

# DAILY NEWS

## ANALYSIS

**15<sup>th</sup> April**

### Explained

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### Decoded

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### DNA Quiz

Playlist Link:

What to Read: <https://bit.ly/3FYdutC>

Daily News Analysis: <https://bit.ly/4ge9BgF>

## EXPLAINED

### 1. GPS SPOOFING

**Backdrop:** Myanmar missions went as planned: IAF junks 'GPS spoofing' claims

**Relevance:** GS3/Science and Technology

#### About the news:

**GPS (global positioning system) spoofing:** It is a cyberattack that includes generating false GPS signals to mislead an aircraft. The false signals result in misleading the navigation equipment, posing a significant risk to the aircraft.

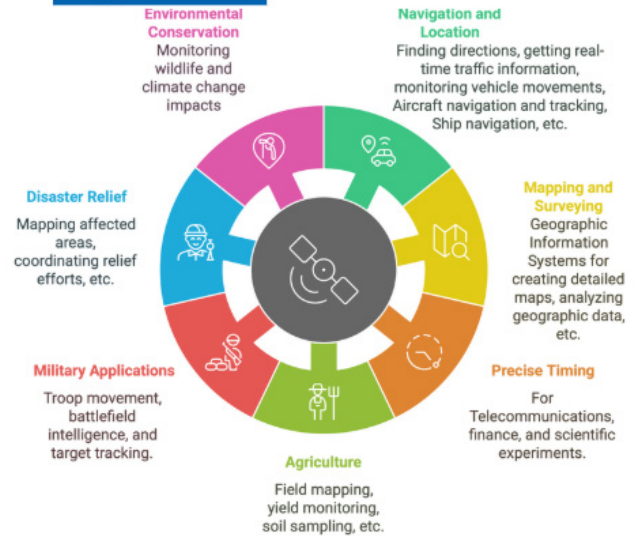
#### GPS (Global Positioning System):

- It is a satellite-based navigation system owned by the US Government and operated by the US Space Force.
- The U.S. federal government is committed to providing a minimum of 24 operational GPS satellites in orbit, 95 percent of the time. There are currently more than 30 satellites up, providing some margin for error.
- This constellation of well-spaced satellites that move around the earth in six orbits, with each satellite completing 2 orbits in a single day.
- Anyone on the earth will be able to see at least four satellites at a time.

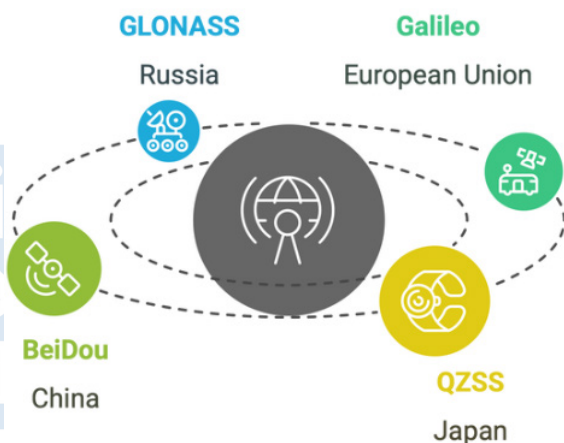
#### Working mechanism:

- Each GPS satellite broadcasts a radio signal containing information about the satellite's location and the time the signal was transmitted.
- With the information about the locations of satellites and the time taken by signals, the GPS receiver calculates its precise distance from the satellite.
- Such calculations are made from the signals of four satellites. It helps the GPS receiver determine the precise three-dimensional position (latitude, longitude, and altitude) using a process called trilateration.
- A GPS receiver can also provide information, such as speed, direction, and time, by continuously updating its position based on the signals received from the satellites.

#### Applications



#### Satellite navigation systems of other countries



#### Navigation with Indian Constellation (NavIC):

- It is an Indian Regional Navigation Satellite System (IRNSS) developed by ISRO.
- It includes a constellation of seven satellites (3 in geostationary & 4 in geosynchronous orbit).
- IRNSS is expected to provide location accuracy within 20 meters in its primary service area.
- **Coverage Area:** The primary service area includes India and an area up to **1,500 km** beyond its borders. An extended service area reaches between the primary coverage area and the larger region bordered by 30° South to 50° North latitude and 30° East to 130° East longitude.
- **IRNSS Services:**
  - ♦ Standard Positioning Service (SPS): Available to all users.
  - ♦ Restricted Service (RS): Accessible only to authorized users.

**GAGAN:**

Indian Space-based Augmented Navigation System, jointly developed by AAI and ISRO.

Provide Satellite-based Navigation services with accuracy for civil aviation applications and Air Traffic Management over Indian Airspace.

**NOTAM (Notice to Airmen):**

- A notice containing information essential to flight operations that alerts pilots to potential hazards along a flight route or at a location that could affect the flight.
- NOTAMs are originated and distributed by government agencies and airport operators, primarily under the guidelines of the Convention on International Civil Aviation.
- In India, the International NOTAM Offices in Chennai, Delhi, Kolkata, and Mumbai are responsible for originating and distributing these notice.

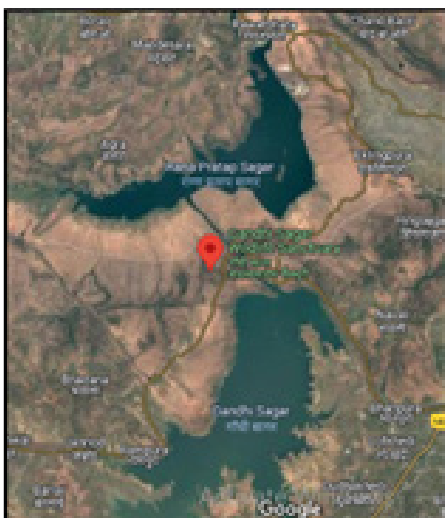
## 2. GANDHI SAGAR WILDLIFE SANCTUARY

**Relevance:** GS 3/Environment

**Backdrop:** Panel gives nod to shift cheetahs from Kuno park to Gandhi Sagar

**About Gandhi Sagar Wildlife Sanctuary**

- **Location:** Mandsaur and Neemuch districts, Madhya Pradesh, near the **Rajasthan border**.



- **Established:** 1974.
- **River System:** Lies on the banks of the **Chambal River (Janapav)**, a tributary of the Yamuna (Etawah). **Biogeographic Zone:** Semi-arid region, **Deccan Peninsula – Central Highland**

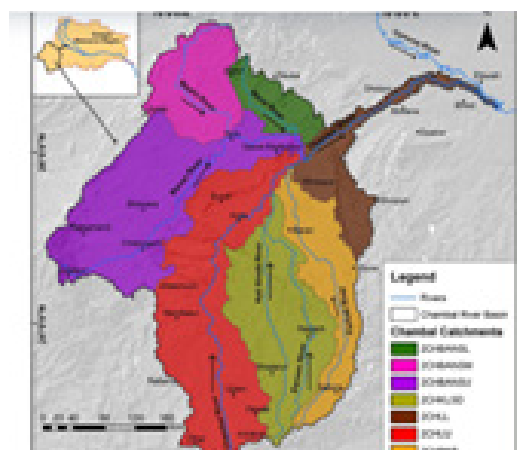
- **Flora:** Tropical dry deciduous forests — **teak, tendu, palash, ber, amla**.

- **Fauna: Mammals:**

- ♦ **Indian Leopard (*Panthera pardus fusca*)** – Schedule I, WPA 1972
- ♦ **Nilgai (*Boselaphus tragocamelus*)** – common herbivore
- ♦ **Chinkara (*Gazella bennettii*)**



- ♦ **Indian Wild Boar**
- ♦ **Sloth Bear** (sightings reported but rare)
- **Reptiles:**
  - ♦ **Mugger Crocodile (*Crocodylus palustris*)** – found in reservoir backwaters IUCN: Vulnerable I WPA, 1972: Schedule-I I CITES: Appendix I
  - ♦ **Gharyal IUCN: Critically Endangered I WPA, 1972: Schedule-I**
- ♦ **Indian Rock Python**
- **Avifauna:**
  - ♦ **Indian Peafowl Pond Heron**
  - ♦ **Indian Roller**
  - ♦ Migratory ducks and geese (especially during October–March)
- Acts as a **buffer zone** for the fragile **Chambal River ecosystem**



- The sanctuary is part of the **Central Asian Flyway**, making it ecologically significant for **migratory birds**.

#### Project Cheetah

- Launched:** 17th September 2022 at Kuno National Park.
- Objective:** Reintroduce cheetahs into India after local extinction in **1952**.
- Reasons for extinction:**
  - Poaching, habitat loss
- Steering Body:** **Cheetah Project Steering Committee** formed by **NTCA (National Tiger Conservation Authority)**

#### Why Gandhi Sagar Was Chosen?

- Part of the larger **Kuno–Gandhi Sagar–Mukundra Hills landscape**, suitable for **metapopulation management**.
- Similar habitat** to African savannas: open grasslands, low human disturbance.
- Intent to build a genetically **diverse, geographically distributed population** across central India.

#### Indian (Asiatic) Cheetah vs African Cheetah

Feature	Indian (Asiatic) Cheetah	African Cheetah
<b>Current Habitat</b>	Iran	Widely distributed across Eastern, Southern, and parts of Central Africa
<b>Presence in India</b>	<b>Extinct in the wild (since 1952)</b> ; being reintroduced under <b>Project Cheetah</b>	Never native to India, but reintroduced from Namibia for Project Cheetah
<b>Physical Appearance</b>	Slightly smaller, paler coat, with more prominent facial markings	Slightly larger, golden-tan coat with evenly spaced black spots
<b>Social Structure</b>	Generally solitary	Males may form coalitions; females are solitary
<b>Conservation Status</b>	<b>Critically Endangered (IUCN Red List)</b>	<b>Vulnerable (IUCN Red List)</b>

Feature	Indian (Asiatic) Cheetah	African Cheetah
<b>Threats</b>	Poaching, habitat loss, prey depletion	Habitat loss, human-wildlife conflict, genetic bottlenecks
<b>Adaptation in India</b>	Native species but extinct due to overhunting and habitat loss	Non-native but adaptable; being monitored in Indian reserves

### 3. SIR C. SANKARAN NAIR (1857–1934)

**Relevance:** GS1/ Personalities in National Movement

**Backdrop:** Prime Minister Narendra Modi recalled the nationalist and jurist Sir Chettur Sankaran Nair, who fought a legendary courtroom battle against a senior official of the Raj

#### Early Life and Education

- Born:** July 11, 1857, in Mankara, Palakkad (then in the Madras Presidency).
- Education:**
  - BA from Presidency College, Madras.
  - Law degree from Madras Law College.
- Advocate-General of Madras Presidency (1906–1908).**
- Puisne Judge**, Madras High Court (1908–1915).
- First Indian appointed as a **Judge in the Madras High Court**.
- Became a **Member of the Viceroy's Executive Council (1915–1919)** — held the portfolio of **Education**.
- Knighthood in **1904** for his contributions to law and administration.
- In 1897, he became the youngest president of the Indian National Congress (1897 Session)** held in Amaravati.
  - Called for greater Indian representation in civil services and legislative bodies.
- Strong critic of **repressive British laws** and **racial discrimination**.

#### Major Contribution

- In the **Budasna versus Fatima Case of 1914**, he passed a radical judgement when he ruled that **those who converted to Hinduism cannot be treated as outcasts**.

- **Against Racism** : He opposed the resolution stating that **no Indian vakil would work as a junior to an English barrister**, on the principle that no lawyer should be denied the right to choose a senior that his client liked.
- In 1919, he played an important role in the expansion of provisions in the Montagu-Chelmsford reforms which introduced a system of dyarchy in the provinces and increased participation of Indians in the administration.
- **Resigned in protest** from the Viceroy's Executive Council after the **Jallianwala Bagh massacre** in 1919.
  - ♦ This was an **unprecedented act of defiance** by an Indian official at that time.
  - ♦ **Fought a courtroom battle against Lieutenant-Governor of Punjab, Michael O'Dwyer**, accusing him of atrocities at the massacre.
- **Wrote the book: "Gandhi and Anarchy" (1922)**
  - ♦ *While he admired Gandhi's intentions, he disagreed with Gandhi's methods, especially non-cooperation and civil disobedience.*
  - ♦ **Founded and edited the Madras Review and the Madras Law Journal**

#### Legacy

- A pioneer of **constitutional reform and legal modernization** in India.
- Set the precedent for **civil resistance within the establishment**.
- The **biopic "The Untold Story of C. Sankaran Nair" (Keshari 2)** starring Akshay Kumar is based on his life and his fight for justice after the Amritsar massacre.

## 4. SATURN : THE MOON KING

**Relevance:** GS 3/ Science and Tech

**Backdrop:** A team of astronomers has announced the discovery of 128 new moons of Saturn.

#### In the News:

- In **March 2024**, astronomers confirmed the existence of **128 new moons** orbiting Saturn.
- This brings Saturn's **total moon count to 274**, the highest of any planet in our solar system, surpassing **Jupiter's 95 confirmed moons**.
- The discovery was made using the **Canada-France-Hawaii Telescope** on **Mauna Kea**,

**Hawaii**, after **years of observation and data analysis**.

#### • Observation Technique:

- ♦ Sequential images were captured and **"stacked"** to enhance visibility of faint, fast-moving objects.
- ♦ These techniques allowed astronomers to **track the movement** and confirm orbital patterns around Saturn.

#### Why does Saturn have so Many Moons?

##### 1. Favorable Position:

- ♦ Saturn lies closer to the **outer solar system**, which is **rich in icy and rocky debris**.
- ♦ It moves through **less crowded star fields**, aiding observation.

##### 2. Recent Orbital Advantage:

- ♦ Since **2019**, Saturn has shifted out of the **Milky Way's dense central region**, making it easier to detect faint objects.

##### 3. Nature of the Moons:

- ♦ Mostly **irregular moons**: small, non-spherical, and have **eccentric or retrograde orbits**.
- ♦ Likely formed by **fragmentation from collisions** of larger bodies.
- ♦ Many are **grouped in clusters**, pointing to **common collisional origins**.

##### 4. Icy Composition:

- ♦ These moons are **icy**, making the **more likely to fragment** during collisions compared to **rocky Jovian moons**.

##### 5. Saturn's Gravitational Influence:

- ♦ It has a strong enough pull to **capture foreign bodies**, possibly from the **Kuiper Belt** or **asteroid belt**.

#### Scientific Implications

##### • Planetary Formation Theories:

- ♦ Helps refine understanding of **moon formation** via **accretion** or **capture**.
- ♦ Sheds light on the **dynamic history of the early solar system**, especially the **outer gas giants**.

##### • Solar System Evolution:

- ♦ Indicates **violent collisional histories** around gas giants.
- ♦ Supports idea that **giant planets swept up remnants** of planetesimals during their migration.



### • Collision Timeline:

- These moonlets likely formed **~100 million years ago**, relatively recent in the **4.65 billion-year history** of the solar system.

### What's Next?

- The discovery opens new avenues:
  - For **deeper sky scans** around other planets.
  - For missions exploring **moon-moon collisions**, dynamics, and **surface geology** of irregular satellites.
  - Pushes astronomer to **rethink classifications** — where do we draw the line between a moon and debris?

### Moons of the Planets in the Solar System

Planet	Number of Moons	Major Moons & Key Features
Earth	1	<b>Moon:</b> Influences tides, stabilizes axial tilt and rotation. Only celestial body visited by humans (Apollo missions).
Mars	2	<b>Phobos:</b> Irregular, heavily cratered, slowly spiraling inward — may crash into Mars. <b>Deimos:</b> Smaller and farther out, likely a captured asteroid.
Jupiter	95+	<b>Ganymede:</b> Largest moon in the solar system, has a magnetic field and possible subsurface ocean. <b>Io:</b> Most volcanically active object in the solar system. <b>Europa:</b> Icy surface with a likely global subsurface ocean — strong candidate for life. <b>Callisto:</b> Heavily cratered, possibly harbors a subsurface ocean, less affected by radiation.
Saturn	274 including newly found mini-moons	<b>Titan:</b> Second-largest moon, dense nitrogen-rich atmosphere, methane lakes — <b>studied by Cassini-Huygens(NASA)</b> <b>Enceladus:</b> Icy moon with cryovolcanoes ejecting water vapor; has a global subsurface ocean. <b>Iapetus:</b> Distinctive light and dark hemispheres. <b>Mimas:</b> Features a giant crater, resembling the "Death Star" from Star Wars.

### About Saturn Mission(NASA)

- Sept. 1, 1979: Pioneer 11 is the first spacecraft to reach Saturn.** Among Pioneer 11's many discoveries are Saturn's F ring and a new moon.
- 1980 and 1981: In its 1980 flyby of Saturn, Voyager 1 reveals the intricate structure of the ring system**, consisting of thousands of ringlets. Flying even closer to Saturn in 1981, Voyager 2 provides more detailed images and documents the thinness of some of the rings.
- July 1, 2004: NASA's Cassini spacecraft becomes the first to orbit Saturn**, beginning a decade-long mission that revealed many secrets and surprises about Saturn and its system of rings and moons.
- Jan. 14, 2005:** The European Space Agency's Huygens probe is the first spacecraft to make a soft landing on the surface of another planet's moon — Saturn's giant moon Titan. The probe provides the first direct study of Titan's atmosphere and the first-and-only direct images of Titan's surface, which is shrouded by thick
- Sept. 17, 2006:** Scientists discover a new ring. The ring coincides with the orbits of Saturn's moons Janus and Epimetheus. Images taken during a solar occultation that backlit the planet revealed the new ring.
- 2009: NASA's Spitzer Space Telescope** reveals the presence of a gigantic, low density ring associated with Saturn's distant moon Phoebe.
- Sep. 15, 2017: Cassini ends a 13-year orbital mission** with a spectacular, planned plunge into Saturn's atmosphere — sending science data back to the last second. Cassini's final five orbits enable scientists to directly sample Saturn's atmosphere for the first time

## DECODED

### 5. SURGE IN GOLD LOANS, NPAS: WILL PROPOSED RBI NORMS BE ABLE TO MITIGATE RISKS?

**Backdrop:** In recent times, banks and financial institutions have witnessed a substantial increase in gold loan disbursements, leading to a corresponding rise in NPAs.

**Relevance:** GS3/Indian Economy and Economic Development

**RBI's Discovery of the Gold loan NPA's:**

- The total gold loan outstanding of banks and NBFCs was Rs 11,11,398 cr (Banks: Rs 923,636 cr) as of Dec 2024 as against Rs 873,701 cr in Dec 2023.
- NPAs in gold loans have jumped 28.58 % in a year, and loan outstanding grew by 27.26 %.

**Why are people giving away their Gold?**

- **Ease of obtaining these loans:** Minimal documentation and swift processing.
- **Instant gold loans with flexible repayment options:** Offered by major financial institutions, including PSU banks.
- **Sharp rise in gold prices:** It has ensured that borrowers will get a higher loan amount from their gold holdings.
- **Significant place in Indian culture,** often being accumulated over generations.
- **To fulfill diverse needs:** During times of financial need, like hospital expenses and college fees, people pledge their gold holdings like jewellery to secure loans.
- **Stable nature of Asset:** During periods of economic uncertainty, gold is perceived as a stable asset, prompting individuals to opt for gold loans to meet immediate financial needs.
- **Increased accessibility** due growth of digital platforms, apps, and fintech solutions, even in remote areas.

**What went wrong?**

- RBI's findings:
  - ♦ Shortcomings in the use of third parties for sourcing and appraisal of loans.
  - ♦ Valuation of gold without the presence of the customer.
  - ♦ Inadequate due diligence and lack of end-use monitoring of gold loans.
  - ♦ Lack of transparency during the auction of gold ornaments and jewellery on default by the customer.
  - ♦ Weaknesses in monitoring of LTV (loan to value) ratio.
  - ♦ Incorrect application of risk weights.
- **Evergreening of gold loans:** Earlier, the borrowers could repledge the jewellery on the same day by paying only the interest. It extended loans indefinitely without making repayment of principle.

**RBI's measures regarding gold loans:****Existing norms:**

- Comprehensive review of banks and NBFCs policies, processes, and practices on gold loans to identify gaps and initiate appropriate remedial measures in a time-bound manner.
- Close monitoring of the gold loan portfolio in light of significant growth in the portfolio.
- Adequate controls over outsourced activities and third-party service providers.
- September 24: Borrowers are now required to repay the full principal and interest on the loan to repledge the loan and extend the loan tenure for another year.

**New proposed norms:**

- Barred lenders from granting any advance against primary gold/ silver or financial assets backed by primary gold/ silver like units of ETFs or units of mutual funds.
- Maximum loan-to-value (LTV) ratio in respect of consumption gold loans should not exceed 75% of the value of gold.
- Eligible gold collateral should not be used concurrently for extending loans for income generating purposes as well as consumption loans.
- Lenders should not extend loans where ownership of the collateral is doubtful, and they should keep a record of the verification of the ownership of the collateral.
- Tenor of consumption loans in the nature of bullet repayment loans where both principal and interest become due at maturity should be capped at 12 months.

**== PRACTICE QUESTION ==**

- Q.** In recent times, there has been a substantial increase in gold loan disbursals, leading to a corresponding rise in NPAs. What are the reasons behind rising gold loan NPAs? Also write about the initiatives taken by RBI and suggest measures to tackle this problem.

**== PYQ ==**

- Q.** Craze for gold in India has led to surge in import of gold in recent years and put pressure

on balance of payments and external value of rupee. In view of this, examine the merits of Gold Monetization scheme (2015)

## ===== DNA QUIZ =====

**Q.1** Which one of the following countries has its own Satellite Navigation System?(2023)

- (a) Australia
- (b) Canada
- (c) Israel
- (d) Japan

**Q.2** Consider the following: (2012)

- 1. Black-necked crane
- 2. Cheetah
- 3. Flying squirrel
- 4. Snow leopard

Which of the above are naturally found in India?

- (a) 1, 2 and 3 only
- (b) 1, 3 and 4 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

**Q.3** Consider the following statements:

- 1. Lions do not have a particular breeding season.
- 2. Unlike most other big cats, cheetahs do not roar.
- 3. Unlike male lions, male leopards do not proclaim their territory by scent marking.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

**Q.4** Consider the following statement:

- 1. In Budasna versus Fatima Case of 1914 held those who converted to Hinduism cannot be treated as outcasts.
- 2. Sir C. Sankaran Nair was First Indian appointed as a Judge in the Madras High Court.
- 3. The book titled "Gandhi and Anarchy" (1922) was written by Chandrashekhar Azad.

Which of the following statements is/are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) None

**Q.5** Consider the following pairs:

Spacecraft	Purpose
1. Cassini-Huygens	Orbiting the Venus and transmitting data to the Earth
2. Messenger	Mapping and investigating the Mercury
3. Voyager 1 and 2	Exploring the outer solar system

Select the correct answer using the code given below.

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

### Answer

1. (d)

2. (b)

3. (a)

4. (b)

5. (b)

■■■■