

# CROSS & CLIMB ROHTAK

## School of Research Based Learning & Competition

### Current Affairs – 08 March 2025

#### BRAHMASTRA MISSILE



Indian scientists have developed a modern-day 'Brahmastra' with an astonishing speed of 12,144 km per hour.

- This weapon, named the Long Range Anti-Ship Missile (LRAShM), is a hypersonic glide missile.
- It was developed by the Defence Research and Development Organisation (DRDO).
- It outperforms similar missiles like China's DF-17 in terms of range and technology.

#### Features:

- With a range of 1,500 km, this missile can obliterate an enemy ship or warship within 7 to 8 minutes of being launched.
- It can be deployed from both land and sea, offering versatility in combat scenarios
- This missile operates at 10 Mach, making it 10 times faster than the speed of sound. This allows it to travel 3.37 km in just one second.
- The incorporation of special heat-resistant materials ensures the missile can withstand extreme temperatures without disintegrating during flight, setting a new benchmark in scramjet and glide technology.

#### CENTRAL ELECTRICITY AUTHORITY (CEA)



- It is a statutory body established under section 3(1) of the Electricity Supply Act 1948, which was repealed by section 70(1) of the Electricity Act 2003.
- It is an "Attached Office" of the Ministry of Power.

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- **Functions:** The Authority shall perform such functions and duties as the Central Government may prescribe or direct, and in particular to:
  - **advise the Central Government** on matters relating to the **national electricity policy, formulate short-term and perspective plans** for the development of the electricity system, and **coordinate the activities of the planning agencies** for the optimal utilisation of resources to subserve the interests of the national economy and to provide reliable and affordable electricity for all consumers;
  - **specify the technical standards** for the construction of **electrical plants, electric lines, and connectivity to the grid**;
  - **specify the safety requirements** for the construction, operation and maintenance of electrical plants and electric lines;
  - **specify the grid standards** for operation and maintenance of transmission lines;
  - **specify the conditions for the installation of meters** for transmission and supply of electricity;
  - **promote and assist in the timely completion of schemes** and projects for improving and augmenting the electricity system;
  - **promote measures** for advancing the skill of persons engaged in the electricity industry;
  - **advise the Central Government** on any matter on which its advice is sought or **make recommendations to that Government** on any matter if, in the opinion of the Authority, the recommendation would help in improving the generation, transmission, trading, distribution, and utilisation of electricity;
  - **collect and record the data** concerning the generation, transmission, trading, distribution and utilisation of electricity and carry out studies relating to cost, efficiency, competitiveness, and such like matters;
  - **make public from time to time the information** secured under this Act and provide for the **publication of reports and investigations**;

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#### WHAT IS THE WORLD SPICE ORGANISATION (WSO)?



The Chairman of the World Spice Organisation (WSO) recently stated that India holds a meager 0.7% share in the global seasoning market, valued at \$14 billion in 2024, compared to China's 12% and the U.S.A.'s 11%.

- It is a **not-for-profit organisation** established in **2011** in **Kochi, Kerala**, the **spice capital of India**.
- It is registered under the Travancore Cochin Literary, Scientific, and Charitable Societies Act, 1956.
- **Objective:** Facilitating the spice industry in dealing with issues of “**Food Safety & Sustainability**”.
- WSO seeks to achieve its objectives by involving all its stakeholders—the general public, the industry, academia, and the end-users.
- WSO **undertakes social responsibility projects** beneficial for the industry.
- WSO is involved in initiatives promoting sustainability and biodiversity in collaboration with prominent national and international organizations like **Spices Board India, Indian Institute of Spice Research (IISR)**, Rainforest Alliance, GIZ (Germany), and IDH - The Sustainable Trade Initiative (Netherlands).
- WSO also **interacts with global spice associations** like the American Spice Trade Association (ASTA), European Spice Association (ESA), International Pepper Community (IPC), etc **to resolve issues** facing the spice industry.
- WSO **takes part** in the various **national and international standard-setting processes** pertaining to spices, such as **FSSAI, BIS, ISO, and Codex**, in order to ensure that the interests of the industry are considered while setting the standards.
- It is the **technical partner of the All India Spices Exporters Forum (AISEF)**.

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#### WHAT IS INSIDER TRADING?



- Insider trading, also known as **insider dealing**, is the malpractice of **selling or buying a company's securities** by the **insiders of a company**.

#### **Who is an insider?**

- The Securities and Exchange Board of India (SEBI) defines an 'insider' as **someone who has access to price-sensitive information** about a particular **company's shares or securities**.
- An insider can be anyone who has been **associated with the company** in some way **during the six months preceding the insider trade**.
- That person could be an **employee, a director, relative, banker or a legal counsel** to the company, or even an **official of the stock exchanges**, trustees or employees of an asset management company (AMC) that worked with the company.
- Insiders, who have access to confidential and exclusive information about the issuer of a particular security or stock, **benefit from buying or selling undisclosed securities before they fluctuate in price**.
- **What is Unpublished Price Sensitive Information (UPSI)?**
  - UPSI refers to a piece of **exclusive information related to a firm's stock prices**, quarterly results, acquisition deals, mergers, or any kind of sensitive activities that have **not been shared with the public at large**.
  - When insiders are able to access the UPSI, they illegally conduct trade dealings for personal gains.
- Insider trading is one of the most serious malpractices that exists in the market.
- In India, insider trades are **regulated by the SEBI under the Insider Trading Regulations, 2015**.

### WORLD'S OLDEST IMPACT CRATER



Scientists in Australia have discovered the world's oldest known meteorite impact crater in northwestern Australia, estimated to be 3.47 billion years old.

- Scientists in Australia have identified what they believe to be the world's oldest known meteorite impact crater, a finding that could reshape understanding of Earth's history and the origins of life.
- The crater, discovered in the remote **North Pole dome region in northwestern Australia**, is estimated to be 3.47 billion years old—more than a billion years older than any previously known impact site.
- The crater, named the **North Pole Crater**, was likely formed by a meteorite striking Earth at more than 36,000 kilometres per hour, creating an impact site over 100 kilometres wide. The collision may have sent debris flying across the planet, with molten droplets possibly landing as far away as South Africa.
- This discovery challenges previous assumptions about Earth's ancient history and suggests that such impacts may have contributed to the origins of life by creating environments suitable for microbial activity.

### What is an Impact Crater?

- An impact crater forms **when a fast-moving asteroid or meteorite crashes into a planet or moon**.
- The impact is so powerful that it vaporizes the object, creating shockwaves that melt and reshape the ground, leaving a large circular hole with scattered rocks.
- **Examples:** Barringer Crater, Tycho Crater, etc.



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#### LADKI BAHIN YOJANA



- The Mukhyamantri Majhi Ladki Bahin Yojana, commonly referred to as the Ladki Bahin Yojana, is a key welfare program introduced by the Maharashtra Government in 2024.
- **Objective:** It aims to provide financial support to economically disadvantaged women aged 21 to 65, promoting their rehabilitation, economic development, and empowerment.
- **Eligibility Criteria:** To qualify for the Ladki Bahin Yojana, the applicant must be a permanent resident of Maharashtra.
  - Age Limit: The applicant should be between 21 and 65 years old.
  - Family Income: The combined annual income of the applicant's family must not exceed ₹2.5 lakh.
  - Income Tax: No family member should be an income taxpayer.
- **Benefits:** Under this scheme, eligible women will receive Rs 1,500 per month through Direct Benefit Transfer (DBT).

#### WOOLLY MICE



Scientists have successfully edited mouse DNA with genes from the woolly mammoth, creating the world's first furry "woolly mice."

- The woolly mice have been genetically engineered **by modifying seven genes** that code for traits like hair length, thickness, and colour. These modifications include genes such as **FGF5 for longer hair** and **MC1R for a golden coat**.
- **Purpose:** The creation of woolly mice serves as a proof-of-concept for the feasibility of gene editing in de-extinction efforts. It demonstrates the ability to recreate complex genetic combinations that took nature millions of years to develop

### How did the scientists create woolly mice?

- **Identifying Mammoth Genes:** Scientists first compared mammoth DNA with their closest living relative, the Asian elephant, to identify genetic differences related to hair length, thickness, texture, colour, and body fat.
- **Selecting Relevant Traits:** They selected 10 mammoth gene variants linked to these traits and matched them with similar known genetic variants in laboratory mice for targeted gene editing.
- **Gene Editing in Mice:** Using **CRISPR technology**, scientists made eight precise edits to modify seven genes in the mice, incorporating mammoth-like traits responsible for a woolly coat and cold adaptation.

### AMRUT BIODIVERSITY PARK



- The Amrut Biodiversity Park, built as part of the Delhi Development Authority's **Yamuna Floodplain Restoration initiative**, is a joint venture between the authority and the CSIR-National Botanical Research Institute, Lucknow.
- Spanning around 115 hectares, it is located along National Highway 24 and next to the Commonwealth Games Village in Delhi.
- The park features 14,500 native plants and tree species and 3,20,000 riverine grasses, including **blue panic grass and sarkanda**. It aims to provide the people with a clean and refreshing environment while increasing the city's green spaces.
- The project is distinct from the rest of the biodiversity parks in its theme – India's freedom struggle.
- It features tracks named '**First War of Independence**', '**Santhal Rebellion**', '**Champaran Satyagraha**', '**Dandi March**' and '**Azad Hind Fauj**'.

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#### DONALD TRUMP ESTABLISHES US BITCOIN RESERVE

Former U.S. President Donald Trump signed an executive order establishing a **Strategic Bitcoin Reserve** and a **US Digital Asset Stockpile**.

The Bitcoin reserve will be funded with BTC forfeited in criminal or civil asset seizures, providing the U.S. with a strategic advantage. Other agencies will assess their ability to contribute seized Bitcoin. Similarly, the **Digital Asset Stockpile** will include other forfeited digital assets.

Despite the move, Bitcoin's price dropped over 4% at the time.

#### **Working of Bitcoin Reserve**

- The White House fact sheet highlights that no clear policy exists for managing seized digital assets, leading to accountability issues and missed opportunities for centralization and security.
- **Government Bitcoin Holdings & Audit**
  - It is estimated that the U.S. government owns around 200,000 BTC, but a full audit has never been conducted.
  - The executive order mandates a complete accounting of federal digital asset holdings.
- **Bitcoin as a Reserve Asset**
  - The U.S. will not sell Bitcoin deposited into the Strategic Bitcoin Reserve but will hold it as a store of value.
  - The Secretaries of Treasury and Commerce are tasked with developing budget-neutral strategies to acquire more Bitcoin without imposing costs on taxpayers.
- **Strategic Advantage & Missed Opportunities**
  - With Bitcoin's fixed supply of 21 million coins, the fact sheet underscores the importance of early adoption for strategic positioning in the global financial system.
  - Past premature sales of Bitcoin have cost U.S. taxpayers over \$17 billion.



### Other Digital Assets in the Stockpile

- Apart from Bitcoin, the **US Digital Asset Stockpile** will include **Ethereum, XRP, Solana, and Cardano**, as mentioned by President Trump earlier.
- **Acquisition Policy**
  - The U.S. government will not actively acquire additional digital assets for the stockpile.
  - Instead, it will consist only of assets obtained through forfeiture proceedings, similar to the Bitcoin reserve.
- **Management & Potential Sales**
  - The Secretary of the Treasury is authorized to develop strategies for responsible stewardship, which may include selling assets from the stockpile.
  - All government agencies must report their digital asset holdings to the Secretary of the Treasury and the President's Working Group on Digital Asset Markets.

### Boost to Crypto Market

- The cryptocurrency market has surged following Trump's election victory, driven by expectations that his administration will adopt a pro-crypto stance.
  - **Elon Musk's Influence**
    - Trump's potential collaboration with Elon Musk, a known crypto advocate, has further strengthened investor confidence in Bitcoin and other digital assets, despite concerns about conflicts of interest.
  - **Pro-Crypto Leadership at SEC**
    - Trump has chosen Paul Atkins to lead the Securities and Exchange Commission (SEC), a figure widely regarded as a crypto-friendly regulator.
    - The SEC has dropped multiple investigations and lawsuits against cryptocurrency firms over alleged securities violations.
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