

# CROSS & CLIMB ROHTAK

## School of Research Based Learning & Competition

### Current Affairs - 01 March 2025

#### BORDER ROADS ORGANISATION (BRO)



- It is a road construction executive force in India that provides **infrastructural support to the Indian Armed Forces**.
- It works under the **Ministry of Defence**.
- **Establishment:** It was formed on 7 May **1960** to secure India's borders and develop infrastructure in remote areas of the north and north-east states of the country.
- It develops and maintains **road networks in India's border areas and friendly neighboring countries**.
- Over the years, the organisation has **diversified into the construction** of steel bridges, airfields, townships, tunneling works and hydroelectric projects.
- In order to ensure coordination and expeditious execution of projects, the Government of India set up the **Border Roads Development Board (BRDB)** with the **Prime Minister as Chairman** of the Board and the **Defence Minister as Deputy Chairman**.
- BRO is also included in the **Order of Battle of the Armed Forces**, ensuring their **support at any time**.
  - The BRO also has an **operational role during national emergencies** and the **outbreak of hostilities**, when it provides direct support to the Army in the maintenance of roads in the forward zones and executes other functions specified by the government.
  - It also provides the **workforce for the rehabilitation of certain forward airfields** of the Indian Air Force during operations.
- One of BRO's **notable achievements is the Atal Tunnel**, which holds the distinction of being the **world's longest highway tunnel** at 9.02 kilometers.
- **Motto** of the organization: **Shramena Sarvam Sadhyam** (everything is achievable through hard work).

# CROSS & CLIMB ROHTAK

## School of Research Based Learning & Competition

### Current Affairs - 01 March 2025

#### WHAT IS AUROVILLE?



Auroville celebrated its 57th birth anniversary with bonfire meditation at the Amphitheatre, Matrimandir, recently.

- It is an **experimental international township** in South India (in Tamil Nadu, near Pondicherry) where thousands of residents from over 60 countries are exploring **alternative ways of living**, working, and being together peacefully.
- It was **founded by Mirra Alfassa**, known as the 'Mother', the **spiritual collaborator of Sri Aurobindo**, on the 28th of February, **1968**, as an international cultural township.
- It was designed by the famous **architect Roger Anger**.
- It is the **largest and oldest surviving international intentional community** in the world.
  - It has flourished from a barren desert to a 3,000-acre township and bioregion in which more than 3 million trees have been planted, home to rich biodiversity, 9 schools, multiple social enterprises, etc.
- The **Aurovilleans**, as they call themselves, live together on the **principles of peace, harmony, sustainable living**, and '**divine consciousness**' which were the philosophy of the Mother.
- **UNESCO had endorsed the project** of Auroville through four resolutions in 1966, 1968, 1970 and 1983.
- The township is under the **administrative control of the Ministry of Education** since 1980 and is **administered as per** the provisions of the **Auroville Foundation Act, 1988**, passed by the Parliament of India.
- According to the provisions of the Auroville Foundation Act, the **Government of India provides partial funding** in the form of grants to the Foundation for meeting its expenditure on the establishment, maintenance and development of Auroville.

## Current Affairs - 01 March 2025

### THE STEPS THAT WILL SHAPE INDIA'S AI AMBITION

- As software developers in Bengaluru compete with Chinese firms for AI-driven projects, **the nation faces challenges**, striving to catch up with Silicon Valley while being pursued by China and Southeast Asia.
- The **core challenge is not simply the preference for local or foreign AI platforms** but rather the risk that excessive regulations might slow down India's momentum.
- To maintain its competitive edge, **India must navigate the complexities of AI adoption, regulatory pressures, and global market dynamics with strategic foresight.**

#### Steps that Will Shape India's Ambition

- **The Need for Regulatory Clarity**
  - While AI adoption must be rapid to maintain India's competitive edge, **regulatory clarity is essential.**
  - At present, **India's AI policy landscape is fragmented**, with different agencies proposing conflicting guidelines.
  - To avoid legal uncertainty, **policymakers should focus on strengthening existing laws rather than introducing new ones.**
  - Lessons from the EU and U.S. indicate that **AI can be effectively governed by adapting current legislation.**
  - **India already has a robust legal framework** covering antitrust laws, corporate liability, free speech, and public order, which can be extended to AI governance.
- **Strike a Balance between Innovation and Regulation**
  - India's priority should be **to encourage rapid AI adoption while ensuring open-source accessibility and flexible technological frameworks.**
  - The country's **long-term success in the AI sector depends on its ability to strike a balance between innovation and regulation**, enabling its IT industry to thrive in the global marketplace.

## Current Affairs - 01 March 2025

### Conclusion

- **India stands at a pivotal moment in the AI revolution**, where its choices today will determine its place in the global digital economy.
- While regulatory concerns must be addressed, **excessive restrictions could impede growth and push businesses elsewhere**.
- Instead, **India should focus on fostering an AI-friendly ecosystem**, leveraging its IT strengths, and ensuring that AI adoption aligns with national interests.
- **By pursuing strategic international partnerships, maintaining regulatory flexibility, and supporting AI-driven innovation, India can secure its leadership in the global AI race.**

### UNION CABINET APPROVES AMENDMENTS PROPOSED BY THE JPC TO THE WAQF (AMENDMENT) BILL

- The Union Cabinet has approved all 14 amendments proposed by the **Joint Parliamentary Committee (JPC)** to the Waqf (Amendment) Bill, 2024.
- The Bill is expected to be tabled in Parliament during the second half of the Budget session starting on March 10.
- The amendments address key provisions concerning the regulation, registration, and dispute resolution mechanisms for waqf properties in India.

### Key Amendments Approved by the JPC:

- **Extended time-frame for registration:**
  - The Bill **initially** required all waqf properties to be registered on a central portal within six months of the law's enactment.
  - The JPC accepted an amendment **allowing an extension** if the mutawalli (caretaker) provides a valid reason for the delay.
  - **The Waqf Tribunal** will have the power to grant such extensions, though no fixed timeline has been specified.

## Current Affairs - 01 March 2025

---

- Another amendment extends the deadline for waqfs to file legal proceedings even if not registered on the portal, **provided an affidavit explaining the delay is submitted.**
- **Role of district collector in dispute resolution:**
  - The 2024 Bill **originally** transferred the power of determining government property claims from the Waqf Tribunal to the **District Collector.**
  - The JPC modified this provision, accepting amendments to **replace the District Collector with a designated senior state government officer.**
  - The so-called “**designated officer**” will be responsible for making necessary changes to the revenue records, if a property is deemed to be a government property and not a Waqf property.
  - **Until a final decision is made**, disputed property will continue to be treated as government property.
- **Changes in Waqf Board representation:**
  - The 2024 Bill proposed allowing a non-Muslim Chief Executive Officer, and at least two non-Muslim members to be appointed by the state government to the waqf boards at the state level.
  - The JPC amended this, ensuring that the government official in the Board must be a **Joint Secretary-level officer** dealing with Waqf matters.
  - Another amendment mandates the inclusion of a member in the Waqf Tribunal with **expertise in Muslim law and jurisprudence.**

### Conclusion:

- The amendments **aim to balance government oversight with waqf autonomy**, addressing concerns regarding property disputes, legal recourse, and representation on waqf boards.
  - The revised Bill is expected to be debated in Parliament soon, where **further discussions may shape its final implementation.**
-



## Current Affairs - 01 March 2025

### INDIA'S ADITYA-L1 SPOTS SOLAR FLARE 'KERNEL'

Aditya-L1, India's first space-based solar mission, has achieved a breakthrough as its Solar Ultraviolet Imaging Telescope (SUIT) captured the first-ever image of a solar flare 'kernel' in the lower solar atmosphere, specifically in the photosphere and chromosphere.

The photosphere is the visible surface of the sun, while the chromosphere is a layer above the photosphere.

#### **Solar Corona: The Sun's Outermost Layer**

- The solar corona is the Sun's outermost layer of atmosphere, made of ionized gas. It's visible during a total solar eclipse or with a special telescope called a coronagraph.
- **Characteristics of the Solar Corona**
  - **Extremely Hot:** Temperatures range from **1 to 10 million Kelvin**, much hotter than the Sun's surface.
  - **Plasma Composition:** Made of highly ionized gas.
  - **Dynamic Structure:** Constantly changing due to the Sun's magnetic fields.
  - **Emits High-Energy Radiation:** Produces significant ultraviolet and X-ray radiation.

#### **Solar Flare**

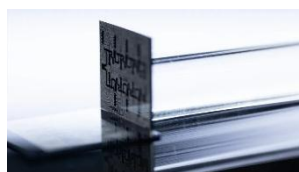
- A solar flare is a sudden and intense burst of solar energy from the Solar atmosphere.
- This phenomenon is caused by Sun's magnetic field.
  - The magnetic field of the Sun is very dynamic in nature. Sometime they suddenly snap and release intense burst of energy – like a powerful, short flash.
- These flares emit radiation across the electromagnetic spectrum, including X-rays and ultraviolet light, and can impact space weather, disrupting satellite communications, GPS, and power grids on Earth.
- Solar flares often originate from sunspots and are classified into categories (A, B, C, M, and X) based on their intensity.

## Current Affairs - 01 March 2025

### Solar Ultraviolet Imaging Telescope (SUIT)

- SUIT is one of the seven payloads on Aditya-L1, designed to capture full-disk images of the Sun in the 2000–4000 Å wavelength range, which has never been obtained before.
- **Key Features & Importance**
  - Records images in a wavelength crucial for maintaining Ozone and Oxygen in Earth's atmosphere.
  - Measures UV radiation, which can be hazardous for skin cancer.
  - Addresses fundamental questions about the higher-temperature solar atmosphere and the origin of near-ultraviolet radiation.
  - Aids in studying high-energy solar flares and solar radiation from Hard X-ray to Infrared.
  - Supports in-situ measurements of solar wind particles and the Sun's magnetic field at L1 point.

### OCELOT CHIP



- It is a **new quantum computing chip** with a **nine-qubit chip** that has been internally **fabricated by Amazon**.
- It has been developed by the team at the **Amazon Web Services (AWS) Center for Quantum Computing** at the California Institute of Technology.
- AWS used a novel design for Ocelot's architecture, building error correction in from the ground up and using the '**cat qubit**'. Cat qubit is named after the famous **Schrödinger's cat**.
- It intrinsically **suppresses certain forms of errors**, reducing the resources required for quantum error correction.
- It has been designed to help Amazon **build highly efficient hardware systems**.

### Components of Chip:

## Current Affairs - 01 March 2025

- The Ocelot chip consists of two integrated silicon microchips with an area of roughly one square centimeter each, bonded one on top of one another in an electrically-connected chip stack.
- It has 14 core components: five data qubits (the cat qubits), five ‘buffer circuits’ for stabilizing the data qubits, and four additional qubits for detecting errors on the data qubits.
- The cat qubits store the quantum states used for computation, for which it relies on components called oscillators, which generate a repetitive electrical signal along with steady timing.

### BIODIVERSITY LEAK



- Biodiversity Leakage is a phenomena where the **displacement of nature-damaging** human activities caused by protecting or restoring areas of land.
- In this process **conservation policies in one region** inadvertently drive environmental degradation in another region.
- It occurs when **restrictions on agricultural production** in conservation areas lead to increased demand for imports from other regions, often rich in biodiversity.
- Biodiversity leakage is undermining global efforts to halt biodiversity loss.
- There are concerns that large-scale conservation initiatives in regions like Europe and China are causing production shortfalls for agricultural commodities.

#### Measures to mitigate biodiversity leakage:

- **Tracking changes in food or wood production** within intervention areas as part of routine programme monitoring.
- **Scrutinising projects that report near-zero** losses in production to distinguish those with effective leakage mitigation from those with little or no conservation impact.



## Current Affairs - 01 March 2025

- Including explicit consideration of both local and long-range leakage in national and international conservation policies.
- Reducing demand for high-leakage goods and improving efficiencies in line with production decreases.
- Targeting conservation efforts in areas where biodiversity restoration will cause minimal displacement of production.
- Increasing yields within or near conservation project areas to offset losses.

### EXERCISE DESERT HUNT 2025



Exercise Desert Hunt 2025 was conducted at Air Force Station Jodhpur from 24 to 28 February 2025.

- It is an **integrated Tri-Service Special Forces** exercise conducted by the Indian Air Force.
- The exercise involved elite **Para** (Special Forces) from the Indian Army, the **Marine Commandos** from the Indian Navy along with the **Garud** (Special Forces) from the Indian Air Force, participating together in a simulated combat environment.
- **Aim:** This high-intensity drill was aimed at **enhancing interoperability**, coordination and synergy among the three Special Forces units to ensure swift and effective response towards emerging security challenges.
- The exercise included airborne insertion, **precision strikes**, **hostage rescue**, **counter-terrorism** operations, combat free falls and urban warfare scenarios wherein the combat readiness of the forces was tested under realistic conditions.

**Significance:** It provides a platform to foster the commitment of the Indian Armed Forces to strengthen national security through seamless inter-service cooperation.