



Daily Current Affairs



To The Point

by Dhananjay Gautam

Table Of Content **19 Feb 2025**

1. DDoS Cyber Attack on Karnataka's Kaveri 2.0 Portal
2. India & USA Launch Autonomous Systems Industry Alliance (ASIA) for Underwater Domain Awareness (UDA)
3. New Chief Election Commissioner Appointed
4. India-US Nuclear Cooperation
5. Delhi Earthquake
6. Understanding President's Rule



Subscribe to our

You Tube *Freedom UPSC with Dhananjay Gautam*

1 DDoS Cyber Attack on Karnataka's Kaveri 2.0 Portal: Impact & Prevention

Context: Karnataka's **Kaveri 2.0 property registration portal** suffered a major **DDoS attack** in **January 2025**, disrupting key citizen services. Investigations confirmed that the outage was not a technical issue but a **deliberate cyberattack**, highlighting the vulnerabilities of **critical digital infrastructure**.



What is a DDoS Attack?

A **Distributed Denial of Service (DDoS) attack** is a **cyberattack** aimed at overwhelming a server, service, or network with **massive internet traffic**, making it **inaccessible** to genuine users.

How It Works:

- Unlike a **Denial of Service (DoS) attack**, which originates from a **single source**, a **DDoS attack** uses multiple compromised devices (botnets) to **flood a system** with requests.
- The botnet consists of **malware-infected** systems that generate **excessive traffic**, crippling online services.

Types of DDoS Attacks:

1. **Bandwidth Flooding** – Overloads a system's bandwidth.
2. **Protocol Exploitation** – Exploits network vulnerabilities.
3. **Application Targeting** – Attacks weaknesses in specific applications.

Major DDoS Attacks:

X Platform Attack (August 2024):

- **Elon Musk's X platform** suffered a **massive DDoS attack**, causing **delays** before a key event featuring **Donald Trump**.

GitHub Attack (2015):

- A **China-based botnet** attacked **Microsoft-owned GitHub**, targeting **anti-censorship projects** using malicious JavaScript injections.

Impact of DDoS Attacks on Web Portals:

1. **Service Downtime** – Systems crash, leading to **disruptions** and **financial losses**.
2. **Diversion for Other Attacks** – DDoS attacks can be a **smokescreen** for **data breaches**.
3. **Reputational Damage** – Frequent attacks **erode public trust** in digital services.

DDoS Attack on Kaveri 2.0:

How the Attack Happened:

- Attackers **flooded the system** using **62 email accounts** from **14 IP addresses**.
- The **January 2025 attack** targeted the **Encumbrance Certificate (EC) search**, generating **6.2 lakh malicious requests** in just **two hours**.

Consequences:

- **Property registrations dropped** significantly.



- **Government services** were **severely disrupted**.
- Exposed **cybersecurity loopholes** in government portals.

How to Prevent DDoS Attacks?

1. **Traffic Filtering:** AI-powered security tools can block malicious traffic.
2. **Continuous Monitoring:** Cybersecurity teams should detect **unusual traffic spikes** early.
3. **Rate Limiting:** Restricting excessive requests **prevents overload**.
4. **Bot Detection:** CAPTCHAs and AI-based analysis help identify automated bots.
5. **Strong Authentication:** Multi-Factor Authentication (MFA) secures user access.
6. **Government & Industry Collaboration:** Working with **cybersecurity agencies** enhances **threat response**.
7. **Cyber Awareness:** Educating users about **phishing risks** and **security best practices**.
8. **Incident Response Plan:** **Dedicated cybersecurity teams** should respond swiftly to threats.

Future of Kaveri 2.0:

The portal was restored on February 5, but the attack **highlighted the urgent need for stronger cybersecurity measures**. Government agencies must **prioritize digital security** to **prevent future disruptions** and ensure **safe digital governance**.

freedom UPSC
TOGETHER WE SCALE HEIGHTS

2

India & USA Launch Autonomous Systems Industry Alliance (ASIA) for Underwater Domain Awareness (UDA)

Context: During the Indian Prime Minister's recent visit to the USA, India and the United States announced the **Autonomous Systems Industry Alliance (ASIA)** to boost industry collaboration and production in the Indo-Pacific.



What is Underwater Domain Awareness (UDA)?

UDA is a maritime strategy that leverages technology, policies, and intelligence to monitor and manage underwater activities effectively.

Why is UDA Important for India?

- **Enhances Regional Security** – Helps detect threats like piracy, terrorism, and maritime conflicts for timely action.
- **Boosts the Blue Economy** – Supports marine resources, fisheries, and environmental protection for sustainable growth.
- **Strengthens Diplomacy** – Improves cooperation with neighboring nations in the maritime domain.

Key Technologies in UDA:

1. **Unmanned Underwater Vehicles (UUVs)** – India has developed UUVs like MAYA, AMOGH, and ADAMYA for deep-sea surveillance.
2. **Acoustic Surveillance** – Uses Sonar Systems, Sonobuoys, and the Sea Picket for advanced underwater monitoring.
3. **LIDAR Technology** – Bathymetric LIDAR uses green light to map seafloors and riverbeds with precision.

India-USA Collaboration in UDA:

- India is the **first country** to partner with the USA on UDA technologies.
- India's BEL has signed deals with **Ultra Maritime (USA)** for **Multistatic Active (MSA) Sonobuoys** and **L3 Harris (USA)** for **advanced sonar systems**.

This initiative will **redefine India's maritime capabilities**, **strengthen regional security**, and **pave the way for cutting-edge underwater tech**.

3

New Chief Election Commissioner Appointed

Context: Prime Minister **Narendra Modi**, Home Minister **Amit Shah**, and Leader of Opposition **Rahul Gandhi** recently met to appoint **Gyanesh Kumar** as the **Chief Election Commissioner (CEC)** of India.



Election Commission of India (ECI):

- The **Election Commission (EC)** is an **autonomous constitutional authority** that oversees elections in India.
- It conducts elections for the **Lok Sabha, Rajya Sabha, State Assemblies, President, and Vice President**.
- The commission consists of **one Chief Election Commissioner (CEC)** and **two Election Commissioners (ECs)**.
- While all three commissioners have **equal power**, the **CEC is the first among equals**, similar to the **Chief Justice of India**.

Appointment of the CEC: Then vs Now:

Earlier:

- There was **no specific law** for appointing the **CEC and ECs**.
- Appointments were made by the **President on the advice of the Prime Minister**.
- The **senior-most EC** was usually promoted as the next CEC.

Now (Under the 2023 Law):

- The **Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023** now governs appointments.
- **Selection Process:**
 - The **President** appoints the CEC based on the recommendation of a **Selection Committee**.
 - The **Selection Committee** includes: **Prime Minister**
 - **A Union Cabinet Minister**
 - **Leader of Opposition/Largest Opposition Party Leader in Lok Sabha**
 - A **Search Committee**, led by the **Cabinet Secretary**, prepares a **panel of candidates** for selection.
 - Candidates must have **served at least as a Secretary to the Central Government**.

Changes in Salary & Service Conditions:

- Under the **1991 Act**, the **CEC & ECs** received a salary equal to a **Supreme Court Judge**.
- Under the **2023 Act**, their salary is now equivalent to that of a **Cabinet Secretary**.

This reform aims to ensure **greater transparency and fairness** in the **appointment of election commissioners**, shaping the future of **India's democratic process**.

4 India-US Nuclear Cooperation: A Renewed Strategic Alliance

Context: The **India-US nuclear cooperation** has taken a significant step forward, showcasing a diplomatic victory for India amid tough trade negotiations with the new US administration. This renewal brings with it key advantages for both nations, including:



- A **reaffirmed commitment** to the **123 Civil Nuclear Agreement**.
- A recognition of the **past stagnation** in the partnership.
- A renewed push to **maximize benefits** from the Indo-US nuclear deal, signed **two decades ago**.

Large-Scale Localization & Technology Transfer:

- Despite the US's often **protectionist trade stance**, the renewed nuclear cooperation agreement emphasizes **joint reactor building** on Indian soil. This marks a key shift, as it includes **local manufacturing** and **technology transfer**—a move away from Washington's usual focus on keeping manufacturing within the US.

Upgrading Reactor Specialisation:

- This new deal presents **India** with the unique opportunity to modernize its **reactor technology**, bringing it in line with **global standards**. This will accelerate **capacity expansion** and enhance India's ability to meet growing energy demands.

Small Modular Reactors (SMRs): A Growing Focus:

- India is setting its sights on entering the rapidly expanding **SMR** segment, leveraging the expertise of its **private sector**. While India has experience with **220MWe PHWRs**, these reactors are becoming outdated compared to the globally dominant **pressurised water reactors (PWRs)**. By exploring **SMR collaborations**, India aims to become a key player in the future of nuclear energy.

Strategic Collaborations in SMR Development:

- India is in discussions with **Holtec International**, a leading nuclear technology exporter, to explore potential **SMR projects**. This collaboration comes at a time when the **US** and **India** are focused on countering **China's leadership** in the **SMR** space—an area with strategic importance in the **Global South**.

Unlocking New Economic and Technological Potential:

- The partnership provides India with the chance to overcome its **technological limitations**, which have historically hindered its progress in the nuclear sector. By joining forces with the US, India could **end its technological isolation**, significantly boosting its role in the **global nuclear market**.

Holtec International's Role and Investments:

- **Holtec International** is making significant investments in India's nuclear future, with plans to expand operations, including the establishment of a **nuclear technology campus** in **Pune** and a **specialty manufacturing plant**. These investments are expected to drive **foreign investment** and contribute to **economic growth**.

Reviving the Nuclear Partnership:

- The original **123 Agreement**, signed in **2007**, was designed to foster full civil nuclear energy cooperation. However, it faced significant challenges. India's ongoing efforts to amend its laws may finally break the deadlock, leading to **joint manufacturing** and **SMR projects**.

**SMRs: The Future of Nuclear Energy:**

Small Modular Reactors (SMRs), ranging from 30MWe to 300MWe, are increasingly recognized as a **sustainable and commercially viable energy option**. **Holtec's SMR-300**, backed by the **US Department of Energy**, is currently in early design stages, with potential deployments in countries like the **UK** and **Canada**. Other Western competitors, including **Rolls-Royce**, **NuScale**, **Westinghouse**, and **GE-Hitachi**, are also heavily invested in the SMR market.

In conclusion, the **India-US nuclear cooperation** renewal marks a critical step toward **technological advancements**, **economic growth**, and **strategic influence** on the global nuclear stage.



5 Delhi Earthquake: Understanding Causes, Impact, and Seismic Risk

Context: On **17th February**, before dawn, **Delhi** experienced a magnitude **4.0 earthquake**, the strongest seismic activity originating within the city in the past five years. This event has sparked discussions about the **seismic risk** of the city, highlighting both the causes and potential for future earthquakes.



Seismic Activity in Delhi: A Vulnerable Region:

Delhi is situated in an area that is **seismically active**, making it **vulnerable** to earthquakes. The city is categorized under **Zone 4** in India's **earthquake hazard map**, which is the second-highest risk category. According to the **MSK scale**, areas in Zone 4 can experience **MSK-8 intensity**, indicating possible **structural damage**.

In the past five years, Delhi has experienced numerous **small earthquakes** (magnitude 2-3), mostly unnoticed by residents but picked up by **seismometers**. Although minor tremors are common, stronger quakes are relatively rare in this region.

The Aravalli-Delhi Fold Belt: A Key Factor in Earthquake Activity:

Delhi lies within the **Aravalli-Delhi Fold Belt**, a geological structure that stretches from **Rajasthan** to **Haryana** and Delhi. This belt has experienced significant geological transformations over millions of years, leading to **folded rock formations**. **Geological stresses** in this region can occasionally trigger **mild earthquakes**.

Unlike other seismic zones like the **Himalayan region**, which is more prone to massive earthquakes due to the **subduction** of tectonic plates, the **Aravalli-Delhi Fold Belt** experiences earthquakes from **pre-existing geological faults**, with much slower tectonic activity today.

A Sound That Shook Delhi: What Was That Noise?

Several residents reported hearing a peculiar **sound** during the earthquake. While earthquakes often produce **ultrasonic frequencies**, certain large tremors can create audible sounds due to **vibrations** from buildings and underground structures. These sounds are often mistaken for the quake itself, but they are usually the result of **shaking** caused by the seismic activity.

Is a Major Earthquake Likely in Delhi?

Although there have been **historical records** of significant earthquakes in the Delhi region, experts believe that the likelihood of a **major earthquake** originating in the city is **low**. Historical earthquakes that affected Delhi include:

- **1720:** A **powerful earthquake** reported to have affected the city.
- **1803:** A large earthquake near **Srinagar-Devprayag** in Uttarakhand, which allegedly damaged the **Qutub Minar**.

Despite this, Delhi's **tectonic setup** does not show signs of significant stress build-up required for a high-magnitude quake. However, Delhi remains vulnerable to strong earthquakes originating from the **Himalayan region**, especially considering the city's **dense population** and the growing number of **high-rise buildings**.

**Conclusion: Be Prepared, Stay Vigilant:**

The recent earthquake in Delhi has once again raised awareness about the **seismic risk** the city faces. While the possibility of a **massive earthquake** in Delhi is unlikely, the city remains at risk from moderate tremors.

Understanding Delhi's **seismic history** and **geological structure** is vital for **disaster preparedness** and **mitigation**. Both **authorities** and **residents** should ensure that buildings and infrastructure are designed to be **earthquake-resistant**, minimizing the risks in the event of a stronger quake in the future.

Key Takeaways:

- **Delhi** is in **Zone 4**, facing a moderate risk of **earthquakes**.
- The **Aravalli-Delhi Fold Belt** is a source of minor quakes, with **pre-existing faults**.
- The possibility of a **major earthquake** in Delhi is **low**, but **Himalayan earthquakes** pose a significant threat.
- **Disaster preparedness** and **earthquake-resistant infrastructure** are crucial for minimizing risks.



6

Understanding President's Rule: Function, Grounds, and Impact

Context: President's Rule, also referred to as **State Emergency**, is a provision in the Indian Constitution under **Article 356**, where the Union government takes over the administration of a state due to the **failure of constitutional machinery**. This typically occurs when a state government fails to function according to the Constitution, often due to political instability or unrest.

President's rule



The Imposition of President's Rule in Manipur:

On **February 13, 2025**, following the resignation of **Manipur Chief Minister N. Biren Singh**, the **Union government** invoked **President's Rule** in **Manipur**. The **Ministry of Home Affairs** issued a notification stating that President **Droupadi Murmu** was satisfied that a situation had arisen in which **Manipur's government could not function** in accordance with the Constitution.

The immediate reason for the imposition of President's Rule is the **ethnic violence** between the **Meitei** and **Kuki-Zo communities**, which has resulted in **over 250 deaths** and displaced more than **60,000 people**. The crisis stemmed from the Meitei demand for **Scheduled Tribe (ST) status**, opposed by the Kuki-Zo community, leading to political deadlock following the Chief Minister's resignation.

Constitutional Provisions for Emergencies:

The **Indian Constitution** provides for emergency provisions under **Part XVIII**, which are aimed at safeguarding India's sovereignty, unity, and security in exceptional situations. There are three types of emergencies:

1. **National Emergency** (Article 352)
2. **State Emergency** (Article 356) – President's Rule
3. **Financial Emergency** (Article 360)

President's Rule Under Article 356: Grounds and Procedure:

The grounds for imposing President's Rule under **Article 356** arise when a state's **constitutional machinery fails**, due to either **non-performance** or **malperformance** of the state government. Here's how it functions:

Procedure for Imposition:

- The **President** issues a **proclamation** based on the **Governor's report** or other sources, stating that the state government cannot function according to the Constitution.
- **Executive powers** of the state are transferred to the **Union Government**, and legislative powers are handed over to **Parliament**.
- **High Court powers** remain unaffected during this period.

Relation to Articles 355 & 365:

- **Article 355** mandates the Union to protect states from external aggression and internal disturbances.
- **Article 365** allows the President to declare a constitutional emergency if a state **disobeys Union directives**.

Duration and Parliamentary Approval:

- **Initial Duration:** The proclamation must be approved by **both Houses of Parliament** within two months by a **simple majority**; otherwise, it automatically ceases to operate.
- **Extension:** After approval, President's Rule can last for up to **six months**, extendable in **six-month increments** with continued parliamentary approval.
- **Maximum Duration:** It can last for up to **three years** if:
 - A **National Emergency** is in force, or
 - The **Election Commission** certifies that state elections cannot be conducted.

- **Revocation:** The President has the authority to **revoke** President's Rule at any time through a subsequent proclamation.

Distinction Between President's Rule and National Emergency:

Though both are **emergency provisions**, **President's Rule** and **National Emergency** differ significantly:

Feature	President's Rule (Article 356)	National Emergency (Article 352)
Grounds	Breakdown of constitutional machinery in a state	War, external aggression, or armed rebellion
Duration	Max. 3 years	No fixed limit
Parliamentary Approval	Simple majority	Special majority
Effect on State Government	State executive dismissed, legislature dissolved or suspended	State government continues functioning
Effect on Fundamental Rights	No impact	Article 19 suspended; other rights may be suspended
Judicial Review	Subject to judicial review	Subject to judicial review

Historical Usage of President's Rule in India:

President's Rule has been invoked **134 times** across **29 states and Union Territories** since its inclusion in the Constitution. Some key facts include:

- **First Instance:** Imposed in **Punjab** in **1951**.
- **Most Frequent States:** **Manipur** and **Uttar Pradesh**, each having seen President's Rule imposed 10 times before 2025, with Manipur now having 11 instances.
- **Longest Duration:** The longest tenure of President's Rule was in **Jammu & Kashmir**, lasting **4,668 days** (over 12 years).

The Supreme Court's Stand on President's Rule:

In the landmark case **S.R. Bommai vs. Union of India (1994)**, the **Supreme Court** laid down important principles regarding President's Rule:

- **Article 356 should be a last resort** and should not be used for **political reasons**.
- The **Centre** must first issue a **warning** and seek an explanation from the state before imposing President's Rule.
- The **President's power** under Article 356 is **conditional** and subject to **judicial review**.
- The President cannot dissolve a state assembly **without parliamentary approval**, and any invocation must be due to a **constitutional breakdown**.

This ruling emphasizes that **states** are not merely **appendages of the Centre** and that President's Rule should be applied only when absolutely necessary to restore constitutional governance.

Conclusion:

President's Rule is a crucial mechanism to ensure that **constitutional machinery** in a state continues functioning properly. However, it must be invoked judiciously, with due consideration of the **constitutional provisions** and the **judicial review** process. The recent imposition in **Manipur** highlights the importance of this provision in times of crisis, particularly when a state is unable to function effectively due to political or social unrest.