

1. **Asian Giant Tortoise :** Recently**,** in a significant move for wildlife conservation, ten critically endangered **Asian giant tortoise**, were reintroduced into the Zeliang Community Reserve in Nagaland's Peren district.
    - This effort is part of a long-term conservation initiative led by the Nagaland Forest Department in collaboration with the India Turtle Conservation Programme (ITCP).
    - **About Asian Giant Tortoise :** The largest land tortoise in mainland Asia and belongs to one of the world's oldest tortoise lineages.
        - Plays a **keystone ecological role** in tropical forest ecosystems.
        - Often referred to as the **"small elephant of the forest"** for its contribution to seed dispersal and forest floor scavenging.
        - **Distribution & Habitat:** Found across **India, Bangladesh, Myanmar, Thailand, Malaysia, and Indonesia**.
            - ✓ In India, historically seen in the **Northeast**, especially **Nagaland and Arunachal Pradesh**.
            - ✓ Prefers **dense, moist tropical and subtropical forests**, particularly **lowland and hill forests** with rich undergrowth and leaf litter.
        - **Physical Features : Size:** Can grow up to **60 cm** and weight over **35 kg**.
        - **Shell:** Heavily domed, dark brown to black, with prominent growth rings.
        - **Limbs:** Thick, scaly forelimbs resembling those of an elephant, adapted for digging.
        - **Head:** Flattened with a sharp beak for tearing vegetation.
        - **Coloration:** Hatchlings are grayish brown and adults darken to a charcoal hue.
        - **Reproduction:** Builds **above-ground nest mounds**—unusual among tortoises. **Females guard the nest** to regulate temperature and protect eggs, behavior similar to crocodilians.
        - **Conservation Status: IUCN Red List: Critically Endangered ; CITES: Appendix II**
            - ✓ **India's Wildlife (Protection) Act, 1972: Schedule IV**
2. **Pariksha Pe Charcha :** Recently**,** in a historic achievement, the Prime Minister of India's flagship initiative, **Pariksha Pe Charcha**, entered the **Guinness World Records** for the "Most people registered on a Citizen Engagement Platform in one month." The recognition marked a record **3.53 crore registrations** for the programme's eighth edition.

- **About Pariksha Pe Charcha :** A unique interactive platform where **Prime Minister Narendra Modi** engages with **students, parents, and teachers** to discuss exam-related stress and tips for success.
  - The 2024 edition continues the tradition of fostering a stress-free environment for students appearing in board and other exams.
  - **Eligibility:** Open to **school students of Classes 6 to 12**, their parents, and teachers.
  - **Participation:** Students can submit responses and questions (within 500 characters) for the Prime Minister.
    - ✓ Parents and teachers can take part in dedicated online activities.
- **About Guinness World Records:** First published in **1955** as the **Guinness Book of Records**.
  - Conceptualized by **Sir Hugh Beaver**, then Managing Director of the **Guinness Brewery** in Ireland.
  - Aimed to compile verified facts and figures about **human achievements** and **natural phenomena**.
  - A team of researchers and editors was hired to **collect and verify** the data.
  - The first edition was a huge success, with **over 50,000 copies sold** within just a few months.
  - Over time, it became a **global phenomenon**, translated into **multiple languages** and **updated annually**.
  - In **2000**, the title was officially changed to **Guinness World Records** to better reflect its **global scope and appeal**.

3. **Rhisotope Project:** Recently**,** in a groundbreaking conservation effort, South Africa launched the **Rhisotope Project**.
   - **About Rhisotope Project :** A **scientific initiative** aimed at deterring **rhino poaching** by injecting radioactive isotopes into rhino horns.
     - Launched by the **University of the Witwatersrand**, South Africa, with support from the **International Atomic Energy Agency (IAEA)**.
     - It is the **first wildlife protection project globally** to use **nuclear technology** for conservation.
     - **Objective:** To **deter poachers** and curb **rhino horn smuggling** by:

- ✓ Inserting **traceable radioactive isotopes** into the horns.
- ✓ Making the horns easily **detectable at international borders** using existing radiation detection systems.

- **Working: Injection Process:** A small hole is drilled into the horn and a **radioisotope** (an unstable form of an element that emits radiation) is inserted.
  - **Detection:** Tests showed horns with isotopes could be detected inside **40-foot shipping containers** using **Radiation Portal Monitors (RPMs)** already installed at ports, airports, and borders worldwide.
  - **Safety Assurance:** The process is **harmless to rhinos**. Treated horns are rendered **useless and toxic to humans**, discouraging poaching and black-market trade.
- **Poaching Crisis:** South Africa hosts the **largest population of rhinos** (~16,000). Despite efforts, around **500 rhinos are killed annually** for their horns.
  - Globally, rhino numbers have declined from **500,000 in the early 1900s to around 27,000 today** (IUCN data), driven by illegal horn trade.

4. **Study on Potato:** Recently**,** a study published in Cell revealed that the modern potato evolved from an unexpected hybridization between a **wild tomato** and a potato-like plant known as **Etuberosum**, approximately **9 million years ago**.
   - **Key Findings :** Tomatoes, Etuberosums, and potatoes all belong to the **genus Solanum**, having diverged from a **common ancestor** around **14 million years ago**.
     - **Tuber Evolution**: Neither tomatoes nor Etuberosums originally had tubers. The hybrid plant gained the **ability to form tubers**, allowing it to store nutrients underground — a key survival adaptation in the **cold Andean environment**.
     - **Key Genes Identified**: **Tomato** contributed the **SP6A "master switch" gene**, signaling tuber formation.
       - ✓ **Etuberosum** contributed the **IT1 gene**, controlling underground stem growth.
       - ✓ Both genes had to function **together** for tubers to develop — a **chance genetic combination**.
   - **Phylogenetic Puzzle Solved**: Genetic analysis showed **conflicting signals**, with potatoes appearing genetically closer to both tomatoes & Etuberosums depending on the marker used.

- This contradiction was resolved through **phylogenetic analysis and genome sequencing** of 450 wild and cultivated species.

- **Environmental Catalyst**: The rise of the **Andes Mountains** likely brought wild tomato and Etuberosum ancestors into close proximity, enabling hybridization, possibly via **bee pollination**.
  - The study used the **most comprehensive collection of wild potato genomic data ever analyzed**, including rare specimens from isolated Andean valleys.
- **Wide Potato Diversity**: There are now **100+ wild potato species**, many of which grow tubers. However, not all are edible due to **toxins**.
- **Agricultural Implications**: Insights from this study could help develop **resilient, disease-resistant, seed-grown potatoes**, improving **genetic diversity** and **climate resilience**.

5. **India Electric Mobility Index (IEMI):** Recently**,** in a major push towards advancing India's clean transportation goals, **NITI Aayog** launched the **India Electric Mobility Index (IEMI).**
   - **About IEMI :** A first-of-its-kind tool to **track and benchmark** the progress of all **States and Union Territories (UTs)** in transitioning to **electric mobility**. Helps identify **top performers**, **bottlenecks**, and promotes **peer learning**.
     - Each State/UT is scored **out of 100**, based on **16 indicators** grouped under **three core themes**:
       - ✓ **Transport Electrification Progress**: Tracks EV sales, e-bus deployment, and adoption rates.
       - ✓ **Charging Infrastructure Readiness**: Assesses the extent and availability of charging networks.
       - ✓ **EV Research & Innovation Status**: Evaluates R&D, startups, and local manufacturing ecosystems.
     - **Objectives of IEMI:** Promote **data-driven policymaking** at the state level.
       - ✓ Foster **healthy competition** to accelerate EV transition.
       - ✓ Enable **sharing of best practices** across regions.
       - ✓ Highlight **state-specific strengths and gaps** for targeted interventions.
     - **Leading States in EV adoption: Delhi, Maharashtra, Tamil Nadu, and Karnataka**

6. **Ayurveda Aahara :** Recently**,** the Food Safety and Standards Authority of India (FSSAI), in consultation with the Ministry of Ayush, released a definitive list of Ayurvedic food preparations under the category of **"Ayurveda Aahara."**
   - **About Ayurveda Aahara:** Refers to food products aligned with the **holistic dietary principles of Ayurveda**, one of the world's oldest health and wellness systems.
     - These foods focus on **balance**, **seasonal compatibility**, and the use of **natural ingredients and herbs** with known **therapeutic benefits**.
     - Recognises Ayurvedic food based on: **Classical recipes**, **Authentic ingredients** and **Traditional preparation methods** sourced from authoritative Ayurvedic texts.
     - Provides **regulatory clarity** for **Food Business Operators (FBOs)**.
     - Marks a **pivotal step** in integrating **Ayurveda-based nutrition** into India's food regulation system.
     - Aims to promote **widespread adoption** of traditional diets for **better public health outcomes**.
7. **Global Artificial Intelligence (AI) City Index 2025 :** Recently**,** the **Global Artificial Intelligence (AI) City Index 2025**, published by market intelligence firm **Counterpoint Research**, highlighted the leading cities worldwide in AI development and innovation.
   - **About Global AI City Index 2025 :** A comprehensive benchmarking report that identifies and ranks cities worldwide based on their capacity to lead in **artificial intelligence innovation**.
     - The index evaluates performance across four key pillars: **AI R&D Ecosystem**
       - ✓ **Startups, Tech Hubs & Investment Inflows**
       - ✓ **AI Adoption in Key Sectors**
       - ✓ **Digital Infrastructure & Data Centre Growth**
     - The report aims to spotlight urban centres that are actively shaping the global AI landscape through **collaborative governance**, **policy frameworks**, and **real-world AI deployment**.
     - **India:** Bengaluru leads with strong AI research and infrastructure, while cities like Mumbai, Delhi, Chennai, and Kolkata are emerging hubs.
     - **Global:** Singapore, Seoul, Beijing, Dubai, and San Francisco top the index
       - ✓ Index also highlighted fast-growing cities such as **Riyadh**, **Hangzhou**, and **Bengaluru**