

### WHAT IS VERY SHORT-RANGE AIR DEFENCE SYSTEM (VSHORADS)?

The Defence Research and Development Organisation (DRDO) successfully conducted two flight tests of the Very Short-Range Air Defence System (VSHORADS) missile.



Very Short-Range Air Defence System (VSHORADS) is a fourth-generation Man Portable Air Defence System (MANPAD) specially designed to counter low-altitude aerial threats over short distances.

- These are short-range, lightweight, and portable surface-to-air missiles that can be fired by individuals or small groups.
- It has been designed and **developed indigenously** by DRDO's **Research Centre Imarat (RCI), Hyderabad**, in collaboration with other Indian industry partners.
- **Features:**
  - It is designed to provide **short-range air defence capabilities** to protect ground forces and critical assets from aerial threats, including helicopters and low-flying aircraft.
  - It has a **range of up to 6-km**.
  - The missile incorporates many novel technologies, including a Dual-band IIR Seeker, a miniaturised Reaction Control System, and integrated avionics.
  - It is propelled by a **dual-thrust solid motor**.
  - The missile and its launcher were designed by the DRDO to be **portable**, which enables their quick deployment over difficult terrain.



### VIKRAMADITYA VEDIC CLOCK

The Prime Minister recently inaugurated the Vikramaditya Vedic Clock, which is mounted on an 85-foot tower within Jantar Mantar in Ujjain.

Vikramaditya Vedic Clock is the world's first 'Vedic Clock', designed to display time according to the ancient Indian traditional Panchang (time calculation system).



# CROSS & CLIMB ROHTAK



- It has been positioned on an 85-foot tower within Jantar Mantar in **Ujjain, Madhya Pradesh**.
- It also **provides information on planetary positions, Muhurat, astrological calculations, and predictions**.
- In addition to this, it **also indicates Indian Standard Time (IST) and Greenwich Mean Time (GMT)**.
- The clock will **calculate time from one sunrise to another**.
  - The period between the two sunrises will be divided into 30 parts, whose one hour consists of 48 minutes, according to ISD.
  - The reading will start from 0:00 with the sunrise functions for 30 hours (an hour of 48 minutes).
- It has been developed by Lucknow-based Sanstha Arohan, using digital interventions, enabling it to be connected to the internet and provide a wide range of features through a mobile app named after the clock.

## Why Ujjain?

- Ujjain's **rich heritage in timekeeping** dates back centuries, with the city playing a pivotal role in determining India's time zones and time difference.
- Ujjain is **located at the precise point of interaction with zero meridian and Tropic of Cancer**.
- Before 82.5E longitude was adopted for IST, Ujjain (75.78E) was considered as Bharat's time meridian.
- The Vikrami Panchang and Vikram Samvat calendars are also released from Ujjain, which makes Ujjain the ideal location to have the Vaidik Clock.

## ON CROSS-VOTING IN RAJYA SABHA ELECTIONS

### Rajya Sabha elections

- **Constitutional provision**

- As per Article 80 of the Constitution, representatives of each State to the Rajya Sabha are elected indirectly by the elected members of their Legislative Assembly.
- The polls for Rajya Sabha will be required only if the number of candidates exceed the number of vacancies.
  - In fact, till 1998, the outcome of Rajya Sabha elections were usually a foregone conclusion.
  - The candidates nominated by various parties, according to their strength in the Assembly, used to be elected unopposed.

## Tenth Schedule and Rajya Sabha elections

- The 52<sup>nd</sup> constitutional amendment introduced the anti-defection law through the Tenth Schedule in 1985.
- This Schedule provides that a member of a House of Parliament or State legislature who voluntarily gives up the membership of their political party or votes against the instructions of their party in a House are liable for disqualification from such House.
  - This instruction with respect to voting is issued by the whip of a party.
- However, the **elections to Rajya Sabha are not treated as a proceeding within the Legislative Assembly.**
  - The Election Commission, drawing reference to Supreme Court judgments, had issued a clarification in July 2017.
  - It specified that the provisions of the 10<sup>th</sup> Schedule, with respect to voting against the instruction of the party, will not be applicable for a Rajya Sabha election.
  - Furthermore, political parties cannot issue any whip to its members for such elections.

## Way forward

- In India, we follow a two-fold principle. When it comes to voting in direct elections where the entire population is involved, we insist on a secret ballot.

- But in legislative chambers, where Bills are to be voted on, we do not insist on secrecy. The voting is open.
  - The **Rajya Sabha election fell halfway between the two kinds of votes**. It elected MPs but the electoral college was not based on universal franchise: only MLAs could vote.
  - It was decided that voting for Rajya Sabha candidates had more in common with voting on Bills than with general elections. So, the secret ballot was abolished and voting became public.
  - Instances of cross-voting have undermined the higher principle of free and fair elections and their purity.
  - Therefore, the court must reconsider its stance on whether cross-voting in such elections can be a valid ground for disqualification under the Tenth Schedule.
  - Only then will the intent behind implementing the open ballot system be fully realized.
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## JUICE JACKING

Recently, the Reserve Bank of India (RBI) has issued a cautionary message to mobile phone users about juice jacking.



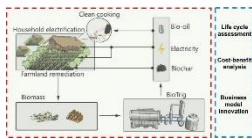
- The term “juice jacking” was first coined in 2011 by investigative journalist Brian Krebs.
- It is a form of **cyberattack where a public USB charging port is tampered** with and infected using hardware and software changes to steal data or install malware on devices connected to it.
- The attack is used by hackers to steal users’ **passwords, credit card information, addresses**, and other sensitive data stored on the targeted device.
- This type of attack has been a growing concern, with incidents reported in various public spaces such as airports, hotels, and shopping centres.
- RBI emphasised the importance of protecting personal and financial data while using mobile devices.

## How to prevent such attacks?

- To protect themselves from juice jacking and other cyber threats, mobile phone users have to use their personal chargers and avoid connecting their devices to public USB ports.
- Additionally, using a virtual private network (VPN) and ensuring that devices have the **latest security updates** installed can help mitigate the risk of cyberattacks.

## WHAT IS BIOTRIG?

A recent study has claimed that **BioTRIG**, a new waste management technology could help rural Indians.



**BioTRIG** is a new waste management technology based on the **pyrolysis system**.

- It works by sealing the **waste inside an oxygen-free chamber** and heating it above 400 degrees Celsius. Useful chemicals are produced in the process.
- In the study, the researchers outlined that three products of pyrolysis — **bio-oil, syngas and biochar fertiliser** — could help rural Indians live healthier and greener lives.
- **Significance**
  - The syngas and bio-oil facilitate heat and power the pyrolysis system in future cycles and surplus electricity is utilized to power local homes and businesses.
  - The **clean-burning bio-oil** to replace dirty cooking fuels in homes and using biochar to store carbon, while improving soil fertility.
  - Computer simulations showed that the BioTRIG system could also be effective in real-world applications.
  - It could help reduce greenhouse gas emissions from communities by nearly 350 kg of CO<sub>2</sub>-eq per capita per annum.
  - It could help rural Indians cut indoor air pollution, improve soil health, and generate clean power

## What is Pyrolysis?

- It is a kind of **chemical recycling** that turns leftover organic materials into their component molecules.
  - It works by sealing the waste inside an oxygen-free chamber and heating it to more than 400 degrees Celsius, producing useful chemicals in the process.
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## INTERNATIONAL BIG CAT ALLIANCE

The Union Cabinet formally announced the establishment of International Big Cat Alliance (IBCA) with one-time budgetary support of Rs 150 crore from the Central Government until 2028.



**International Big Cat Alliance** is an initiative launched by Prime Minister of India in April 2023 in Mysuru commemorating the 50th anniversary of Project Tiger.

- The objective of the IBCA is to ensure **cooperation for the conservation of seven** big cats: lion, tiger, leopard, cheetah, snow leopard, jaguar, and puma. Five of these cats, apart from jaguar and puma, are found in India.
- **Membership:** It is open to **97 'range' countries**, which contain the natural habitat of these big cats, as well as other interested nations, international organizations, etc.
- It aims for **mutual cooperation among countries** for mutual benefit in furthering the conservation agenda.
- It would have a multipronged approach in broad basing and establishing linkages manifold in several areas and help in **knowledge sharing, capacity building, networking, advocacy, finance and resources support**, research and technical support, education and awareness.

### Governance Structure:

- A **General Assembly** consisting of all member countries.

- A Council of at least seven but not more than 15 member countries elected by the General Assembly for a **term of 5 years**, and a Secretariat.
  - Upon the recommendation of the Council, the General Assembly will appoint the IBCA Secretary General for a specific term.
  - **Funding:** It has secured Government of India's initial support of Rs. 150 crore for five years (2023-24 to 2027-28).
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## UNITED NATIONS HUMAN RIGHTS COUNCIL

At the 55th Human Rights Council of the United Nations, India exercised its 'Right to Reply' for a staunch response to Turkey and Pakistan for the mention of Jammu and Kashmir on the platform.



**United Nations Human Rights Council** is an intergovernmental body within the United Nations whose mission is to **promote and protect human rights around the world.**

- It was created by the General Assembly on 15 March 2006 by replacing the Commission on Human Rights.
- It has **47 members** elected for staggered three-year terms on a regional group basis.
- **Tenure of the council:** The members of the Council serve for a **period of three years** and are not eligible for immediate re-election after serving two consecutive terms.
- The members are elected by the majority of members of the General Assembly of the United Nations through direct and secret ballot.
- The General Assembly takes into account the **candidate States' contribution to the promotion and protection of human rights**, as well as their voluntary pledges and commitments in this regard.
- The Council's Membership is based on **equitable geographical distribution.**

**Function:**

- It investigates allegations of breaches of human rights in UN member states, and addresses important thematic human rights issues such as freedom of association and assembly, freedom of expression, freedom of belief and religion, women's rights, LGBTI rights, and the rights of racial and ethnic minorities.
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## WHAT IS DOOMSDAY GLACIER?

Unveiling new details about Antarctica's "Doomsday Glacier", scientists have revealed that the Thwaites Glacier has been losing ice since the 1940s.



- **Thwaites Glacier**, also known as the “Doomsday Glacier,” is located in the remote **Amundsen Sea in West Antarctica**.
  - It’s a wide and fast-flowing glacier, roughly the size of Florida or Great Britain, and it has been a significant focus of scientific study due to its **sensitivity to climate change**.
  - Satellite measurements have shown that the glacier is **losing an enormous amount of ice** each year, nearly 50 billion tons annually, contributing to rising global sea levels. The glacier already contributes 4% of global sea level rise.
  - If the entire Thwaites Glacier were to melt, it could raise the world’s oceans by about 65 centimeters (over 2 feet).
  - It **also acts as a buffer**, holding back neighboring glaciers that contain around three meters of potential sea level rise.
  - A critical concern is that much of Thwaites sits on land that is below sea level, in a configuration known as “**marine-based.**”
    - This situation means that as the **glacier’s grounding line** – the point where the glacier’s ice lifts off the land and starts floating on the sea – retreats inland, it can pass over deeper and deeper valleys.
    - This process allows more and more ice to discharge into the sea, which might accelerate the glacier’s melt in a phenomenon known as “**marine ice sheet instability.**”
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## WHAT IS NARCOTICS CONTROL BUREAU (NCB)?



**Narcotics Control Bureau (NCB)** was created in **March 1986** for the purpose of effectively preventing and combating abuse of narcotic drugs and psychotropic substances and their illicit trade.

- The NCB works to **identify, investigate, and prosecute drug trade offenders** and implement **preventive measures to reduce** the demand and **supply of drugs**.
- The Bureau exercise the powers and functions of the Central Government in taking measures with respect to:
  - **Co-ordination of actions by various offices, State Governments.**
  - **Implementation of the obligation.**
  - **Assistance to concerned authorities in foreign countries.**
  - **Coordination of actions taken** by the other concerned Ministries, Departments and Organizations in respect of matters relating to drug abuse.

### **Other Functions:**

- It is the **apex coordinating agency**. It also functions as an **enforcement agency** through its zones and sub-zones.
- In addition to its enforcement activities, the NCB also works to improve **awareness, educate the public** on the dangers of drugs and drug abuse, and provide support to those affected by the illegal drug trade.
- NCB is responsible for **maintaining and updating the National Data Bank** on Narcotic Drugs and Psychotropic Substances, and related matters.
- NCB maintains and **updates the National Register** of Treatment Providers and Narcotic Drug Dependents.
- NCB **provides expert advice to the Central Government** on narcotics, psychotropic substances, and related matters.
- The NCB **directly reports to the Ministry of Home Affairs (MHA)**.