CURRENT AFFAIRS

UPSC CSE 2026

DAILY CURRENT AFFAIRS NOTES

BY MUDIT JAIN

Ex IRS, Ex IPS

Sharp drop in complaints received by Lokpa from peak of 2,469 in 2022-23 to 233 this year

- The **number of complaints received by the Lokpal** has **declined sharply** from a **peak of 2,469 in 2022–23** to **just 233 in 2025–26.**
- The **Lokpal**, India's **anti-corruption ombudsman**, has **jurisdiction to inquire into corruption allegations** against the **Prime Minister, Union Ministers, and government officials**.
- A large number of **complaints are being dismissed on technicalities**, such as **format or procedural errors**, while **serious corruption allegations remain unaddressed**.
- The **Lokpal has not uploaded any annual reports since 2021–22**, raising concerns about **transparency and accountability**.
- The **Lokpal currently has seven members**, including its **Chairperson,** against a **sanctioned strength of eight members**.

Centre and T.N. government should work together on paddy procurement: Union Minister

- The **State government** has **requested the Centre** to **relax the permissible moisture content for paddy procurement** from **17% to 22%** due to **recent rainfall**.
- The statement was made during the **Viksit Krishi Sankalp Abhiyan**, a **nationwide campaign** celebrating **India's progress in agriculture**.
- It was suggested that the **practice of providing free seeds to organic farmers** should be **restored**, as it was **discontinued a few years ago**.
- The government should ensure **regular training for farmers** in **organic methods of cultivation** to promote **sustainable agriculture**.
- Being a **pulses-deficient State**, **Tamil Nadu** should focus on **increasing overall pulses production** to achieve **self-sufficiency**.
- The issue of **pests and diseases affecting coconut farmers** in the region was also **highlighted** as an area needing **urgent attention**.

Centre announces Rashtriya Vigyan Puraskar for scientific achievements

- The **Centre announced the Rashtriya Vigyan Puraskar (RVP)**, a set of **Padma-style national awards for scientific achievement**, comprising **24 individual awards and one team honour**.
- **Eminent physicist Jayant Vishnu Narlikar**, who passed away in **2025**, was posthumously honoured with the **Vigyan Ratna**, awarded for **lifetime contribution** to science.
- **Eight scientists** received the **Vigyan Shri awards**: Gyanendra Pratap Singh, Yusuf Mohammed Shaikh, K. Thangaraj, Pradeep Thapalil, Aniruddha Balchandra Pandit, Venkata Mohan, Mahan Mj, and Jayan N.
- The **Vigyan Team award** went to the **CSIR Aroma Mission**.
- The **Rashtriya Vigyan Puraskar Committee**, chaired by the **Principal Scientific Adviser**, recommends the **awardees** to the **Minister of Science and Technology**; it remains **unclear if the Minister has veto powers**.
- The **Vigyan Ratna** recognises **lifetime achievements** in **science and technology**.
- The **Vigyan Shri** is awarded for **distinguished contributions** in **any field of science and technology**.
- The **Vigyan Yuva** honours **exceptional young scientists (under 45 years)**.
- The **Vigyan Team award** is presented **annually** to a **team of three or more scientists, researchers, or innovators** for **collective contributions**.

India's largest hydropower project begins test run, signalling its commission

- One of the **eight units of India's largest hydropower project**, the **Subansiri Lower Hydroelectric Project**, has begun **undergoing a test run**, marking the **start of its commissioning process**.

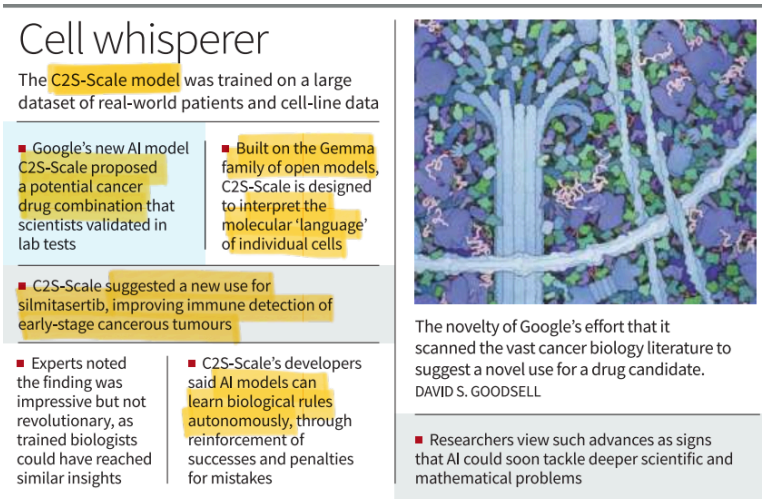
- The **NHPC Ltd.** officials confirmed that the **wet commissioning** of the **first 250-megawatt unit** of the **2,000-MW project** has started.
  - **Wet commissioning** is a **test run of the turbine with water flow** to check operational parameters **without generating electricity**, and it is expected to **take four to five days**.
- The **Subansiri Lower project** consists of **eight units of 250 MW each**; **four units are ready for test runs**.
- The project is located at **Gerukamukh**, on the **Arunachal Pradesh–Assam boundary**.
- The project was **launched in 2005** but **suspended in 2011** following **protests by anti-dam activists in Assam** over **downstream environmental concerns**. **Construction work resumed in October 2019**, after an extended halt of nearly eight years.

Higher GST dampens sale of ethnic wear during Deepavali

- **Readymade garments priced above ₹2,500** now **attract 18% GST**, placing them in the **luxury goods category**.
- The **domestic apparel market** is estimated to be worth **$100 billion**, with **ethnic wear constituting around 25%** of the total. Earlier, **branded garments priced above ₹1,000** attracted **12% GST**.
- The **industry had demanded a uniform 5% GST**, but the **government introduced the 18% slab** for **garments above ₹2,500** instead.
- This means a **saree priced at ₹1 lakh** attracts only **5% GST** as it is classified under **textiles**, whereas a **salwar set priced above ₹2,500** incurs **18% GST** as a **ready-made garment**.
- Previously, **manmade fibre (MMF)** attracted **18% GST**, **MMF yarn** 12%, and **garments** 5%. Now, the **GST on all MMF products has been unified to 5%**, streamlining the **tax structure for the synthetic textile sector**.

Google's AI for drug discovery is a win for scientific research

- **Google's Cell2Sentence-Scale 27B (C2S-Scale)** is a **27-billion-parameter foundation model** built on the **Gemma family of open models**, designed to **understand the language of individual cells**.
- The **novelty** of Google's effort lies not in **rediscovering a drug**, but in its ability to **scan vast cancer biology literature** to **identify new therapeutic uses** for existing **drug candidates**.
- The **results show** that it is possible to develop **large language models (LLMs)** that **do not need explicit training on biological rules**.
- Instead, such models can **learn the underlying biological principles autonomously** through **reinforcement learning**, where **successes are rewarded** and **failures are penalised**.
- Separately, the **Riemann Hypothesis** remains one of the **most challenging unsolved problems in mathematics**, dealing with the **distribution of prime numbers**, and has **remained unproven for over a century**.



Have 'green' crackers brought down pollution?

- In **2018**, the **CSIR–National Environmental and Engineering Research Institute (NEERI), Nagpur**, began developing **"green crackers"** to reduce **particulate emissions by 30%–80%** while maintaining **brightness, safety, and shelf-life**.
- The emission reduction was achieved through **three key chemical formulation changes**:
  - Use of **additives such as zeolite**.
  - Incorporation of **water-releasing molecules** like **boron-based reagents** to act as **dust suppressants**.
  - Addition of **metallic composites** to **enhance combustion temperature** and **improve combustion efficiency**.

- Traditional fireworks contain **barium nitrate, antimony, and heavy metals**, which are **linked to respiratory diseases and cancer**.
- The **green version of the 'flower pot'** cracker includes **water and lime** chemically stored inside. When ignited, it **releases moisture**, causing **dust and smoke particles to settle** instead of becoming airborne.
- **NEERI's lab tests** showed a **30% reduction in particulate matter**, along with **lower sulphur dioxide and nitrous oxide emissions** from these crackers.
- **Green sparklers** contain **32% potassium nitrate**, **40% aluminium powder**, **11% aluminium chips**, and **17% proprietary additives**, reducing **PM10 and PM2.5 emissions by 30%**.
- The **Commission for Air Quality Management (CAQM)** stated that **NEERI developed a Standard Operating Procedure (SOP)** for **registering green cracker manufacturers** and facilitating **technology transfer** for production.
- A **list of approved green crackers** is available on the **NEERI website**, and **manufacturers must obtain multiple registrations** depending on the **number of products**.
- Only manufacturers with an **explosive licence from the Petroleum and Explosives Safety Organisation (PESO)** are **eligible for registration**.
- In **2025**, around **1,500 manufacturers** procured licences to produce green crackers, mostly from **Tamil Nadu**, followed by **West Bengal**.
- The term **"green cracker"** is considered a **misnomer**, as these are not **zero-emission products** — a more accurate description, used by **NEERI scientists in a 2023 study**, is **"Reduced Emission Fireworks."**

What is Google's 'quantum advantage' leap?

- Scientists have demonstrated a **verifiable display of quantum advantage** using **Willow**, a new **quantum processor** that has **outperformed the world's second-fastest supercomputer** on a specific problem.
- This marks a **major milestone** in the field of **quantum computing**, showing that **quantum processors** can **solve complex tasks** beyond the reach of classical supercomputers.

What is Quantum Advantage?

- **Quantum advantage** refers to the point where a **quantum computer** can **perform a task faster or more efficiently** than the **best classical supercomputer**.
- It relies on a fundamental quantum property called **interference** — when **particles behaving like waves** either **amplify** or **cancel each other out**.
- **Quantum computers** control this interference to **amplify the probability of the correct answer** and **cancel out incorrect ones**.

Key Studies Demonstrating the Advantage

1. **Decoded Quantum Interferometry (DQI) Algorithm**
   - In the first study, researchers introduced a new **quantum algorithm** called **Decoded Quantum Interferometry (DQI)**.
   - It is designed to solve **optimisation problems**, which require finding the **best possible solution** among many alternatives.
   - The **Willow processor** used DQI to efficiently compute results that would take a **supercomputer over three years**, completing the task in **about two hours**.
2. **Study on Quantum Information Scrambling**
   - The second study measured how **information becomes scrambled** in a **complex quantum system** — similar to how **a drop of dye spreads across water**.
   - Initially, information is **localised in one qubit**, but through **interactions**, it **spreads across all qubits**.
   - Scientists studied this process using a parameter called **Out-of-Time-Order Correlator (OTOC)**, which quantifies **how much information has spread**.
   - Using a **warehouse analogy**: a shout (information) echoes everywhere, and a later "kick" (disturbance) changes the echoes. When the system is "rewound," most echoes cancel, but **a faint leftover echo** (the OTOC signal) reveals **how the disturbance affected the spread of information**.

Significance of the Findings

- The **Willow processor** demonstrated that **quantum interference** can be **harnessed predictably** for measurable results.
- It provides a **verifiable benchmark** for **quantum advantage**, ensuring that the output is not random but **scientifically reproducible**.
- The findings highlight the **maturity of quantum control techniques**, moving beyond earlier demonstrations like **Google's 2019 Sycamore experiment**, which showed **random circuit sampling** without a practical application.

Comparison with Classical Systems

- The same computational task would take the **world's second-fastest supercomputer over three years**, whereas **Willow** completed it in **two hours**.
- This achievement underscores a **quantum leap in speed and efficiency**, validating the **potential of quantum processors** for **real-world optimisation and simulation tasks**.

Rebel's homecoming

- The **Naga-inhabited region** spans across **India and Myanmar**, covering over **57,400 sq. km**, including the **13,329 sq. km Naga Self-Administered Zone** in **Myanmar's Sagaing Division**.
- The **National Socialist Council of Nagalim (Isak-Muivah faction) – NSCN (I-M)** signed the **Framework Agreement** with the **Government of India** in **2015**.
- The **Naga peace process** began in **1997**, when the **NSCN (I-M)** and the **Centre** agreed to a **cessation of armed conflict**.
- **Thuingaleng Muivah**, a key Naga leader, is revered by **Manipur's Nagas** as **Avakhrrar**, meaning **'eldest father' or 'godfather'** in the **Tangkhul language**.
- The **Naga Club**, the **first Naga political organisation**, had submitted a **memorandum to the Simon Commission (1929)**, asserting that the **Nagas should be left alone to determine their own future**, as in **ancient times**.
- In **1946**, the **Naga Club evolved into the Naga National Council (NNC)**, which later **fought for the independence** of the **Naga-inhabited areas** from **India**.
- Following internal differences, **Thuingaleng Muivah** co-founded the **NSCN in 1980**, and later formed the **NSCN (I-M)**with **Isak Chishi Swu** in **1988**, after parting ways with his **Myanmar-based comrade S.S. Khaplang**.
- **Muivah's homecoming** has rekindled **hopes for an honourable resolution** to the **long-standing Naga peace process**.

Trump's Asia return, East Timor's entry to mark ASEAN summit

- The **ASEAN Summit** will **formally welcome East Timor (Timor Leste)** as the bloc's **11th member**.
- This marks the **first time in 26 years** that **ASEAN is admitting a new member**.
- **East Timor**, also known as **Timor Leste**, had **applied for ASEAN membership in 2011**.
- The **last country to join ASEAN** was **Cambodia in 1999**.
- The summit will also include **key dialogue partners** such as **China, Japan, India, Australia, Russia, South Korea, and the United States**.