indicating resilient demand, particularly in cities like Bengaluru, Jaipur, Kolkata, and Chennai.

• **Regional Divergences -** Kolkata led with an 8.8% annual price rise, while Kochi saw a 2.3% contraction, highlighting significant regional variations.

• **Market Implications -** The stable 3.1% growth points to a balanced recovery, driven by sustained consumer sentiment, improved affordability, and growing home ownership demand.

• **Sector Outlook -** This trend suggests a favorable environment for real estate developers and a stable asset class for housing finance lenders.

CCI's New Rules to Combat Predatory Pricing

The Competition Commission of India (CCI) has enacted new regulations using Average Total Cost (ATC) to curb predatory pricing, where dominant firms sell below cost to eliminate rivals.

• Predatory Pricing - This strategy involves setting artificially low prices to gain monopoly power, offering short-term consumer benefits but leading to higher prices and limited choices long-term.

• New Reforms - Notified on May 6, 2025, these reforms replace outdated rules, introducing clear ATC benchmarks, expert involvement, and enhanced transparency in enforcement.

• Key Significance - The new rules uphold competitive integrity, protect MSMEs, align with OECD best practices, and address digital monopoly risks.

• Market Impact - These progressive reforms foster transparent markets and protect consumer welfare, equipping the CCI to promote healthy competition and market dynamism.

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