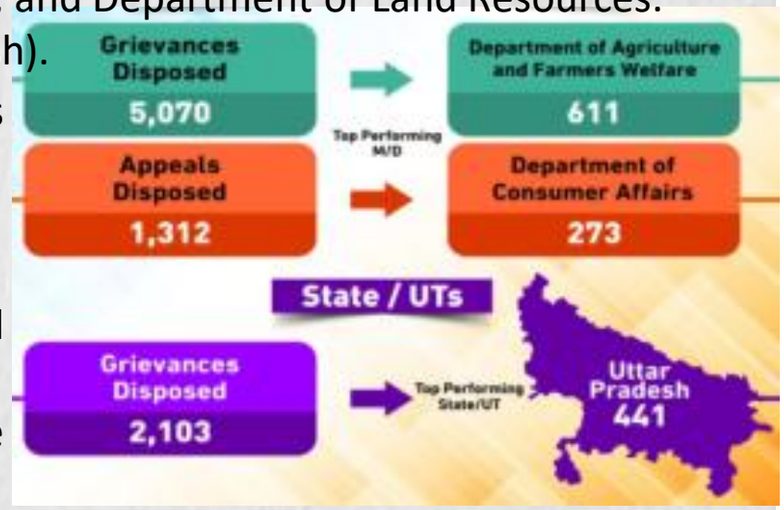
1. **Centralized Public Grievance Redress and Monitoring System (CPGRAMS):** Department of Administrative Reforms and Public Grievances (DARPG) recently released the 34th Monthly Report on CPGRAMS performance.
   - **Key Highlights:** 1.12 lakh grievances redressed by central ministries and departments, with an average disposal time of 15 days.
   - **Top Performers: Group A -** Department of Food and Public Distribution, Telecommunications, and Posts.
     - **Group B -** Ministry of Parliamentary Affairs, Ayush, and Department of Land Resources.
   - **New Users:** 48,000 registered (max from Uttar Pradesh).
   - **About CPGRAMS):** It is an online platform for citizens to lodge grievances regarding public service delivery.
   - **Key Features:**
     - **24x7 Access:** Available at all times.
     - **Single Portal:** Connected to all Ministries/Departments of India and States.
     - **Role-based Access:** Ministries and states have dedicated roles in the system.

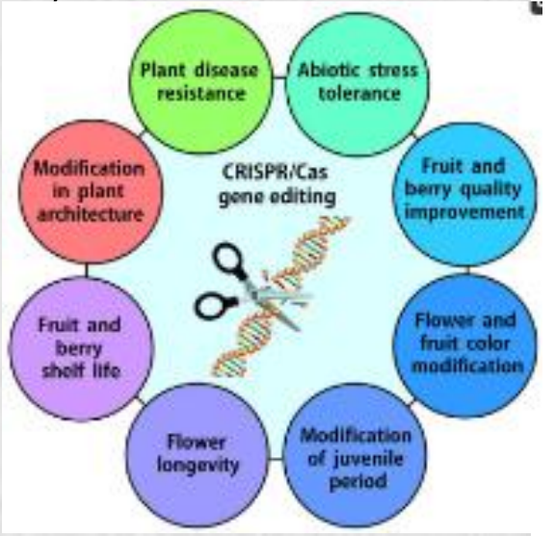


     - **Mobile Access:** Available through a standalone app (Google Play) and UMANG integration.
     - **Tracking:** Grievances tracked using a unique registration ID.
     - **Appeal Facility:** Citizens can appeal if unsatisfied with grievance resolution.
2. **Pi Day:** It was celebrated on **March 14** to honour the mathematical constant **π (pi)** and its significance in mathematics, science, and engineering.
   - **About Pi Day:** It is celebrated on March 14 (3/14), representing the first three digits of pi (3.14), which initiated in 1988 by physicist Larry Shaw at a San Francisco science museum.
   - **Officially recognized:** By the US Congress in 2009 to promote interest in math and science.
   - **Historical Significance:** Pi is the ratio of a circle's circumference to its diameter.
     - Used in formulas across fields like physics, astronomy, and engineering since ancient times in Egypt, Babylon, and China.
     - The symbol π was first used in 1706 by Welsh mathematician William Jones.

- **Ramanujan's Contribution:** In 1914, Srinivasa Ramanujan published formulae to calculate pi up to millions of digits. These formulae formed the basis for early algorithms used before modern computers.
- **Modern Computation:** Today, supercomputers calculate trillions of pi's digits, with no known end.
- **Practical Applications:** Key in space exploration for calculating orbits, rocket propulsion, and planetary positions.
  - Applied in antenna alignment for satellites, designing refinery cylinders, and scaling heating/cooling tanks.
  - Used in NASA's Pi Day Challenge for solving puzzles like asteroid orbits and rover travel calculations.

3. **PM Internship Scheme (PMIS):** Finance Minister of India recently launched the PM Internship Scheme (PMIS) Mobile App to enhance accessibility to internship opportunities.
   - **About the Mobile App features:** Intuitive interface, easy navigation, and real-time alerts → **Aadhaar face authentication** for registration → Personalized dashboard and access to a dedicated support team.
   - **About PM Internship Scheme (PMIS):** It was announced in **Union Budget 2024** as part of a **₹2 lakh crore allocation** for job creation and skill development over the next five years.
     - **Launched by:** Ministry of Corporate Affairs, Government of India.
     - **Purpose:** Provide real-life work experience to job seekers in top companies.
   - **Eligibility Criteria:**
     - **Age:** 18 to 24 years (relaxation for OBC/SC/ST).
     - **Education:** 10th/12th Pass, ITI, Polytechnic, Diploma, or Bachelor's Degree from UGC/AICTE-recognized institutions.
   - **Exclusion:** Students from **IITs, IIMs, National Law Universities**, and individuals with professional degrees like **CA, MBA, MBBS, etc.** to promote inclusivity.
   - **Top Participating Companies:** Reliance Industries, TCS, HDFC Bank, Maruti Suzuki, L&T, Tech Mahindra, Bajaj Finance, Mahindra & Mahindra.
   - **Industries with Maximum Internships:** Oil & Gas, Automotive, Banking and Financial Services, Travel and Hospitality, Manufacturing and Construction.

4. **Gene-edited bananas:** It was recently developed by UK-based Biotech Company **Tropic** claim to remain **fresh and yellow for 12 hours** after being peeled.
   - Aims to reduce **food waste** as bananas are highly perishable, with estimates suggesting that **50% of the crop goes to waste** annually.
   - **About Gene-edited Bananas:** Developed by **Tropic** to prevent browning and extend shelf-life.
     - Browning is caused by the enzyme **polyphenol oxidase (PPO)**, which breaks down the yellow pigment when in contact with oxygen.
     - Bananas produce large amounts of **ethylene**, which triggers PPO activity and accelerates ripening.
     - Gene-editing was used to **disable PPO production** without affecting the ripening process.
     - Similar technique used in **Arctic apples** and shown to work in **tomatoes, melon, kiwifruits, and mushrooms**.
   - **Expected benefits:** Reduces food wastage and CO_2 emissions.
     - Supports sustainability by cutting losses during harvesting and transportation.
     - In India, fruit wastage caused a loss of over ₹30,000 crores in 2021, much of it from bananas and mangoes.
   - **Genome editing:** It is a technology that allows scientists to **alter an organism's DNA** by adding, removing, or changing genetic material.
   - **CRISPR-Cas9 (Clustered Regularly Interspaced Short Palindromic Repeats and CRISPR-associated protein 9):** In this, researchers use a **guide RNA and Cas9 enzyme** to target and cut specific DNA sequences, allowing the cell's repair machinery to make precise genetic changes.



   - Using CRISPR, the bacteria snip out parts of the virus DNA and keep a bit of it behind to help them recognise and defend against the virus next time it attacks.
     - Bacteria store viral DNA in **CRISPR arrays** to "remember" past infections.
     - When re-infected, bacteria produce **guide RNA** that binds to the viral DNA, and the **Cas9 enzyme** cuts it, disabling the virus.

5. **National Youth Parliament Scheme (NYPS):** The Ministry of Parliamentary Affairs has unveiled an upgraded version of the **National Youth Parliament Scheme (NYPS)** web portal, known as **NYPS 2.0**.
   - Unlike the previous version, NYPS 2.0 is **open to all citizens** across the country, regardless of economic status, gender, caste, creed, religion, race, region, and place.
   - **About National Youth Parliament Scheme (NYPS):** Launched by Ministry of Parliamentary Affairs on **26th November 2019**.
   - **Objective:** Foster understanding of parliamentary processes and democratic principles.
     - Promote discipline, tolerance, and respect for diverse viewpoints.
     - Equip youth with skills to participate effectively in democratic processes.
     - Provide insights into the workings of Parliament.
   - **NYPS 2.0:** Open to **all citizens**; earlier limited to students of recognized institutions.
   - **Modes of Participation:**
     - **Institution Participation:** Educational institutions can organize **Youth Parliament sittings**.
     - Two sub-categories: **Kishore Sabha (**Students from **Classes VI to XII**) & **Tarun Sabha (**Students at **Undergraduate and Postgraduate** levels)
     - **Group Participation:** Any group of citizens can organize **Youth Parliament sittings**.
     - **Individual Participation:** Citizens can participate in a **quiz** on the theme of **"Bharatiya Democracy in Action"**.
6. **Miller-Urey hypothesis:** A new study adds another angle to the much-disputed Miller-Urey hypothesis, suggesting that water sprays alone could generate organic compounds without needing external electricity.
   - The study, titled 'Spraying of water micro-droplets forms luminescence and causes chemical reactions in surrounding gas', was published in the journal Science Advances.
   - **About Miller-Urey Hypothesis:** Proposed by Stanley Miller and Harold Urey in 1952.
     - Suggests that life on Earth emerged from a lightning strike.
   - **Experiment:** Applied electricity to a mixture of water and inorganic gases (methane, ammonia, hydrogen), leading to the formation of organic compounds (like amino acids).
   - **Significance:** Provided one possible explanation for the origin of life on Earth.

- **Criticism:** Real lightning would have struck infrequently, mostly over open oceans, where organic compounds would quickly disperse.
- **New Study Findings:** Water sprays alone can generate organic compounds without external electricity, led by Stanford University chemist Richard Zare.
- **Experiment:** Spraying water into a mixture of nitrogen, methane, carbon dioxide, and ammonia resulted in the formation of **organic compounds** like **hydrogen cyanide, glycine, and uracil**.
- **Implication:** Crashing waves or waterfalls on early Earth could have triggered the chemical reactions necessary for life, providing an alternative to the **lightning-based Miller-Urey hypothesis**.

7. **Caracal:** A rare caracal was recently spotted in Rajasthan's Mukundra Hills Tiger Reserve, creating excitement among wildlife enthusiasts.



- **About Caracal:** its scientific name is Caracal caracal, also called **"Siya Gosh"** in India, meaning **'Black Ear'** in Persian, a medium-sized, **nocturnal wildcat**.
- **Distribution:** Found in Middle East, Africa, and South Asia. In India, their population is estimated to be around 50, mainly in Rajasthan and Gujarat.
- **Habitat:** Adaptable to various environments, including **grasslands**, **savannas**, **scrublands**, **forests**, and **rocky hills**.
- **Caracal Features:**
  - **Fur and Colour:** Short, dense fur ranging from tawny-brown to reddish-tan, with whitish underparts.
  - **Facial Features**: Dark lines on the face and white spots around the eyes. Large, black pointed ears — their most distinctive feature.
  - **Hunting Skills:** Exceptional hunters; can leap 2 meters into the air from a standstill to catch birds, can reach speeds of up to 50 mph (80 kph).
- **Conservation Status:**
  - **IUCN Red List: Least Concern.**
  - **Wild Life (Protection) Act, 1972: Schedule I.**